

# Net-Zero America - national state report

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These data underlie graphs and tables presented in the Princeton Net-Zero America study:

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#### Notes

- These data are all data from the study available at <a href="https://netzeroamerica.prince-ton.edu">https://netzeroamerica.prince-ton.edu</a>.
- The Net-Zero America study describes five pathways to reach net-zero emissions and one "no new policies" reference scenario. In this document, state-level results are grouped by scenario. For some scenarios, the study generated national, but not statelevel results.
- Within results for a given scenario, data tables are organized into corresponding sections of the full net-zero study (e.g., Pillar 1, Pillar 2, etc.)
- For Pillar 6 (Land sinks), values shown are maximum carbon storage potentials.

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Table 1: E+ scenario - PILLAR 1: Efficiency/Electrification - Commercial

Item	2020	2025	2030	2035	2040	2045	2050
Commercial HVAC investment in 2020s -		1,047,657	1,162,511				
Cumulative 5-yr (million \$2018)							
Sales of cooking units - Electric	32.5	46.4	80	86.6	87	87	87
Resistance (%)							
Sales of cooking units - Gas (%)	67.5	53.6	20	13.4	13	13	13
Sales of space heating units - Electric	2.95	17.6	52.9	76.9	80.6	80.8	80.8
Heat Pump (%)							
Sales of space heating units - Electric	7.91	9.07	14.4	17.7	18.4	18.4	18.4
Resistance (%)							
Sales of space heating units - Fossil (%)	3.94	3.28	0.655	0.028	0	0	0
Sales of space heating units - Gas Furnace	85.2	70.1	32.1	5.37	1.07	0.82	0.817
(%)							
Sales of water heating units - Electric	0.385	7.96	43.3	59.2	61.2	61.3	61.3
Heat Pump (%)							
Sales of water heating units - Electric	3.8	7.16	24	35.7	37.5	37.6	37.6
Resistance (%)							
Sales of water heating units - Gas Furnace	94.1	83.3	31.5	4.03	0.235	0.003	0
(%)							
Sales of water heating units - Other (%)	1.66	1.59	1.2	1.1	1.1	1.11	1.11

Table 2: E+ scenario - PILLAR 1: Efficiency/Electrification - Electricity demand

Item	2020	2025	2030	2035	2040	2045	2050
Electricity distribution capital invested -		182	187	336	359	314	329
Cumulative 5-yr (billion \$2018)							

Table 3: E+ scenario - PILLAR 1: Efficiency/Electrification - Overview

Item	2020	2025	2030	2035	2040	2045	2050
Final energy use - Commercial (PJ)	9,015	8,942	8,619	8,103	7,608	7,344	7,297
Final energy use - Industry (PJ)	25,107	26,056	26,110	25,372	25,108	24,870	24,572
Final energy use - Residential (PJ)	11,788	11,090	10,221	8,966	7,776	6,967	6,512
Final energy use - Transportation (PJ)	27,996	26,390	23,464	19,872	16,608	14,565	13,649

Table 4: E+ scenario - PILLAR 1: Efficiency/Electrification - Residential

Item	2020	2025	2030	2035	2040	2045	2050
Residential HVAC investment in 2020s vs.		254	307				
REF - Cumulative 5-yr (billion \$2018)							
Sales of cooking units - Electric	61.3	69.6	94.8	99.7	100	100	100
Resistance (%)							
Sales of cooking units - Gas (%)	38.7	30.4	5.2	0.262	0	0	0
Sales of space heating units - Electric	14.6	27.2	64.4	85	88	88.1	88.1
Heat Pump (%)							
Sales of space heating units - Electric	20.3	22.6	12.3	8.07	7.57	7.66	7.68
Resistance (%)							
Sales of space heating units - Fossil (%)	9.95	13.2	6.18	3.41	3.02	2.91	2.9
Sales of space heating units - Gas (%)	55.2	36.9	17.1	3.52	1.45	1.32	1.3
Sales of water heating units - Electric	0	7.44	41.8	56.2	58.5	59.2	59
Heat Pump (%)							
Sales of water heating units - Electric	38.4	49.2	38.5	39.8	39.9	39.3	39.5
Resistance (%)							
Sales of water heating units - Gas Furnace	58	40.9	18	2.56	0.155	0.003	0
(%)							
Sales of water heating units - Other (%)	3.58	2.47	1.63	1.47	1.51	1.54	1.53

Table 5: E+ scenario - PILLAR 1: Efficiency/Electrification - Transportation

Item	2020	2025	2030	2035	2040	2045	2050
Light-duty vehicle capital costs -		51,477	133,974	213,805	325,180	352,492	336,852
Cumulative 5-yr (million \$2018)							
Public EV charging plugs - DC Fast (1000	14.4		93.9		391		628
units)							
Public EV charging plugs - L2 (1000 units)	66.2		2,256		9,394		15,098
Vehicle sales - Heavy-duty - diesel (%)	97.2	92.1	67	23.3	4.22	0.628	0
Vehicle sales - Heavy-duty - EV (%)	0.588	3.81	19	45.6	57.4	59.6	60
Vehicle sales - Heavy-duty - gasoline (%)	0.227	0.227	0.176	0.066	0.013	0.002	0
Vehicle sales - Heavy-duty - hybrid (%)	0.082	0.09	0.077	0.031	0.007	0.001	0
Vehicle sales - Heavy-duty - hydrogen FC	0.392	2.54	12.7	30.4	38.2	39.7	40
(%)							
Vehicle sales - Heavy-duty - other (%)	1.5	1.23	1.07	0.568	0.163	0.038	0
Vehicle sales - Light-duty - diesel (%)	1.4	1.68	1.2	0.382	0.072	0.013	0
Vehicle sales - Light-duty - EV (%)	4.41	16.7	48.7	82.7	96.4	99.3	100
Vehicle sales - Light-duty - gasoline (%)	89.1	76.3	46.4	15.6	3.17	0.586	0
Vehicle sales - Light-duty - hybrid (%)	4.91	4.89	3.38	1.24	0.304	0.067	0
Vehicle sales - Light-duty - hydrogen FC	0.11	0.331	0.191	0.059	0.012	0.002	0
(%)							
Vehicle sales - Light-duty - other (%)	0.095	0.091	0.058	0.02	0.004	0.001	0
Vehicle sales - Medium-duty - diesel (%)	64.7	59.7	42.3	14.4	2.59	0.384	0
Vehicle sales - Medium-duty - EV (%)	0.784	5.07	25.3	60.8	76.5	79.5	80
Vehicle sales - Medium-duty - gasoline (%)	33.7	33.3	25.5	9.32	1.77	0.277	0
Vehicle sales - Medium-duty - hybrid (%)	0.363	0.402	0.341	0.14	0.03	0.005	0
Vehicle sales - Medium-duty - hydrogen	0.196	1.27	6.33	15.2	19.1	19.9	20
FC (%)							
Vehicle sales - Medium-duty - other (%)	0.253	0.255	0.205	0.083	0.019	0.004	0

Table 6: E+ scenario - PILLAR 2: Clean Electricity - Generating capacity

Item	2020	2025	2030	2035	2040	2045	2050
Capital invested - Biomass power plant	0	0	0.005	0.001	0.003	0.001	0
(billion \$2018)							
Capital invested - Biomass w/ccu allam	0	0	0	0.349	0.094	0.108	0.381
power plant (billion \$2018)							
Capital invested - Biomass w/ccu power	0	0	19.4	0.015	30.1	20.7	2.42
plant (billion \$2018)							
Installed - Biomass (MW)	9,996	9,132	7,837	6,117	4,696	3,379	2,472
Installed - Biomass w cc (MW)	0	0	2,920	2,968	7,511	10,643	11,058
Installed - Ccgt & gas steam (MW)	334,471	336,439	376,538	400,087	346,238	264,930	232,629
Installed - Ccgt w cc (MW)	0	0	243	15,162	25,271	36,796	60,031
Installed - Coal (MW)	215,907	48,614	171	170	150	122	43.4
Installed - Ct (MW)	146,567	135,736	127,617	148,354	213,247	242,832	242,414
Installed - Geothermal (MW)	2,390	2,393	2,409	2,411	2,414	2,422	2,440
Installed - Grid battery storage (MW)		626	2,536	15,363	51,414	131,610	178,317
Installed - Hydro (MW)	78,608	78,608	78,608	78,608	78,608	78,608	78,608
Installed - Nuclear (MW)	98,470	95,134	90,007	76,067	68,456	57,259	61,447
Installed - Offshore wind (MW)	29.3	1,034	4,949	16,240	40,241	103,788	223,624
Installed - Onshore wind (MW)	97,767	185,353	346,695	547,707	776,470	970,335	1,194,150
Installed - Other (MW)	68,045	57,078	55,303	54,113	52,213	51,122	48,463
Installed - Pumped hydro storage (MW)		19,418	19,418	19,418	19,418	19,418	19,418
Installed - Rooftop PV (MW)	33,317	52,523	69,448	90,809	117,114	148,351	185,890
Installed - Utility-scale PV (MW)	34,915	120,697	283,825	518,456	760,638	1,018,045	1,319,902

Table 7: E+ scenario - PILLAR 2: Clean Electricity - Generation

Item	2020	2025	2030	2035	2040	2045	2050
Biomass (TWh)	18.2	19.7	39.5	26.3	18.7	13.4	0.436
Biomass power plant (GWh)	3,540	820	10,266	6,546	3,884	1,366	57.9
Biomass w cc (TWh)	0	0	21.7	21.9	53.7	76.5	79.7
Biomass w/ccu allam power plant (GWh)	0	0	0	265	294	386	767

Table 7: E+ scenario - PILLAR 2: Clean Electricity - Generation (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Biomass w/ccu power plant (GWh)	0	0	21,701	21,661	53,456	76,143	78,946
Coal (TWh)	982	284	0.599	0.598	0.526	0.429	0.152
Gas (TWh)	1,490	1,742	1,453	1,117	853	443	202
Gas w cc (TWh)	0	0	1.42	114	152	181	231
Geothermal (TWh)	14.5	14.5	14.3	14.2	13.8	13.7	13.1
Hydro (TWh)	300	312	295	295	302	292	292
Nuclear (TWh)	802	775	733	620	558	467	503
Offshore wind (TWh)	0.093	3.9	20.3	80.7	182	455	934
Onshore wind (TWh)	412	764	1,446	2,199	3,029	3,710	4,485
Rooftop PV (TWh)	50.1	79.4	102	127	168	212	252
Utility-scale PV (TWh)	88.9	295	656	1,169	1,694	2,268	2,833

# Table 8: E+ scenario - PILLAR 2: Clean Electricity - Transmission

Item	2020	2025	2030	2035	2040	2045	2050
Total HV transmission (for wind and solar) - Base all (%)	0	13.7	34	66.3	110	159	216
Total HV transmission (for wind and solar) - Constrained all (%)	0	16.2	43	81.5	130	179	247

# Table 9: E+ scenario - PILLAR 3: Clean fuels - Bioenergy

Item	2020	2025	2030	2035	2040	2045	2050
Biomass input - BECCS-H2 (1000 tonnes)	0	0	0	73,607	137,071	279,102	426,955
Biomass input - Bio-FT w/ CC (1000 tonnes)	0	0	0	108	124	156	209
Biomass input - Bio-SNG w/ CC (1000 tonnes)	0	0	19.2	11.8	9.26	8.74	7.28
Biomass input - Biopower (1000 tonnes)	10,423	20,617	56,097	42,541	34,517	26,793	639
Biomass input - Biopower w/ cc (1000 tonnes)	0	0	13,108	13,204	32,422	46,168	48,033
Biomass input - Ethanol (1000 tonnes)	129,506	129,506	129,536	125,006	67,634	10,261	905
Biomass input - FT diesel (1000 tonnes)	0	0	0	90.5	101	104	79.1
Biomass input - Pyrolysis liquids (1000 tonnes)	0	0	0	149	170	197	14,252
Biomass input - Pyrolysis liquids w/ cc (1000 tonnes)	0	0	0	102	118	164	93,276
Biomass input - SNG (1000 tonnes)	0	7.13	10.7	7.2	6.76	6.79	2.63
Number of facilities - Allam power w ccu (quantity)	0	0	0	14	21	32	44
Number of facilities - Beccs hydrogen (quantity)	0	0	0	95	183	377	563
Number of facilities - Diesel (quantity)	0	0	0	14	14	15	16
Number of facilities - Diesel ccu (quantity)	0	0	0	14	23	34	45
Number of facilities - Power (quantity)	0	12	16	16	17	17	17
Number of facilities - Power ccu (quantity)	0	0	26	30	57	81	95
Number of facilities - Pyrolysis (quantity)	0	0	0	14	14	15	31
Number of facilities - Pyrolysis ccu (quantity)	0	0	0	14	23	34	171
Number of facilities - Sng (quantity)	0	14	15	15	15	16	17
Number of facilities - Sng ccu (quantity)	0	0	14	14	14	19	22

# Table 10: E+ scenario - PILLAR 4: CCUS - CO2 pipelines

Item	2020	2025	2030	2035	2040	2045	2050
All (km)		708	18,603	40,784	51,430	69,835	105,857
Cumulative investment - All (million \$2018)		3,706	69,248	115,112	124,026	139,961	167,114

Table 10: E+ scenario - PILLAR 4: CCUS - CO2 pipelines (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Cumulative investment - Spur (million \$2018)		0	2,974	14,456	23,370	39,305	66,458
Cumulative investment - Trunk (million \$2018)		3,706	66,274	100,656	100,656	100,656	100,656
Spur (km)		0	4,432	19,716	30,362	48,767	84,789
Trunk (km)		708	14,170	21,068	21,068	21,068	21,068

Table 11: E+ scenario - PILLAR 4: CCUS - CO2 storage

Item	2020	2025	2030	2035	2040	2045	2050
CO2 storage (MMT)	0	2.71	64.8	246	435	687	929
Injection wells (wells)		0	71	356	612	998	1,260
Resource characterization, appraisal, permitting costs (million \$2020)		1,500	8,750	13,000	13,000	13,000	13,000
Wells and facilities construction costs (million \$2020)		0	2,264	10,683	18,483	29,950	37,860

Table 12: E+ scenario - PILLAR 6: Land sink Item	2020	2025	2030	2035	2040	2045	2050
Carbon sink potential - Aggressive	2020	2025	2030	2033	2040	2040	-23,286
deployment - Corn-ethanol to energy							-23,200
grasses (1000 tCO2e/y)							
Carbon sink potential - Aggressive							-203,503
deployment - Cropland measures (1000							-203,303
tCO2e/y)							
Carbon sink potential - Aggressive							-7,391
deployment - Permanent conservation							-1,371
cover (1000 tCO2e/y)							
Carbon sink potential - Aggressive							-234,180
deployment - Total (1000 tC02e/y)							-234,100
Carbon sink potential - Moderate							-23,286
deployment - Corn-ethanol to energy							-23,200
grasses (1000 tCO2e/y)							
Carbon sink potential - Moderate							-106,430
deployment - Cropland measures (1000							-100,430
tCO2e/y)							
Carbon sink potential - Moderate							-3,696
deployment - Permanent conservation							-3,070
cover (1000 tC02e/y)							
Carbon sink potential - Moderate							-133,412
deployment - Total (1000 tC02e/y)							100,412
Land impacted for carbon sink -							11,287
Aggressive deployment - Corn-ethanol to							11,201
energy grasses (1000 hectares)							
Land impacted for carbon sink -							136,405
Aggressive deployment - Cropland							100, 100
measures (1000 hectares)							
Land impacted for carbon sink -							12,749
Aggressive deployment - Permanent							12,117
conservation cover (1000 hectares)							
Land impacted for carbon sink -							160,442
Aggressive deployment - Total (1000							.00,
hectares)							
Land impacted for carbon sink - Moderate							11,287
deployment - Corn-ethanol to energy							,20
grasses (1000 hectares)							
Land impacted for carbon sink - Moderate							71,390
deployment - Cropland measures (1000							.,,,,,
hectares)							

Table 12: E+ scenario - PILLAR 6: Land sinks - Agriculture (continued)

	-						
Item	2020	2025	2030	2035	2040	2045	2050
Land impacted for carbon sink - Moderate deployment - Permanent conservation cover (1000 hectares)							6,375
Land impacted for carbon sink - Moderate deployment - Total (1000 hectares)							89,052

# Table 13: E+ scenario - PILLAR 6: Land sinks - Forests

Item   Item	2020	2025	2030	2035	2040	2045	2050
Carbon sink potential - High - Accelerate							-48,900
regeneration (1000 tCO2e/y)							,
Carbon sink potential - High - All (not							-
counting overlap) (1000 tCO2e/y)							1,535,900
Carbon sink potential - High - Avoid							-84,000
deforestation (1000 tCO2e/y)							0 .,
Carbon sink potential - High - Extend							-302,000
rotation length (1000 tCO2e/y)							00=,000
Carbon sink potential - High - Improve							-57,000
plantations (1000 tCO2e/y)							0.,000
Carbon sink potential - High - Increase							_
retention of HWP (1000 tCO2e/y)							300,000
Carbon sink potential - High - Increase							-60,000
trees outside forests (1000 tCO2e/y)							
Carbon sink potential - High - Reforest							-242,000
cropland (1000 tCO2e/y)							,
Carbon sink potential - High - Reforest							_
pasture (1000 tCO2e/y)							264,000
Carbon sink potential - High - Restore							-178,000
productivity (1000 tCO2e/y)							,
Carbon sink potential - Low - Accelerate							-24,500
regeneration (1000 tC02e/y)							,
Carbon sink potential - Low - All (not							_
counting overlap) (1000 tCO2e/y)							505,500
Carbon sink potential - Low - Avoid							-14,000
deforestation (1000 tCO2e/y)							,
Carbon sink potential - Low - Extend							-116,000
rotation length (1000 tCO2e/y)							.,
Carbon sink potential - Low - Improve							-29,000
plantations (1000 tCO2e/y)							,
Carbon sink potential - Low - Increase							-100,000
retention of HWP (1000 tC02e/y)							,
Carbon sink potential - Low - Increase							-21,000
trees outside forests (1000 tC02e/y)							,
Carbon sink potential - Low - Reforest							-121,000
cropland (1000 tCO2e/y)							
Carbon sink potential - Low - Reforest							-20,000
pasture (1000 tCO2e/y)							
Carbon sink potential - Low - Restore							-60,000
productivity (1000 tCO2e/y)							
Carbon sink potential - Mid - Accelerate							-36,700
regeneration (1000 tCO2e/y)							
Carbon sink potential - Mid - All (not							-
counting overlap) (1000 tCO2e/y)							1,020,200
Carbon sink potential - Mid - Avoid							-49,000
deforestation (1000 tCO2e/y)							
Carbon sink potential - Mid - Extend							-209,000
rotation length (1000 tCO2e/y)							
Carbon sink potential - Mid - Improve							-42,500
plantations (1000 tCO2e/y)							
Carbon sink potential - Mid - Increase							-
retention of HWP (1000 tCO2e/y)							200,000

Table 13: E+ scenario - PILLAR 6: Land sinks - Forests (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Carbon sink potential - Mid - Increase trees outside forests (1000 tC02e/y)							-40,500
Carbon sink potential - Mid - Reforest cropland (1000 tCO2e/y)							-181,500
Carbon sink potential - Mid - Reforest							-142,000
pasture (1000 tC02e/y)  Carbon sink potential - Mid - Restore							-119,000
productivity (1000 tCO2e/y)  Land impacted for carbon sink potential -							8,000
High - Accelerate regeneration (1000 hectares)							
Land impacted for carbon sink potential - High - Avoid deforestation (over 30 years)							11,373
(1000 hectares)  Land impacted for carbon sink potential - High - Extend rotation length (1000							154,000
hectares)  Land impacted for carbon sink potential -							21,000
High - Improve plantations (1000 hectares)							21,000
Land impacted for carbon sink potential - High - Increase retention of HWP (1000 hectares)							0
Land impacted for carbon sink potential - High - Increase trees outside forests (1000 hectares)							5,700
Land impacted for carbon sink potential - High - Reforest cropland (1000 hectares)							16,000
Land impacted for carbon sink potential - High - Reforest pasture (1000 hectares)							7,500
Land impacted for carbon sink potential - High - Restore productivity (1000 hectares)							59,000
Land impacted for carbon sink potential - High - Total impacted (over 30 years) (1000 hectares)							282,573
Land impacted for carbon sink potential - Low - Accelerate regeneration (1000 hectares)							4,000
Land impacted for carbon sink potential - Low - Avoid deforestation (over 30 years)							10,677
(1000 hectares)  Land impacted for carbon sink potential - Low - Extend rotation length (1000							59,000
Land impacted for carbon sink potential - Low - Improve plantations (1000							10,500
Land impacted for carbon sink potential - Low - Increase retention of HWP (1000							0
hectares)  Land impacted for carbon sink potential - Low - Increase trees outside forests							3,000
(1000 hectares)  Land impacted for carbon sink potential -							8,000
Low - Reforest cropland (1000 hectares)  Land impacted for carbon sink potential -							1,300
Low - Reforest pasture (1000 hectares)							
Land impacted for carbon sink potential - Low - Restore productivity (1000 hectares)							35,700

Table 13: E+ scenario - PILLAR 6: Land sinks - Forests (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Land impacted for carbon sink potential -							132,177
Low - Total impacted (over 30 years)							
(1000 hectares)							
Land impacted for carbon sink potential -							6,000
Mid - Accelerate regeneration (1000							
hectares)							
Land impacted for carbon sink potential -							11,025
Mid - Avoid deforestation (over 30 years)							
(1000 hectares)							
Land impacted for carbon sink potential -							106,500
Mid - Extend rotation length (1000							
hectares)							
Land impacted for carbon sink potential -							15,800
Mid - Improve plantations (1000 hectares)							
Land impacted for carbon sink potential -							0
Mid - Increase retention of HWP (1000							
hectares)							
Land impacted for carbon sink potential -							4,350
Mid - Increase trees outside forests (1000							
hectares)							
Land impacted for carbon sink potential -							12,000
Mid - Reforest cropland (1000 hectares)							
Land impacted for carbon sink potential -							9,400
Mid - Reforest pasture (1000 hectares)							
Land impacted for carbon sink potential -							71,900
Mid - Restore productivity (1000							
hectares)							
Land impacted for carbon sink potential -							236,975
Mid - Total impacted (over 30 years) (1000							
hectares)							

# Table 14: E+ scenario - PILLAR 6: Land sinks - Total assumed land sink

Item	2020	2025	2030	2035	2040	2045	2050
Total assumed land sink (Gt CO2e/y)	-0.7	-0.73	-0.75	-0.78	-0.8	-0.83	-0.85

# Table 15: E+ scenario - IMPACTS - Capital Investments

Item	2020	2025	2030	2035	2040	2045	2050
Capital under construction - Cumulative	126	343	647	1,082	1,632	2,353	2,515
from 2021 - CO2 Transport & Storage							
(billion \$2018)							
Capital under construction - Cumulative	0.3	93	47.6	6.65	11.4	30.4	0
from 2021 - Distribution (billion \$2018)							
Capital under construction - Cumulative	196	622	1,263	2,037	2,888	3,815	4,450
from 2021 - Fuels Conversion (billion							
\$2018)							
Capital under construction - Cumulative	38.1	227	450	800	1,161	1,488	1,758
from 2021 - Industry (billion \$2018)							
Capital under construction - Cumulative	36	37	65.4	69.9	61.7	64.6	0
from 2021 - Power Generation (billion							
\$2018)							
Capital under construction - Cumulative	398	1,326	2,510	4,064	5,863	7,997	8,724
from 2021 - Total System (billion \$2018)							
Capital under construction - Cumulative	2.43	3.8	36.8	67.2	109	246	0
from 2021 - Transmission (billion \$2018)							

Table 16: E+ scenario - IMPACTS - Fossil fuel industries

Item	2020	2025	2030	2035	2040	2045	2050
Natural gas consumption - Annual (tcf)		23,206	19,562	15,689	11,811	7,431	5,154
Natural gas consumption - Cumulative							472,555
(tcf)							
Natural gas production - Annual (tcf)		36,257	34,274	29,850	25,241	20,015	15,548
Natural gas production - Cumulative (tcf)							872,962
Oil consumption - Annual (million bbls)		5,924	5,196	4,119	3,106	2,308	1,650
Oil consumption - Cumulative (million							126,839
bbls)							
Oil production - Annual (million bbls)		5,198	5,216	5,209	4,127	3,354	2,232
Oil production - Cumulative (million bbls)							136,632

# Table 17: E+ scenario - IMPACTS - Health

Item	2020	2025	2030	2035	2040	2045	2050
Monetary damages from air pollution -		22,661	29.5	28.3	24.2	16.6	1.24
Coal (million 2019\$)							
Monetary damages from air pollution -		13,340	9,212	6,424	5,716	3,438	1,376
Natural Gas (million 2019\$)							
Monetary damages from air pollution -		102,386	96,814	74,557	43,657	20,044	7,790
Transportation (million 2019\$)							
Premature deaths from air pollution -		2,559	3.33	3.2	2.73	1.88	0.14
Coal (deaths)							
Premature deaths from air pollution -		1,506	1,040	725	645	388	155
Natural Gas (deaths)							
Premature deaths from air pollution -		11,515	10,889	8,385	4,910	2,254	876
Transportation (deaths)							

# Table 18: E+ scenario - IMPACTS - Jobs

Item	2020	2025	2030	2035	2040	2045	2050
By economic sector - Agriculture (jobs)		31,616	38,522	43,996	38,634	36,139	47,266
By economic sector - Construction (jobs)		580,064	723,845	923,207	1,030,957	1,125,842	1,362,050
By economic sector - Manufacturing		626,159	816,219	958,346	880,897	806,619	910,451
(jobs)							
By economic sector - Mining (jobs)		458,886	352,163	267,470	175,190	114,496	65,837
By economic sector - Other (jobs)		55,963	80,318	117,907	146,042	174,989	239,733
By economic sector - Pipeline (jobs)		46,153	47,909	40,500	29,005	22,744	20,678
By economic sector - Professional (jobs)		329,442	391,194	505,157	591,345	679,998	852,768
By economic sector - Trade (jobs)		298,081	309,842	357,203	384,375	422,446	520,017
By economic sector - Utilities (jobs)		479,672	554,950	731,228	852,603	944,853	1,147,421
By education level - All sectors -		874,912	1,015,251	1,226,424	1,301,277	1,373,772	1,647,937
Associates degree or some college (jobs)							
By education level - All sectors -		642,516	708,555	822,294	849,811	887,001	1,052,119
Bachelors degree (jobs)							
By education level - All sectors - Doctoral		21,320	23,411	27,652	29,842	32,509	39,510
degree (jobs)							
By education level - All sectors - High		1,215,732	1,401,313	1,673,456	1,742,024	1,815,521	2,163,478
school diploma or less (jobs)							
By education level - All sectors - Masters		151,556	166,432	195,189	206,094	219,322	263,178
or professional degree (jobs)							
By education level - Biomass sector -		15,986	17,669	21,356	22,114	29,865	47,668
Associates degree or some college (jobs)							
By education level - Biomass sector -		14,722	15,948	18,940	20,437	29,494	47,871
Bachelors degree (jobs)							
By education level - Biomass sector -		722	813	1,007	1,194	1,857	3,040
Doctoral degree (jobs)							
By education level - Biomass sector - High		47,969	54,390	62,467	57,137	63,198	93,676
school diploma or less (jobs)							
By education level - Biomass sector -		4,048	4,493	5,404	5,950	8,640	13,975
Masters or professional degree (jobs)							

Table 18: E+ scenario - IMPACTS - Jobs (continued)

Table 18: E+ Scenario - IMPAG 15 - Jobs (Co	пипиеиј						
Item	2020	2025	2030	2035	2040	2045	2050
By education level - CO2 sector -		1,558	22,572	19,168	8,857	13,541	26,104
Associates degree or some college (jobs)							
By education level - CO2 sector -		825	10,799	9,539	4,738	7,228	12,830
Bachelors degree (jobs)							
By education level - CO2 sector - Doctoral		18.6	201	194	110	168	259
degree (jobs)							
By education level - CO2 sector - High		1,928	27,904	23,782	11,037	16,909	32,608
school diploma or less (jobs)		.,0			,	,.	,
By education level - CO2 sector - Masters		187	2,381	2,128	1,079	1,645	2,848
or professional degree (jobs)		101	2,001	2,120	1,017	1,040	2,040
By education level - Coal sector -		21,423	5,650	2,974	2,582	2,322	2,057
Associates degree or some college (jobs)		21,423	3,630	2,714	2,362	2,322	2,001
By education level - Coal sector -		13,942	3,430	1,692	1,518	1 /.11	1,291
•		13,942	3,430	1,092	1,516	1,411	1,291
Bachelors degree (jobs)		F11	100	F4 F			
By education level - Coal sector - Doctoral		511	123	51.5	48	46.1	43.4
degree (jobs)							
By education level - Coal sector - High		30,308	8,917	5,756	4,901	4,320	3,747
school diploma or less (jobs)							
By education level - Coal sector - Masters		3,429	835	370	334	313	288
or professional degree (jobs)							
By education level - Grid sector -		181,208	239,261	372,899	465,469	541,393	669,232
Associates degree or some college (jobs)							
By education level - Grid sector -		103,842	136,215	210,933	261,630	302,411	371,528
Bachelors degree (jobs)		·					•
By education level - Grid sector - Doctoral		2,994	3,861	5,878	7,168	8,146	9,840
degree (jobs)		_,	5,551	,,,,,	.,	7, 10	.,.
By education level - Grid sector - High		231,717	307,496	481,654	604,229	706,290	877,399
school diploma or less (jobs)		201,111	301,470	401,004	004,227	100,270	011,077
By education level - Grid sector - Masters		26,130	34,169	52,749	65,228	75,170	92,077
or professional degree (jobs)		20,130	34,107	32,149	05,226	13,110	72,011
		100.010	1/ 5 / / /	110 705	107.010	75 / 00	F0 F00
By education level - Natural gas sector -		180,210	145,444	118,725	106,910	75,492	53,529
Associates degree or some college (jobs)		105 / 0 /	004/5	70 ///	(0.150	/7005	
By education level - Natural gas sector -		125,434	99,145	78,646	68,153	47,005	32,235
Bachelors degree (jobs)							
By education level - Natural gas sector -		4,168	3,263	2,560	2,196	1,499	1,002
Doctoral degree (jobs)							
By education level - Natural gas sector -		220,352	177,991	144,372	127,389	89,118	62,586
High school diploma or less (jobs)							
By education level - Natural gas sector -		30,731	24,150	19,086	16,571	11,420	7,815
Masters or professional degree (jobs)							
By education level - Nuclear sector -		13,674	13,245	13,298	10,139	9,866	14,521
Associates degree or some college (jobs)							
By education level - Nuclear sector -		14,781	14,284	14,307	10,882	10,565	15,514
Bachelors degree (jobs)		, -	, -	,	-,	.,	-,-
By education level - Nuclear sector -		648	622	619	468	452	660
Doctoral degree (jobs)		0.0	022	0.7	.00	.02	000
By education level - Nuclear sector - High		16,974	16,486	16,595	12,684	12,374	18,257
school diploma or less (jobs)		10,714	10,400	10,373	12,004	12,014	10,231
By education level - Nuclear sector -		4,001	3,860	3,859	2,931	2,841	4,164
•		4,001	3,660	3,637	2,731	2,041	4,104
Masters or professional degree (jobs)		005 517	101.007	157,000	110 077	07.105	F0 / F /
By education level - Oil sector - Associates		205,517	181,086	156,220	113,377	84,105	53,454
degree or some college (jobs)		044.000	100.000	457.707	444 (70	04.477	
By education level - Oil sector - Bachelors		211,988	183,998	156,434	111,473	81,174	50,468
degree (jobs)							
By education level - Oil sector - Doctoral		6,849	5,981	5,123	3,669	2,686	1,676
degree (jobs)							
By education level - Oil sector - High		317,656	281,308	243,630	178,026	132,908	85,196
school diploma or less (jobs)							
By education level - Oil sector - Masters or		48,078	41,558	35,209	24,945	18,063	11,149
professional degree (jobs)					-		-

Table 18: E+ scenario - IMPACTS - Jobs (continued)

Py education level - Solar PV sector - Associates degree or some college (jobs)   Py education level - Solar PV sector - High school diploma or less (jobs)   Py education level - Solar PV sector - Solar PV se	Table 18: E+ scenario - IMPACTS - Jobs (co	ontinuedJ						
Associates degree or some college (jobs) By delucation (seel's - Solar PV sector - 95,882   138,470   182,673   191,608   206,823   269,992   Bachelors degree (jobs) By delucation (seel' - Solar PV sector - 10,600   231,993   327,184   424,471   437,706   443,185   591,893   school diploma or less (jobs) By delucation (seel' - Solar PV sector - 10,600   231,993   327,184   424,471   437,706   443,185   591,893   school diploma or less (jobs) By delucation (seel' - Solar PV sector - 10,600   231,993   327,184   424,471   437,706   443,185   591,893   school diploma or less (jobs) By delucation (seel' - Solar PV sector - 10,600   106,265   149,191   179,373   200,891   250,390   school diploma or less (jobs) By delucation (seel' - Wind sector - 10,600   106,265   149,191   179,373   200,891   250,390   school diploma or less (jobs) By delucation (seel' - Wind sector - 10,600   106,265   149,191   179,373   200,891   250,390   school diploma or less (jobs) By delucation (seel' - Wind sector - 10,600   174,250   149,191   179,373   200,891   250,390   school diploma or less (jobs) By resource sector - 10,600   174,270   25,100   36,192   45,552   53,135   66,610   or professional degree (jobs) By resource sector - 10,600   140,270   25,100   100,471   106,831   133,053   206,231   By resource sector - 10,600   140,470   140,470   140,470   140,470   140,470   140,470   By resource sector - 10,600   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470   140,470		2020		2030	2035	2040	2045	2050
Per deutoation level - Solar PV sector -   95,882   138,470   182,673   191,608   206,823   269,992			164,788	234,837	307,393	320,490	343,060	443,850
Bachelors degree (jobs)   3,060								
Syeducation level - Solar PV sector - Doctoral degree (jobs)   Syeducation level - Solar PV sector - High school (place)   Syeducation level - Solar PV sector - High school (place)   Syeducation level - Solar PV sector - Masters or professional degree (jobs)   Syeducation level - Wind sector - Masters or professional degree (jobs)   Syeducation level - Wind sector - Masters or professional degree (jobs)   Syeducation level - Wind sector - High school diploma or less (jobs)   Syeducation level - Wind sector - High school diploma or less (jobs)   Syeducation level - Wind sector - High school diploma or less (jobs)   Syeducation level - Wind sector - Masters or professional degree (jobs)   Syeducation level - Wind sector - Masters or professional degree (jobs)   Syeducation level - Wind sector - Masters or professional degree (jobs)   Syeducation level - Wind sector - Masters or professional degree (jobs)   Syeducation level - Wind sector - Masters or professional degree (jobs)   Syeducation level - Wind sector - Masters or professional degree (jobs)   Syeducation level - Wind sector - Masters or professional degree (jobs)   Syeducation level - Wind sector - Masters or professional degree (jobs)   Syeducation level - Wind sector - Syeducation le			95,882	138,470	182,673	191,608	206,823	269,992
Doctoral degree [jobs]   Postoral degree [jo								
Sy education level - Solar PV sector - High school diploma or less (tobs)   Solar PV sector - Solar	By education level - Solar PV sector -		3,060	4,368	6,000	6,748	7,640	10,419
school diploma or less (jobs) By education level - Solar PV sector - Masters or professional degree (jobs) By education level - Wind sector - 90,548 By education level - Wind sector - 90,548 By education level - Wind sector - 61,100 By education level - Wind sector - 90,548 By education level - Wind sector - 61,100 By essures sector - 60,100 By essures sector - 60,100 By essures sector - 60,100 By essures sector - 81,100 By essures sector - 81	Doctoral degree (jobs)							
Py education level - Solar PV sector-	By education level - Solar PV sector - High		231,393	327,184	424,471	437,706	463,185	591,893
Masters or professional degree [jobs]   90,548   155,487   214,391   251,340   274,127   337,524   Associates degree or some college (jobs)   90,548   155,487   214,391   251,340   274,127   337,524   Associates degree or some college (jobs)   91,000   106,265   149,131   179,373   200,891   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   250,390   2	school diploma or less (jobs)							
By education level - Wind sector - Associates degree or some college (jobs)   Structuration level - Wind sector - Bachelors degree (jobs)   Structuration level - Wind sector - Bachelors degree (jobs)   Structuration level - Wind sector - State   Structuration level - Wind sector - Doctoral degree (jobs)   Structuration level - Wind sector - High Bachelors degree (jobs)   Structuration level - Wind sector - High Bachelors degree (jobs)   Structuration level - Wind sector - High Bachelors degree (jobs)   Structuration level - Wind sector - High Bachelors degree (jobs)   Structuration level - Wind sector - High Bachelors degree (jobs)   Structuration level - Wind sector - High Bachelors degree (jobs)   Structuration level - Wind sector - Masters   14,270   25,102   36,192   45,552   53,135   66,610   or professional degree (jobs)   Structuration level - Wind sector - Masters   14,270   25,102   36,192   45,552   53,135   66,610   or professional degree (jobs)   Structuration level - Wind sector - Masters   14,270   25,102   36,192   45,552   53,135   66,610   or professional degree (jobs)   Structuration level - Wind sector - Mind Jobs   Structuration level - Wind sector - Mind Jobs   Structuration level - Wind sector - Masters   14,270   25,102   36,192   45,552   53,135   66,610   39,765   10,643   33,313   30,533   30,533   30,62,333   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,633   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30,634   30	By education level - Solar PV sector -		20,683	29,884	40,194	43,503	48,096	64,253
Associates degree or some college (jobs) By education level - Wind sector - Bochelors degree (jobs) By education level - Wind sector - Doctoral degree (jobs) By education level - Wind sector - Doctoral degree (jobs) By education level - Wind sector - High Sy education level - Wind sector - Masters Sy resource sector - Biomass (jobs) By education level - Wind sector - Masters Sy resource sector - Biomass (jobs) By resource sector - Biomass (jobs) By resource sector - Coal (jobs) By resource sector - Coal (jobs) By resource sector - Coal (jobs) By resource sector - Natural Gas (jobs) By resource sector - Natural Gas (jobs) By resource sector - Natural Gas (jobs) By resource sector - Nuclear (jobs) By resource sector - Solar (jobs) By resource sector - Solar (jobs) By resource sector - Solar (jobs) By resource sector - Wind (jobs) By resource sector -	Masters or professional degree (jobs)							
By education level - Wind sector - Bachelors degree (jobs)   By education level - Wind sector - 2,350	By education level - Wind sector -		90,548	155,487	214,391	251,340	274,127	337,524
Bachelors degree (jobs)   Preducation level - Wind sector - Doctoral degree (jobs)   Preducation level - Wind sector - High Sy deducation level - Wind sector - Masters of 14,270   25,102   36,192   45,552   53,135   66,610   327,219   398,115   327,219   308,916   327,219   398,115   327,219   308,916   327,219   398,115   327,219   398,115   327,219   398,115   327,219   398,115   327,219   398,115   327,219   398,115   327,219   398,115   327,219   398,115   327,219   398,115   327,219   398,115   327,219   398,115   327,219   398,115   327,219   398,115   327,219   398,115   327,219   398,115   327,219   398,115   327,219   398,115   327,219   398,115   327,219   398,115   327,219   398,115   337,121   398,115   337,121   398,115   337,121   398,115   337,121   398,115   337,121   398,115   337,121   398,115   337,121   398,115   337,121   398,115   337,121   398,115   337,121   398,115   337,121   398,115   337,121   398,115   337,121   398,115   337,121   398,115   337,121   398,115   337,121   398,115   337,121   398,115   337,121   398,115   337,121   398,115   337,121   337,121   398,115   337,121   398,115   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,121   337,12	Associates degree or some college (jobs)							
Eyeducation level - Wind sector - Doctoral degree (jobs)   117,435   199,638   270,729   308,916   327,219   398,115   329,010   327,219   398,115   329,010   327,219   398,115   329,010   327,219   398,115   329,010   327,219   398,115   329,010   327,219   398,115   329,010   329,010   327,219   398,115   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,010   329,0	By education level - Wind sector -		61,100	106,265	149,131	179,373	200,891	250,390
Doctoral degree (jobs)   By education level - Wind sector - High school diploma or less (jobs)   117,435   199,638   270,729   308,916   327,219   398,115   school diploma or less (jobs)   By education level - Wind sector - Masters or professional degree (jobs)   By resource sector - Cool (jobs)   By resource sector - Cool (jobs)   83,448   93,313   109,174   106,831   133,053   206,231   By resource sector - Cool (jobs)   4,517   63,856   54,811   25,821   39,491   74,649   By resource sector - Cool (jobs)   69,612   18,956   10,843   9,383   8,412   74,269   By resource sector - Gold (jobs)   545,891   721,002   1,124,114   1,403,724   1,633,410   2,020,070   By resource sector - Nuclear (jobs)   550,876   449,993   363,389   32,1219   224,534   157,167   By resource sector - Nuclear (jobs)   50,077   48,496   48,678   37,104   36,098   53,115   By resource sector - Solar (jobs)   515,805   734,743   960,731   1,000,054   1,068,804   1,380,400   By resource sector - Solar (jobs)   515,805   734,743   960,731   1,000,054   1,068,804   1,380,400   By resource sector - Solar (jobs)   515,805   734,743   960,731   1,000,054   1,068,804   1,380,400   By resource sector - Solar (jobs)   515,805   734,743   960,731   1,000,054   1,068,804   1,380,400   By resource sector - Solar (jobs)   515,805   734,743   960,731   1,000,054   1,068,804   1,380,400   By resource sector - Solar (jobs)   515,805   734,743   960,731   1,000,054   1,068,804   1,380,400   By resource sector - Solar (jobs)   515,805   734,743   960,731   1,000,054   1,068,804   1,380,400   By resource sector - Solar (jobs)   515,805   734,743   960,731   1,000,054   1,068,804   1,380,400   By resource sector - Solar (jobs)   515,805   734,743   76,646   773,424   76,646   773,424   76,646   773,424   76,646   773,424   76,646   773,424   76,646   773,424   76,646   773,424   76,646   773,424   76,646   773,424   76,646   773,424   76,646   773,424   76,646   773,424   76,646   773,424   76,646   773,424   76,646   773,424   76,646   773,424   76,646	Bachelors degree (jobs)							
Doctoral degree (jobs)   Py education level - Wind sector - High school diploma or less (jobs)   117,435   199,638   270,729   308,916   327,219   398,115   school diploma or less (jobs)   Py education level - Wind sector - Masters or professional degree (jobs)   Py resource sector - Biomass (jobs)   Ry resource sector - Biomass (jobs)   Ry resource sector - Coal (jobs)   Ry resource sector - Goal (jobs)   Ry resource sector - Goal (jobs)   Ry resource sector - Goal (jobs)   Ry resource sector - Ry Ry resource sector - Ry	By education level - Wind sector -		2,350	4,179	6,218	8,241	10,015	12,570
Sy education level - Wind sector - High school diploma or less (jobs)   117,435   199,638   270,729   308,916   327,219   398,115   398,115   398,115   308,016   327,219   398,115   308,016   327,219   398,115   308,016   327,219   398,115   308,016   327,219   398,115   308,016   327,219   398,115   308,016   327,219   398,115   308,016   327,219   398,115   308,016   308,016   327,219   398,115   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   308,016   30	Doctoral degree (jobs)							
school diploma or less (jobs)         By education level - Wind sector - Masters         14,270         25,102         36,192         45,552         53,135         66,610           By resource sector - Biomass (jobs)         83,448         93,313         109,174         106,831         133,053         206,231           By resource sector - Coal (jobs)         4,517         63,856         54,811         25,821         39,491         74,649           By resource sector - Coal (jobs)         56,612         18,956         10,843         9,383         8,412         74,649           By resource sector - Natural Gas (jobs)         560,896         449,993         363,389         321,219         226,534         157,167           By resource sector - Nuclear (jobs)         50,077         48,496         48,678         37,104         36,098         53,115           By resource sector - Wild (jobs)         790,088         693,392         556,616         431,490         318,938         201,943           By resource sector - Wild (jobs)         790,088         693,392         556,616         341,490         318,938         201,943           By resource sector - Solar (jobs)         515,805         734,743         960,731         1,000,054         1,062,209           By resource sector - Wild (jobs			117,435	199,638	270,729	308,916	327,219	398,115
Py education level - Wind sector - Masters or professional degree (jobs)   Sy resource sector - Biomass (jobs)   Sy resource sector - Biomass (jobs)   Sy resource sector - Biomass (jobs)   Sy resource sector - CO2 (jobs)   Sy resource sector - Grid (jobs)   Sy resource sector - Grid (jobs)   Sy resource sector - Grid (jobs)   Sy resource sector - Natural Gas (jobs)   Sy resource sector - Solar (jobs)   Sy resource sector - S				,	,	•	•	
or professional degree (jobs)         83,448         93,313         109,174         106,831         133,053         206,231           By resource sector - Co2 (jobs)         4,517         63,856         54,811         25,821         39,491         74,649           By resource sector - Co3 (jobs)         69,612         18,956         10,843         9,383         8,412         7,426           By resource sector - Co4 (jobs)         54,891         721,002         11,24,114         1,403,724         1,633,410         20,207           By resource sector - Natural Gas (jobs)         560,896         449,993         363,389         321,219         224,534         157,167           By resource sector - Nuclear (jobs)         790,088         693,992         361,368         370,40         318,938         201,933           By resource sector - Violin (jobs)         515,805         734,743         960,731         1,000,054         1,068,804         1,380,400           By resource sector - Violin (jobs)         515,805         734,743         960,731         1,000,054         1,068,804         1,380,400           By resource sector - Violin (jobs)         315,800         74,742         86,732         66,618         67,224         66,160         66,160         66,160         66,160         <			14,270	25.102	36.192	45.552	53.135	66,610
By resource sector - Biomass (jobs)			,		20,	,		
By resource sector - COZ (jobs)			83,448	93,313	109.174	106.831	133.053	206.231
By resource sector - Coal (jobs)   69,612   18,956   10,843   9,383   8,412   7,426								
By resource sector - Natural Gas (jobs)   546,891   721,002   1124,114   1,403,724   1,633,410   2,020,077								
By resource sector - Natural Gas (jobs)   560,896   449,993   363,389   321,219   224,534   157,167   By resource sector - Nuclear (jobs)   50,077   48,496   48,678   37,104   36,098   53,115   37,098   59,098   59,093   596,616   431,490   318,938   201,943   By resource sector - Solar (jobs)   515,805   734,743   960,731   1,000,054   1,068,804   1,380,400   By resource sector - Wind (jobs)   285,703   490,671   676,661   676,661   793,422   865,386   1,065,209   865,386   1,065,209   861,399   53,204   55,103   58,458   62,415   64,160   62,869   64,234   66,184   67,224   67,032   1,000,054   64,160   62,869   64,234   66,184   67,224   67,032   1,000,054   64,160   64,160   67,032   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160   64,160								
By resource sector - Nuclear (jobs)   50,077   48,496   48,678   37,104   36,098   53,115   39 y resource sector - Solar (jobs)   790,088   693,932   596,616   431,490   318,938   201,943   38 y resource sector - Solar (jobs)   515,805   734,743   960,731   1,000,054   1,068,804   1,380,400   318,938   201,943   38,938   201,943   38,938   201,943   38,938   201,943   38,938   201,943   38,938   201,943   38,938   201,943   38,938   201,943   38,938   201,943   38,938   201,943   38,938   201,943   38,938   30,400,671   676,661   793,422   865,386   1,065,205   36,406   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405   367,405								
By resource sector - Oil (jobs)								
By resource sector - Solar (jobs)   515,805   734,743   960,731   1,000,054   1,068,804   1,380,400   By resource sector - Wind (jobs)   285,703   490,671   676,661   793,422   865,386   1,065,205   Before sector - Wind (jobs)   51,939   53,204   55,103   58,458   62,415   64,160   Ber job   51,939   53,204   55,103   58,458   62,415   64,160   Ber job   Bed job   62,869   64,234   66,184   67,224   67,032   66,180   Bed job   62,869   64,234   66,184   67,224   67,032   64,248   66,184   67,224   67,032   64,248   66,184   67,244   68,369   69,109   62,539   63,375   64,248   65,159   66,110   67,102   64,249   65,159   66,110   67,102   64,249   66,244   67,110   67,844   68,369   69,119   69,706   68,2019 per job   62,539   66,244   67,110   67,844   68,369   69,119   69,706   68,2019 per job   65,834   66,720   67,650   68,456   69,277   69,993   65,009   65,834   66,720   67,650   68,456   69,277   69,993   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65,009   65								
By resource sector - Wind (jobs)   285,703   490,671   676,661   793,422   865,386   1,065,205   Median wages - Annual - Biomass (\$2019   51,939   53,204   55,103   58,458   62,415   64,160   62,015   62,869   64,234   66,184   67,224   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032   67,032								
Median wages - Annual - Biomass (\$2019 per job)         51,939         53,204         55,103         58,458         62,415         64,160           Median wages - Annual - CO2 (\$2019 per job)         63,115         62,869         64,234         66,184         67,224         67,032           Median wages - Annual - COal (\$2019 per job)         60,501         59,195         55,643         56,541         57,484         58,469           Median wages - Annual - Grid (\$2019 per job)         62,539         63,375         64,248         65,159         66,110         67,102           Median wages - Annual - Natural Gas (\$2019 per job)         66,244         67,110         67,844         68,369         69,119         69,706           Median wages - Annual - Nuclear (\$2019 per job)         71,486         73,188         74,974         76,846         78,808         80,864           Median wages - Annual - Oil (\$2019 per job)         65,834         66,720         67,650         68,456         69,277         69,993           Median wages - Annual - Wind (\$2019 per job)         55,418         56,093         56,985         58,064         59,155         60,323           Median wages - Annual - Wind (\$2019 per job)         58,179         59,132         60,462         62,327         64,299         65,507								
Der job   Median wages - Annual - CO2 (\$2019 per job)   Median wages - Annual - CO2 (\$2019 per job)   Median wages - Annual - CO2 (\$2019 per job)   Median wages - Annual - CO2 (\$2019 per job)   Median wages - Annual - Grid (\$2019 per job)   Median wages - Annual - Grid (\$2019 per job)   Median wages - Annual - Natural Gas (\$2019 per job)   Median wages - Annual - Natural Gas (\$2019 per job)   Median wages - Annual - Nuclear (\$2019 per job)   Median wages - Annual - Oil (\$2019 per job)   Median wages - Annual - Oil (\$2019 per job)   Median wages - Annual - Oil (\$2019 per job)   Median wages - Annual - Oil (\$2019 per job)   Median wages - Annual - Oil (\$2019 per job)   Median wages - Annual - Oil (\$2019 per job)   Median wages - Annual - Oil (\$2019 per job)   Median wages - Annual - Oil (\$2019 per job)   Median wages - Annual - Wind (\$2019 per job)   S8,179   S9,132   60,462   62,327   64,299   65,507   job)   Median wages - Annual - Wind (\$2019 per job)   S8,179   S9,132   60,462   62,327   64,299   65,507   job)   Median wages - Annual - Wind (\$2019 per job)   S8,179   S9,132   60,462   62,327   64,299   65,507   job)   Median wages - Annual - Wind (\$2019 per job)   S8,179   S9,132   60,462   62,327   64,299   65,507   job)   Median wages - Annual - Wind (\$2019 per job)   S8,179   S9,132   60,462   62,327   64,299   65,507   job)   Median wages - Annual - Wind (\$2019 per job)   S8,179   S9,132   60,462   62,327   64,299   65,507   job)   Median wages - Annual - Wind (\$2019 per job)   S8,179   S9,132   60,462   62,327   64,299   65,507   job)   Median wages - Annual - Dil (\$2019 per job)   S8,179   S9,132   60,462   62,327   64,299   65,507   job)   Median wages - Annual - Dil (\$2019 per job)   S8,179   S9,132   60,462   62,327   64,299   65,507   69,993   60,462   62,327   64,299   65,507   69,993   60,462   62,327   64,299   65,507   69,993   60,462   62,327   64,299   65,507   69,993   60,462   62,327   64,299   65,507   69,993   60,462   62,327   64,299   65,507   60,462   62,327   64,299   65,507   60,462								
Median wages - Annual - CO2 (\$2019 per job)         63,115         62,869         64,234         66,184         67,224         67,032 job)           Median wages - Annual - Coal (\$2019 per job)         60,501         59,195         55,643         56,541         57,484         58,469           Median wages - Annual - Grid (\$2019 per job)         62,539         63,375         64,248         65,159         66,110         67,102           Median wages - Annual - Natural Gas (\$2019 per job)         66,244         67,110         67,844         68,369         69,119         69,706           Median wages - Annual - Nuclear (\$2019 per job)         71,486         73,188         74,974         76,846         78,808         80,864           Median wages - Annual - Oil (\$2019 per job)         65,834         66,720         67,650         68,456         69,277         69,993           Median wages - Annual - Solar (\$2019 per job)         55,418         56,093         56,985         58,064         59,155         60,323           Median wages - Annual - Wind (\$2019 per job)         55,418         56,093         56,985         58,064         59,155         60,323           Median wages - Annual - Wind (\$2019 per job)         58,179         59,132         60,462         62,327         64,299         65,507      <	=		51,939	53,204	55,103	58,458	62,415	64,160
Job   Median wages - Annual - Coal (\$2019 per job)   Median wages - Annual - Grid (\$2019 per job)   Median wages - Annual - Grid (\$2019 per job)   Median wages - Annual - Natural Gas (\$2019 per job)   Median wages - Annual - Natural Gas (\$2019 per job)   Median wages - Annual - Nuclear (\$2019 per job)   Median wages - Annual - Nuclear (\$2019 per job)   Median wages - Annual - Nuclear (\$2019 per job)   Median wages - Annual - Oil (\$2019 per job)   Median wages - Annual - Oil (\$2019 per job)   Median wages - Annual - Oil (\$2019 per job)   Median wages - Annual - Solar (\$2019 per job)   Median wages - Annual - Solar (\$2019 per job)   Median wages - Annual - Solar (\$2019 per job)   Median wages - Annual - Wind (\$2019 per job)   Median wages - Annual - Wind (\$2019 per job)   Median wages - Annual - Wind (\$2019 per job)   Median wages - Annual - Wind (\$2019 per job)   Median wages - Annual - Wind (\$2019 per job)   Median wages - Annual - Wind (\$2019 per job)   Median wages - Annual - Wind (\$2019 per job)   Median wages - Annual - Wind (\$2019 per job)   Median wages - Annual - Wind (\$2019 per job)   Median wages - Annual - Wind (\$2019 per job)   Median wages - Annual - Wind (\$2019 per job)   Median wages - Annual - Wind (\$2019 per job)   Median wages - Annual - Wind (\$2019 per job)   Median wages - Annual - Wind (\$2019 per job)   Median wages - Annual - Solar (\$2019 per job)   Median wages - Annual - Solar (\$2019 per job)   Median wages - Annual - Solar (\$2019 per job)   Median wages - Annual - Solar (\$2019 per job)   Median wages - Annual - Solar (\$2019 per job)   Median wages - Annual - Solar (\$2019 per job)   Median wages - Annual - Solar (\$2019 per job)   Median wages - Annual - Solar (\$2019 per job)   Median wages - Annual - Solar (\$2019 per job)   Median wages - Annual - Solar (\$2019 per job)   Median wages - Annual - Solar (\$2019 per job)   Median wages - Annual - Solar (\$2019 per job)   Median wages - Annual - Solar (\$2019 per job)   Median wages - Annual - Solar (\$2019 per job)   Median wages - Annual - Sol			(0.44=	10.010				/=
Median wages - Annual - Coal (\$2019 per job)         60,501         59,195         55,643         56,541         57,484         58,469 job)           Median wages - Annual - Grid (\$2019 per job)         62,539         63,375         64,248         65,159         66,110         67,102           Median wages - Annual - Natural Gas (\$2019 per job)         66,244         67,110         67,844         68,369         69,119         69,706           Median wages - Annual - Nuclear (\$2019 per job)         71,486         73,188         74,974         76,846         78,808         80,864           Median wages - Annual - Oil (\$2019 per job)         65,834         66,720         67,650         68,456         69,277         69,993           Median wages - Annual - Solar (\$2019 per job)         55,418         56,093         56,985         58,064         59,155         60,323           Median wages - Annual - Wind (\$2019 per job)         58,179         59,132         60,462         62,327         64,299         65,507           Median wages - Annual - Wind (\$2019 per job)         58,179         59,132         60,462         62,327         64,299         65,507           On-Site or In-Plant Training - Biomass sector - 1 to 4 years (jobs)         8,420         9,462         11,465         11,778         15,479         24,30			63,115	62,869	64,234	66,184	67,224	67,032
Description								
Median wages - Annual - Grid (\$2019 per job)			60,501	59,195	55,643	56,541	57,484	58,469
Median wages - Annual - Natural Gas (\$2019 per job)   Median wages - Annual - Nuclear (\$2019 per job)   T1,486   T3,188   T4,974   T6,846   T8,808   80,864   Per job   T1,486   T3,188   T4,974   T6,846   T8,808   T8,808   T6,809								
Median wages - Annual - Natural Gas (\$2019 per job)         66,244         67,110         67,844         68,369         69,119         69,706           Median wages - Annual - Nuclear (\$2019 per job)         71,486         73,188         74,974         76,846         78,808         80,864           Median wages - Annual - Oil (\$2019 per job)         65,834         66,720         67,650         68,456         69,277         69,993           Median wages - Annual - Solar (\$2019 per job)         55,418         56,093         56,885         58,064         59,155         60,323           Median wages - Annual - Wind (\$2019 per job)         58,179         59,132         60,462         62,327         64,299         65,507           Job         Median wages - Annual - Wind (\$2019 per job)         58,179         59,132         60,462         62,327         64,299         65,507           John Site or In-Plant Training - Biomass         8,420         9,462         11,465         11,778         15,479         24,303           Sector - 1 to 4 years (jobs)         2,630         2,899         3,633         3,912         5,516         8,939           On-Site or In-Plant Training - Biomass sector - None (jobs)         13,478         15,270         18,154         18,473         23,872         36,959	` ` .		62,539	63,375	64,248	65,159	66,110	67,102
(\$2019 per job)         Median wages - Annual - Nuclear (\$2019 per job)         71,486         73,188         74,974         76,846         78,808         80,864 per job)           Median wages - Annual - Oil (\$2019 per job)         65,834         66,720         67,650         68,456         69,277         69,993 job)           Median wages - Annual - Solar (\$2019 per job)         55,418         56,093         56,985         58,064         59,155         60,323 job)           Median wages - Annual - Wind (\$2019 per job)         58,179         59,132         60,462         62,327         64,299         65,507 job)           On-Site or In-Plant Training - Biomass sector - 1 to 4 years (jobs)         8,420         9,462         11,465         11,778         15,479         24,303 sector - 4 to 10 years (jobs)           On-Site or In-Plant Training - Biomass sector - 4 to 10 years (jobs)         13,478         15,270         18,154         18,473         23,872         36,959 sector - None (jobs)           On-Site or In-Plant Training - Biomass sector - Over 10 years (jobs)         58,4         624         716         660         802         1,299 sector - 1,091 years (jobs)           On-Site or In-Plant Training - Biomass sector - Up to 1 year (jobs)         58,337         65,059         75,205         72,008         87,384         134,729 sector - 1,011         13,796 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
Median wages - Annual - Nuclear (\$2019 per job)         71,486         73,188         74,974         76,846         78,808         80,864           per job)         Median wages - Annual - Oil (\$2019 per job)         65,834         66,720         67,650         68,456         69,277         69,993           Median wages - Annual - Solar (\$2019 per job)         55,418         56,093         56,985         58,064         59,155         60,323           Median wages - Annual - Wind (\$2019 per job)         58,179         59,132         60,462         62,327         64,299         65,507           John Site or In-Plant Training - Biomass sector - 1 to 4 years (jobs)         8,420         9,462         11,465         11,778         15,479         24,303           On-Site or In-Plant Training - Biomass sector - 4 to 10 years (jobs)         2,630         2,899         3,633         3,912         5,516         8,939           On-Site or In-Plant Training - Biomass sector - None (jobs)         13,478         15,270         18,154         18,473         23,872         36,959           On-Site or In-Plant Training - Biomass sector - Up to 10 years (jobs)         58,337         65,059         75,205         72,008         87,384         134,729           On-Site or In-Plant Training - C02 sector - 1 to 4 years (jobs)         822         11,889 <td></td> <td></td> <td>66,244</td> <td>67,110</td> <td>67,844</td> <td>68,369</td> <td>69,119</td> <td>69,706</td>			66,244	67,110	67,844	68,369	69,119	69,706
Der job   Median wages - Annual - Oil (\$2019 per job)   Median wages - Annual - Solar (\$2019 per job)   S5,418   S6,093   S6,985   S8,064   S9,155   G0,323   S6,507   S6,064   S6,067   S6,06								
Median wages - Annual - Oil (\$2019 per job)         65,834         66,720         67,650         68,456         69,277         69,993           Median wages - Annual - Solar (\$2019 per job)         55,418         56,093         56,985         58,064         59,155         60,323           Median wages - Annual - Wind (\$2019 per job)         58,179         59,132         60,462         62,327         64,299         65,507           Job On-Site or In-Plant Training - Biomass sector - 1 to 4 years (jobs)         8,420         9,462         11,465         11,778         15,479         24,303           On-Site or In-Plant Training - Biomass sector - 4 to 10 years (jobs)         2,630         2,899         3,633         3,912         5,516         8,939           On-Site or In-Plant Training - Biomass sector - None (jobs)         13,478         15,270         18,154         18,473         23,872         36,959           On-Site or In-Plant Training - Biomass sector - Over 10 years (jobs)         58,337         65,059         75,205         72,008         87,384         134,729           On-Site or In-Plant Training - C02 sector - 1to 4 years (jobs)         822         11,889         10,111         4,681         7,161         13,796           On-Site or In-Plant Training - C02 sector - 20,20         398         5,916         4,982	-		71,486	73,188	74,974	76,846	78,808	80,864
Median wages - Annual - Solar (\$2019 per job)   S5,418   S6,093   S6,985   S8,064   S9,155   60,323   S6,096   S6,096   S6,097   S8,179   S9,132   S6,042   S6,237   S6,299   S6,507   S6,096   S6,507   S6,096   S6,097								
Median wages - Annual - Solar (\$2019 per job)         55,418         56,093         56,985         58,064         59,155         60,323 job)           Median wages - Annual - Wind (\$2019 per job)         58,179         59,132         60,462         62,327         64,299         65,507 job)           On-Site or In-Plant Training - Biomass sector - 1 to 4 years (jobs)         8,420         9,462         11,465         11,778         15,479         24,303 jobs jobs jobs jobs jobs jobs jobs jobs	Median wages - Annual - Oil (\$2019 per		65,834	66,720	67,650	68,456	69,277	69,993
Median wages - Annual - Wind (\$2019 per job)	job)							
Median wages - Annual - Wind (\$2019 per job)         58,179         59,132         60,462         62,327         64,299         65,507           On-Site or In-Plant Training - Biomass sector - 1 to 4 years (jobs)         8,420         9,462         11,465         11,778         15,479         24,303           Sector - 1 to 4 years (jobs)         2,630         2,899         3,633         3,912         5,516         8,939           Sector - 4 to 10 years (jobs)         3,478         15,270         18,154         18,473         23,872         36,959           Sector - None (jobs)         3,478         15,270         18,154         18,473         23,872         36,959           Sector - None (jobs)         584         624         716         660         802         1,299           Sector - Over 10 years (jobs)         58,337         65,059         75,205         72,008         87,384         134,729           Sector - Up to 1 year (jobs)         58,337         65,059         75,205         72,008         87,384         134,729           On-Site or In-Plant Training - C02 sector - 1 to 4 years (jobs)         822         11,889         10,111         4,681         7,161         13,796           On-Site or In-Plant Training - C02 sector - 2 sector - 398         5,916	Median wages - Annual - Solar (\$2019 per		55,418	56,093	56,985	58,064	59,155	60,323
On-Site or In-Plant Training - Biomass   S,420   9,462   11,465   11,778   15,479   24,303	job)							
On-Site or In-Plant Training - Biomass   S,420   9,462   11,465   11,778   15,479   24,303	Median wages - Annual - Wind (\$2019 per		58,179	59,132	60,462	62,327	64,299	65,507
sector - 1 to 4 years (jobs)         2,630         2,899         3,633         3,912         5,516         8,939           sector - 4 to 10 years (jobs)         0n-Site or In-Plant Training - Biomass sector - None (jobs)         13,478         15,270         18,154         18,473         23,872         36,959           on-Site or In-Plant Training - Biomass sector - Over 10 years (jobs)         584         624         716         660         802         1,299           on-Site or In-Plant Training - Biomass sector - Up to 1 year (jobs)         58,337         65,059         75,205         72,008         87,384         134,729           on-Site or In-Plant Training - C02 sector - 1 to 4 years (jobs)         822         11,889         10,111         4,681         7,161         13,796           on-Site or In-Plant Training - C02 sector - 2 sector - 1 to 4 years (jobs)         398         5,916         4,982         2,263         3,464         6,818	=				-		-	
sector - 1 to 4 years (jobs)         2,630         2,899         3,633         3,912         5,516         8,939           sector - 4 to 10 years (jobs)         0n-Site or In-Plant Training - Biomass sector - None (jobs)         13,478         15,270         18,154         18,473         23,872         36,959           on-Site or In-Plant Training - Biomass sector - Over 10 years (jobs)         584         624         716         660         802         1,299           on-Site or In-Plant Training - Biomass sector - Up to 1 year (jobs)         58,337         65,059         75,205         72,008         87,384         134,729           on-Site or In-Plant Training - C02 sector - 1 to 4 years (jobs)         822         11,889         10,111         4,681         7,161         13,796           on-Site or In-Plant Training - C02 sector - 2 sector - 1 to 4 years (jobs)         398         5,916         4,982         2,263         3,464         6,818	On-Site or In-Plant Training - Biomass		8,420	9,462	11,465	11,778	15,479	24,303
On-Site or In-Plant Training - Biomass sector - 4 to 10 years (jobs)         2,630         2,899         3,633         3,912         5,516         8,939           On-Site or In-Plant Training - Biomass sector - None (jobs)         13,478         15,270         18,154         18,473         23,872         36,959           On-Site or In-Plant Training - Biomass sector - Over 10 years (jobs)         584         624         716         660         802         1,299           On-Site or In-Plant Training - Biomass sector - Up to 1 year (jobs)         58,337         65,059         75,205         72,008         87,384         134,729           On-Site or In-Plant Training - C02 sector - 1 to 4 years (jobs)         822         11,889         10,111         4,681         7,161         13,796           On-Site or In-Plant Training - C02 sector - 1 to 4 years (jobs)         398         5,916         4,982         2,263         3,464         6,818	=			·	-		-	
sector - 4 to 10 years (jobs)       13,478       15,270       18,154       18,473       23,872       36,959         sector - None (jobs)       584       624       716       660       802       1,299         sector - Over 10 years (jobs)       58,337       65,059       75,205       72,008       87,384       134,729         on-Site or In-Plant Training - Biomass sector - Up to 1 year (jobs)       58,337       65,059       75,205       72,008       87,384       134,729         on-Site or In-Plant Training - C02 sector - 1 to 4 years (jobs)       822       11,889       10,111       4,681       7,161       13,796         on-Site or In-Plant Training - C02 sector - 2 sector - 1 to 4 years (jobs)       398       5,916       4,982       2,263       3,464       6,818			2.630	2.899	3.633	3.912	5.516	8.939
On-Site or In-Plant Training - Biomass sector - None (jobs)       13,478       15,270       18,154       18,473       23,872       36,959         On-Site or In-Plant Training - Biomass sector - Over 10 years (jobs)       584       624       716       660       802       1,299         On-Site or In-Plant Training - Biomass sector - Up to 1 year (jobs)       58,337       65,059       75,205       72,008       87,384       134,729         On-Site or In-Plant Training - C02 sector - 1 to 4 years (jobs)       822       11,889       10,111       4,681       7,161       13,796         On-Site or In-Plant Training - C02 sector - 2 sector - 1 to 4 years (jobs)       398       5,916       4,982       2,263       3,464       6,818			_,,,,,	_,	5,555	-7	,,,,,,	
sector - None (jobs)       584       624       716       660       802       1,299         sector - Over 10 years (jobs)       58,337       65,059       75,205       72,008       87,384       134,729         on-Site or In-Plant Training - Biomass sector - Up to 1 year (jobs)       58,337       65,059       75,205       72,008       87,384       134,729         On-Site or In-Plant Training - C02 sector - 1 to 4 years (jobs)       822       11,889       10,111       4,681       7,161       13,796         On-Site or In-Plant Training - C02 sector - 2 sector - 1 sector - 2 sector - 398       5,916       4,982       2,263       3,464       6,818			13 478	15 270	18 154	18 473	23 872	36 959
On-Site or In-Plant Training - Biomass sector - Over 10 years (jobs)       584       624       716       660       802       1,299         On-Site or In-Plant Training - Biomass sector - Up to 1 year (jobs)       58,337       65,059       75,205       72,008       87,384       134,729         On-Site or In-Plant Training - C02 sector - 1 to 4 years (jobs)       822       11,889       10,111       4,681       7,161       13,796         On-Site or In-Plant Training - C02 sector - 2,263       3,464       6,818			10, 110	10,210	10,10 1	10, 110	20,012	00,707
sector - Over 10 years (jobs)       58,337       65,059       75,205       72,008       87,384       134,729         sector - Up to 1 year (jobs)       0n-Site or In-Plant Training - CO2 sector - 1 to 4 years (jobs)       822       11,889       10,111       4,681       7,161       13,796         On-Site or In-Plant Training - CO2 sector - 2 years (jobs)       398       5,916       4,982       2,263       3,464       6,818			584	624	716	660	802	1 299
On-Site or In-Plant Training - Biomass sector - Up to 1 year (jobs)       58,337       65,059       75,205       72,008       87,384       134,729         On-Site or In-Plant Training - CO2 sector - 1 to 4 years (jobs)       822       11,889       10,111       4,681       7,161       13,796         On-Site or In-Plant Training - CO2 sector - 2 sector - 398       5,916       4,982       2,263       3,464       6,818			554	024	110	000	552	1,2//
sector - Up to 1 year (jobs)       822       11,889       10,111       4,681       7,161       13,796         1 to 4 years (jobs)       0n-Site or In-Plant Training - CO2 sector -       398       5,916       4,982       2,263       3,464       6,818			58 337	65 N50	75 205	72 በበዩ	87387	137, 720
On-Site or In-Plant Training - CO2 sector - 1 to 4 years (jobs)       822       11,889       10,111       4,681       7,161       13,796         On-Site or In-Plant Training - CO2 sector - 2 sector - 398       5,916       4,982       2,263       3,464       6,818			30,331	00,009	10,200	12,000	01,304	134,129
1 to 4 years (jobs)       398       5,916       4,982       2,263       3,464       6,818			000	11 000	10 111	/. / 01	71/1	10 70/
On-Site or In-Plant Training - CO2 sector -         398         5,916         4,982         2,263         3,464         6,818			822	11,007	10,111	4,081	7,161	13,796
			000	F 01/	/ 000	0.070	0.777	/ 010
4 to 10 years (Jobs)			398	5,916	4,982	2,263	3,464	6,818
	4 to 10 year's (Jobs)							

Table 18: E+ scenario - IMPACTS - Jobs (continued)

Table 18: <i>E+ scenario - IMPACTS - Jobs (co</i>	intinued)						
Item	2020	2025	2030	2035	2040	2045	2050
On-Site or In-Plant Training - CO2 sector -		696	9,738	8,397	3,989	6,102	11,439
None (jobs)							
On-Site or In-Plant Training - CO2 sector -		47.2	703	590	267	408	805
Over 10 years (jobs)							
On-Site or In-Plant Training - CO2 sector -		2,554	35,610	30,731	14,621	22,355	41,790
Up to 1 year (jobs)		,	,	, .	, -	,	, -
On-Site or In-Plant Training - Coal sector -		10,870	2,930	1,588	1,369	1,222	1,074
1 to 4 years (jobs)		10,010	2,700	1,000	1,007	1,222	1,014
On-Site or In-Plant Training - Coal sector -		4,169	1,017	428	368	328	287
4 to 10 years (jobs)		4,109	1,011	420	300	320	201
On-Site or In-Plant Training - Coal sector -		10,259	2,664	1 / 10	10/.5	1 100	1.007
		10,259	2,004	1,410	1,245	1,139	1,026
None (jobs)		500	100	/71	/17	00.0	0//
On-Site or In-Plant Training - Coal sector -		502	120	47.1	41.7	38.2	34.4
Over 10 years (jobs)							
On-Site or In-Plant Training - Coal sector -		43,813	12,226	7,370	6,360	5,685	5,004
Up to 1 year (jobs)							
On-Site or In-Plant Training - Grid sector -		94,286	124,689	194,641	243,343	283,483	350,975
1 to 4 years (jobs)							
On-Site or In-Plant Training - Grid sector -		41,409	54,750	85,444	106,798	124,383	153,955
4 to 10 years (jobs)							
On-Site or In-Plant Training - Grid sector -		83,130	109,551	170,425	212,356	246,578	304,311
None (jobs)				-			
On-Site or In-Plant Training - Grid sector -		5,368	7,093	11,063	13,819	16,084	19,896
Over 10 years (jobs)			1,212	,	,	,	11,515
On-Site or In-Plant Training - Grid sector -		321,698	424,920	662,541	827,408	962,883	1,190,940
Up to 1 year (jobs)		021,070	727,720	002,041	021,400	702,000	1,170,740
On-Site or In-Plant Training - Natural gas		94,541	76,217	61,976	55,313	38,887	27,463
		74,541	10,211	01,710	55,515	30,001	21,403
sector - 1 to 4 years (jobs)		/1000	0 / 111	00.007	05 001	17007	10.070
On-Site or In-Plant Training - Natural gas		41,989	34,111	28,034	25,381	17,986	12,842
sector - 4 to 10 years (jobs)		00.000	74.070	57.045	50 (44	05.000	0/ /00
On-Site or In-Plant Training - Natural gas		89,308	71,273	57,315	50,611	35,322	24,690
sector - None (jobs)							
On-Site or In-Plant Training - Natural gas		4,983	4,077	3,385	3,110	2,221	1,594
sector - Over 10 years (jobs)							
On-Site or In-Plant Training - Natural gas		330,074	264,314	212,678	186,805	130,118	90,578
sector - Up to 1 year (jobs)							
On-Site or In-Plant Training - Nuclear		7,389	7,165	7,200	5,494	5,352	7,883
sector - 1 to 4 years (jobs)							
On-Site or In-Plant Training - Nuclear		2,675	2,592	2,605	1,987	1,935	2,850
sector - 4 to 10 years (jobs)							•
On-Site or In-Plant Training - Nuclear		8,964	8,672	8,696	6,622	6,437	9,462
sector - None (jobs)		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	-,	,,,,,	-,	5,	.,
On-Site or In-Plant Training - Nuclear		251	243	244	186	181	266
sector - Over 10 years (jobs)		201	240	277	100	101	200
On-Site or In-Plant Training - Nuclear		30,798	29,824	29,934	22,814	22,194	32,654
_		30,176	27,024	27,734	22,014	22,174	32,034
sector - Up to 1 year (jobs)		11/ / 05	100 / / 0	00 (07	(/ 00/	/7700	00.000
On-Site or In-Plant Training - Oil sector - 1		116,425	102,660	88,637	64,336	47,729	30,322
to 4 years (jobs)		/ 1 0 = 0	011-0	21 (2)	22.12=	1=000	
On-Site or In-Plant Training - Oil sector -		41,052	36,459	31,686	23,187	17,338	11,117
4 to 10 years (jobs)							
On-Site or In-Plant Training - Oil sector -		127,218	110,889	94,600	67,873	49,768	31,263
None (jobs)							
On-Site or In-Plant Training - Oil sector -		4,547	4,112	3,638	2,706	2,055	1,336
Over 10 years (jobs)							
On-Site or In-Plant Training - Oil sector -		500,847	439,812	378,054	273,388	202,047	127,906
Up to 1 year (jobs)		.	•		•		,
On-Site or In-Plant Training - Solar PV		82,983	117,488	153,335	159,628	170,308	219,490
sector - 1 to 4 years (jobs)		,,55	,	122,000	,525	,	
On-Site or In-Plant Training - Solar PV		29,899	41,330	54,513	58,499	63,477	83,065
sector - 4 to 10 years (jobs)		27,077	41,000	5-,515	55,477	50,411	00,000
acctor - 4 to 10 years (juns)							<u></u>

Table 18: E+ scenario - IMPACTS - Jobs (continued)

Table 18: E+ scenario - IMPACTS - Jobs (cor	ntinuedJ						
Item	2020	2025	2030	2035	2040	2045	2050
On-Site or In-Plant Training - Solar PV		88,134	125,796	164,778	171,845	184,034	238,197
sector - None (jobs)							
On-Site or In-Plant Training - Solar PV		4,143	5,851	7,655	8,016	8,585	11,107
sector - Over 10 years (jobs)							
On-Site or In-Plant Training - Solar PV		310,646	444,278	580,450	602,066	642,399	828,547
sector - Up to 1 year (jobs)							
On-Site or In-Plant Training - Total jobs - 1		460,684	529,457	634,960	670,336	705,271	841,598
to 4 years (jobs)							
On-Site or In-Plant Training - Total jobs - 4		180,122	206,337	249,955	270,475	289,645	347,264
to 10 years (jobs)							
On-Site or In-Plant Training - Total jobs -		470,789	539,227	641,862	672,087	705,638	845,311
None (jobs)						·	
On-Site or In-Plant Training - Total jobs -		22,722	26,766	32,811	35,322	37,584	45,188
Over 10 years (jobs)		,	.,	, -	,-	, , , , ,	-,
On-Site or In-Plant Training - Total jobs -		1,771,719	2,013,176	2,385,426	2,480,828	2,589,988	3,086,860
Up to 1 year (jobs)		.,,		2,000, .20	_, .00,0_0	_,007,700	0,000,000
On-Site or In-Plant Training - Wind sector		44,948	76,957	106,007	124,393	135,650	166,292
- 1 to 4 years (jobs)		44,740	10,701	100,001	124,070	100,000	100,272
On-Site or In-Plant Training - Wind sector		15,900	27,264	38,630	48,080	55,219	67,391
- 4 to 10 years (jobs)		13,700	21,204	36,630	40,000	33,219	01,371
On-Site or In-Plant Training - Wind sector		49,603	85,374	118,087	139,074	152,387	187,964
=		49,003	05,514	110,001	139,014	132,361	101,904
- None (jobs)		0.000	20/2	F / 70	/ F10	7000	0.050
On-Site or In-Plant Training - Wind sector		2,298	3,943	5,473	6,518	7,209	8,850
- Over 10 years (jobs)		170.050	007100	/ 00 / / 0	/75.057	F1/ 000	(0/ 710
On-Site or In-Plant Training - Wind sector		172,952	297,133	408,463	475,357	514,922	634,712
- Up to 1 year (jobs)		500.000	(7, , , , ,	040.050	0 (4 0 ) 5	000101	100/70/
On-the-Job Training - All sectors - 1 to 4		588,008	676,480	812,850	861,245	908,184	1,084,724
years (jobs)							
On-the-Job Training - All sectors - 4 to 10		169,526	196,581	241,260	264,166	284,985	343,527
years (jobs)							
On-the-Job Training - All sectors - None		161,120	181,252	213,541	222,332	233,363	279,915
(jobs)							
On-the-Job Training - All sectors - Over 10		29,074	33,921	40,044	40,959	42,037	49,756
years (jobs)							
On-the-Job Training - All sectors - Up to 1		1,958,309	2,226,727	2,637,320	2,740,346	2,859,558	3,408,299
year (jobs)							
On-the-Job Training - Biomass sector - 1		9,212	10,374	12,819	13,599	18,521	29,345
to 4 years (jobs)							
On-the-Job Training - Biomass sector - 4		2,109	2,385	3,105	3,464	4,955	7,973
to 10 years (jobs)							
On-the-Job Training - Biomass sector -		5,212	5,588	6,391	6,163	7,872	12,541
None (jobs)							
On-the-Job Training - Biomass sector -		598	640	747	710	894	1,449
Over 10 years (jobs)							•
On-the-Job Training - Biomass sector - Up		66,316	74,326	86,112	82,895	100,811	154,923
to 1 year (jobs)			,		. ,	, -	, -
On-the-Job Training - CO2 sector - 1 to 4		1,091	15,833	13,446	6,211	9,500	18,344
years (jobs)		,,,,,,	,	,	-,	1,000	,.
On-the-Job Training - CO2 sector - 4 to 10		398	5,980	5,013	2,256	3,455	6,872
years (jobs)		0,0	0,,00	0,010	2,200	0,100	0,012
On-the-Job Training - CO2 sector - None		217	2,962	2,581	1,248	1,911	3,519
(jobs)		211	2,702	2,301	1,240	1,711	0,017
On-the-Job Training - CO2 sector - Over		45	643	552	260	398	761
=		45	043	332	200	370	101
10 years (jobs)		0.7/7	20 / 20	00.010	15.077	07.007	/ 5 15 /
On-the-Job Training - CO2 sector - Up to 1		2,767	38,439	33,219	15,847	24,226	45,154
year (jobs)		10.007	0 / / 7	1000	1//0	1 / / 0	1.007
On-the-Job Training - Coal sector - 1 to 4		13,806	3,667	1,903	1,643	1,469	1,294
years (jobs)							
On-the-Job Training - Coal sector - 4 to 10		4,083	1,004	421	359	318	276
years (jobs)							

Table 18: E+ scenario - IMPACTS - Jobs (continued)

Item         2020         2025         2030         2035         2040	0075	
	2045	2050
On-the-Job Training - Coal sector - None 3,439 897 504 443	403	361
(jobs)		
On-the-Job Training - Coal sector - Over 468 127 70.2 62.7	58	53
10 years (jobs)		
On-the-Job Training - Coal sector - Up to 1 47,816 13,261 7,946 6,876	6,164	5,442
year (jobs)	0,.0 .	0,
	367,956	455,329
years (jobs)	301,730	400,027
	125,497	155,428
	123,471	133,426
years (jobs)	70.500	00.077
On-the-Job Training - Grid sector - None         26,716         35,237         54,865         68,427	79,528	98,244
(jobs)		
On-the-Job Training - Grid sector - Over         4,375         5,789         9,042         11,312	13,187	16,339
10 years (jobs)		
On-the-Job Training - Grid sector - Up to 1 350,498 462,751 721,208 900,283 1,	,047,242	1,294,736
year (jobs)		
On-the-Job Training - Natural gas sector - 124,350 100,227 81,565 72,994	51,383	36,361
1 to 4 years (jobs)		
On-the-Job Training - Natural gas sector - 39,977 32,555 26,896 24,586	17,510	12,595
4 to 10 years (jobs)	,	,070
On-the-Job Training - Natural gas sector - 29,256 23,161 18,408 15,980	11,043	7,637
None (jobs)	11,040	1,001
	0.070	1 / 07
On-the-Job Training - Natural gas sector -         5,326         4,263         3,418         2,974	2,062	1,437
Over 10 years (jobs)		
	142,536	99,137
Up to 1 year (jobs)		
On-the-Job Training - Nuclear sector - 1 to 9,695 9,399 9,444 7,206	7,018	10,337
4 years (jobs)		
On-the-Job Training - Nuclear sector - 4 2,338 2,267 2,278 1,739	1,694	2,495
to 10 years (jobs)		
On-the-Job Training - Nuclear sector - 3,363 3,256 3,267 2,489	2,420	3,560
None (jobs)	2, 120	0,000
On-the-Job Training - Nuclear sector - 521 506 508 388	378	558
Over 10 years (jobs)	310	330
	24,588	2/1//
	24,566	36,166
to 1 year (jobs)	F0 700	07.040
On-the-Job Training - Oil sector - 1 to 4         144,006         126,810         109,359         79,265	58,730	37,263
years (jobs)		
On-the-Job Training - Oil sector - 4 to 10         34,011         30,239         26,292         19,275	14,437	9,286
years (jobs)		
On-the-Job Training - Oil sector - None 48,070 41,572 35,156 25,044	18,229	11,385
(iobs)		
On-the-Job Training - Oil sector - Over 10 7,713 6,796 5,864 4,255	3,156	2,007
years (jobs)	0,.00	_,~~.
	224,385	142,002
year (jobs)	224,000	142,002
	01/ 0/1	070.707
	216,861	279,704
to 4 years (jobs)	<b></b>	00.000
On-the-Job Training - Solar PV sector - 4         29,617         40,781         53,887         58,122	63,247	82,980
to 10 years (jobs)		
On-the-Job Training - Solar PV sector -         29,164         41,562         54,814         57,873	62,565	81,744
None (jobs)		
On-the-Job Training - Solar PV sector - 6,568 9,287 11,937 12,111	12,638	15,909
Over 10 years (jobs)		
	713,493	920,067
to 1 year (jobs)	. 10,470	, 23,001
	176,746	216,748
	110,140	210,140
years (jobs)	E0 070	/F /01
On-the-Job Training - Wind sector - 4 to 15,317 26,234 37,266 46,677	53,872	65,621
10 years (jobs)		

Table 18: E+ scenario - IMPACTS - Jobs (continued)

Table 18: E+ scenario - IMPACTS - Jobs (co	ontinuedJ						
Item	2020	2025	2030	2035	2040	2045	2050
On-the-Job Training - Wind sector - None		15,682	27,018	37,554	44,665	49,391	60,924
(jobs)							
On-the-Job Training - Wind sector - Over		3,460	5,871	7,904	8,886	9,264	11,243
10 years (jobs)							
On-the-Job Training - Wind sector - Up to		193,505	332,624	457,289	531,964	576,113	710,673
1 year (jobs)				,	22.7.2		,
Related work experience - All sectors - 1		1,056,537	1,195,884	1,417,749	1,483,718	1,555,896	1,852,919
to 4 years (jobs)		1,000,001	1,170,004	1,411,142	1,400,110	1,000,070	1,002,717
Related work experience - All sectors - 4		673,659	766,235	911,390	958,053	1,006,857	1,200,224
to 10 years (jobs)		013,037	100,233	911,390	930,033	1,000,031	1,200,224
		/ 11 110	/71 000	F/0 /00	E00 E / /	(00.700	7/ 5 500
Related work experience - All sectors -		411,112	471,328	563,632	592,544	622,780	745,590
None (jobs)		10 ( 000	040 / 00	050 570	050 077	0/0455	040.055
Related work experience - All sectors -		186,998	212,488	250,578	259,277	269,155	319,055
Over 10 years (jobs)							
Related work experience - All sectors - Up		577,730	669,027	801,666	835,456	873,438	1,048,434
to 1 year (jobs)							
Related work experience - Biomass sector		24,915	28,344	34,009	35,192	46,257	71,775
- 1 to 4 years (jobs)							
Related work experience - Biomass sector		13,033	14,336	17,291	18,283	25,407	40,776
- 4 to 10 years (jobs)							
Related work experience - Biomass sector		14,115	15,813	18,262	17,227	20,285	30,827
- None (jobs)			,	,	,		,
Related work experience - Biomass sector		3,589	3,882	4,597	4,707	6,438	10,462
- Over 10 years (jobs)		0,007	0,002	4,071	4,101	0,400	10,402
Related work experience - Biomass sector		27,797	30,938	35,014	31,422	34,666	52,391
=		21,171	30,736	33,014	31,422	34,000	32,371
- Up to 1 year (jobs)		1 (00	00.757	10.500	0.07/	1/ 177	0/ /00
Related work experience - CO2 sector - 1		1,623	22,754	19,583	9,276	14,177	26,608
to 4 years (jobs)							
Related work experience - CO2 sector - 4		1,115	15,808	13,544	6,363	9,727	18,419
to 10 years (jobs)							
Related work experience - CO2 sector -		691	9,938	8,464	3,932	6,012	11,526
None (jobs)							
Related work experience - CO2 sector -		279	3,841	3,332	1,602	2,448	4,521
Over 10 years (jobs)							
Related work experience - CO2 sector -		808	11,516	9,888	4,649	7,127	13,574
Up to 1 year (jobs)			,	,	•		,
Related work experience - Coal sector - 1		26,408	7,201	4,147	3,581	3,203	2,820
to 4 years (jobs)			.,	',' '.	0,00.	0,200	_,0_0
Related work experience - Coal sector - 4		15,512	3,989	2,039	1,786	1,621	1,448
to 10 years (jobs)		10,012	3,707	2,007	1,100	1,021	1,440
Related work experience - Coal sector -		9,454	2,500	1,349	1,167	1,046	923
		9,454	2,500	1,349	1,107	1,046	923
None (jobs)		0.047	10/5	5.0		/ 54	
Related work experience - Coal sector -		3,917	1,045	562	495	451	405
Over 10 years (jobs)							
Related work experience - Coal sector -		14,320	4,221	2,746	2,355	2,091	1,829
Up to 1 year (jobs)							
Related work experience - Grid sector - 1		197,397	260,515	405,854	506,416	588,827	727,660
to 4 years (jobs)							
Related work experience - Grid sector - 4		129,361	170,600	265,580	331,138	384,737	475,090
to 10 years (jobs)							
Related work experience - Grid sector -		81,081	107,171	167,209	208,939	243,276	301,036
None (jobs)		0.,001	.5.,	,,	_50,,0,	5,2.5	-5.,555
Related work experience - Grid sector -		33,530	44,244	68,915	85,976	99,950	123,496
Over 10 years (jobs)		33,330	77,244	00,710	33,710	77,700	120,770
		10/ E00	120 /70	014 555	071.057	21/ / 20	392,794
Related work experience - Grid sector -		104,522	138,472	216,555	271,256	316,620	372,174
Up to 1 year (jobs)		00/00/	1/50/0	100.077	110.070	00 / 07	F7 F07
Related work experience - Natural gas		206,984	165,949	133,846	118,069	82,427	57,537
sector - 1 to 4 years (jobs)							
Related work experience - Natural gas		137,737	110,541	89,428	79,407	55,625	39,032
sector - 4 to 10 years (jobs)							

Table 18: E+ scenario - IMPACTS - Jobs (continued)

Table 10. E+ Scellul 10 - IMPACTS - Jubs (Cul	ıtınueuj						
Item	2020	2025	2030	2035	2040	2045	2050
Related work experience - Natural gas		81,233	65,487	53,255	47,552	33,439	23,590
sector - None (jobs)							
Related work experience - Natural gas		37,380	29,816	23,850	20,763	14,387	9,952
sector - Over 10 years (jobs)							
Related work experience - Natural gas		97,562	78,199	63,010	55,428	38,657	27,056
sector - Up to 1 year (jobs)							
Related work experience - Nuclear sector		18,691	18,095	18,157	13,835	13,456	19,792
- 1 to 4 years (jobs)							
Related work experience - Nuclear sector		12,126	11,737	11,774	8,970	8,722	12,828
- 4 to 10 years (jobs)							
Related work experience - Nuclear sector		6,312	6,119	6,149	4,692	4,569	6,729
- None (jobs)		0.700	0.715	0.700	0.7/7	0.400	0.070
Related work experience - Nuclear sector		3,733	3,615	3,629	2,767	2,692	3,962
- Over 10 years (jobs)		0.015	0.000	0.040	( 0 / 0	( (50	0.007
Related work experience - Nuclear sector		9,215	8,930	8,969	6,840	6,659	9,804
- Up to 1 year (jobs)  Related work experience - Oil sector - 1 to		201.005	0// 500	007.57/	164,533	101 570	7/ 070
·		301,085	264,533	227,574	164,533	121,573	76,878
4 years (jobs)		100 / 01	1/0.050	107 / FO	00.220	70.07/	/ <sub>/</sub> / 0E0
Related work experience - Oil sector - 4 to 10 years (jobs)		182,691	160,250	137,652	99,339	73,274	46,250
Related work experience - Oil sector -		106,469	93,826	80,891	58,779	43,645	27,806
None (jobs)		100,409	93,020	00,091	30,119	43,645	21,000
Related work experience - Oil sector -		52,541	46,027	39,527	28,483	20,992	13,227
Over 10 years (jobs)		52,541	40,021	39,321	20,403	20,992	13,221
Related work experience - Oil sector - Up		147,302	129,295	110,972	80,355	59,452	37,782
to 1 year (jobs)		141,302	127,270	110,712	00,333	37,432	31,102
Related work experience - Solar PV sector		178,700	255,062	334,418	349,336	374,646	485,644
- 1 to 4 years (jobs)		110,100	200,002	334,410	047,000	314,040	400,044
Related work experience - Solar PV sector		115,524	164,399	215,113	224,295	239,948	310,167
- 4 to 10 years (jobs)		,	.0 .,077	2.07.10	,_,	2077	0.07.0.
Related work experience - Solar PV sector		72,936	103,860	136,243	142,633	153,161	198,797
- None (jobs)		,,	.00,000	.00,2 .0	,000	.00,.0.	., 0,.,.
Related work experience - Solar PV sector		32,853	47,093	61,102	62,541	66,045	84,286
- Over 10 years (jobs)			,	,	•		•
Related work experience - Solar PV sector		115,793	164,330	213,855	221,249	235,003	301,512
- Up to 1 year (jobs)					•		
Related work experience - Wind sector - 1		100,735	173,429	240,161	283,481	311,331	384,205
to 4 years (jobs)							
Related work experience - Wind sector - 4		66,560	114,576	158,967	188,472	207,796	256,214
to 10 years (jobs)							
Related work experience - Wind sector -		38,823	66,614	91,811	107,623	117,347	144,355
None (jobs)							
Related work experience - Wind sector -		19,175	32,926	45,063	51,945	55,750	68,743
Over 10 years (jobs)							
Related work experience - Wind sector -		60,410	103,126	140,658	161,902	173,162	211,692
Up to 1 year (jobs)							
Wage income - Biomass (million \$2019)		4,334	4,965	6,016	6,245	8,304	13,232
Wage income - CO2 (million \$2019)		285	4,015	3,521	1,709	2,655	5,004
Wage income - Coal (million \$2019)		4,212	1,122	603	531	484	434
Wage income - Grid (million \$2019)		34,140	45,693	72,222	91,465	107,985	135,551
Wage income - Natural Gas (million \$2019)		37,156	30,199	24,654	21,962	15,520	10,956
Wage income - Nuclear (million \$2019)		3,580	3,549	3,650	2,851	2,845	4,295
Wage income - Oil (million \$2019)		52,015	46,299	40,361	29,538	22,095	14,135
Wage income - Solar (million \$2019)		28,585	41,214	54,747	58,067	63,225	83,270
Wage income - Wind (million \$2019)		16,622	29,014	40,912	49,452	55,644	69,778

Table 19: E-scenario - PILLAR 1: Efficiency/Electrification - Commercial

Item	2020	2025	2030	2035	2040	2045	2050
Commercial HVAC investment in 2020s -		1,046,837	1,158,815				
Cumulative 5-yr (million \$2018)							
Sales of cooking units - Electric	32.5	36.5	41.3	53.8	71.2	81.9	85.6
Resistance (%)							
Sales of cooking units - Gas (%)	67.5	63.5	58.7	46.2	28.8	18.1	14.4
Sales of space heating units - Electric	2.95	11.9	15.9	27.6	48.1	65.9	74.2
Heat Pump (%)							
Sales of space heating units - Electric	7.91	8.18	8.72	10.5	13.8	16.4	17.6
Resistance (%)							
Sales of space heating units - Fossil (%)	3.94	3.79	3.71	2.91	1.53	0.589	0.302
Sales of space heating units - Gas Furnace	85.2	76.1	71.7	59	36.6	17.1	7.89
(%)							
Sales of water heating units - Electric	0.385	1.8	5.78	17.4	36.6	51.2	57.3
Heat Pump (%)							
Sales of water heating units - Electric	3.8	4.53	6.39	12	21.9	30.4	34.4
Resistance (%)							
Sales of water heating units - Gas Furnace	94.1	92	86.2	69	40.2	17.2	7.13
(%)							
Sales of water heating units - Other (%)	1.66	1.67	1.66	1.51	1.31	1.18	1.14

Table 20: E- scenario - PILLAR 1: Efficiency/Electrification - Electricity demand

Item	2020	2025	2030	2035	2040	2045	2050
Electricity distribution capital invested -		149	150	201	208	298	315
Cumulative 5-yr (billion \$2018)							

Table 21: E- scenario - PILLAR 1: Efficiency/Electrification - Overview

Item	2020	2025	2030	2035	2040	2045	2050
Final energy use - Commercial (PJ)	9,015	8,958	8,853	8,731	8,513	8,263	8,058
Final energy use - Industry (PJ)	25,084	26,117	26,456	26,354	26,498	26,178	25,748
Final energy use - Residential (PJ)	11,788	11,126	10,656	10,151	9,457	8,609	7,786
Final energy use - Transportation (PJ)	28,030	26,603	24,463	22,703	21,315	19,677	17,739

Table 22: E- scenario - PILLAR 1: Efficiency/Electrification - Residential

Item	2020	2025	2030	2035	2040	2045	2050
Residential HVAC investment in 2020s vs.		252	303				
REF - Cumulative 5-yr (billion \$2018)							
Sales of cooking units - Electric	61.2	62.2	65.8	75.1	88.1	96.2	99
Resistance (%)							
Sales of cooking units - Gas (%)	38.8	37.8	34.2	24.9	11.9	3.83	1.03
Sales of space heating units - Electric	14.6	21	25.3	37.6	58.4	75.1	82.4
Heat Pump (%)							
Sales of space heating units - Electric	20.3	24.4	23.2	19.9	14.3	10.3	8.67
Resistance (%)							
Sales of space heating units - Fossil (%)	9.95	14.5	13.8	11.4	7.66	5.01	4.02
Sales of space heating units - Gas (%)	55.2	40	37.7	31.1	19.6	9.59	4.95
Sales of water heating units - Electric	0	1.36	5.25	16.7	35.2	49.3	55.3
Heat Pump (%)							
Sales of water heating units - Electric	38.4	51.5	50.3	47	42.1	39.6	38.9
Resistance (%)							
Sales of water heating units - Gas Furnace	58	44.5	41.9	34	20.8	9.45	4.17
(%)							
Sales of water heating units - Other (%)	3.58	2.63	2.51	2.27	1.91	1.68	1.62

Table 23: E- scenario - PILLAR 1: Efficiency/Electrification - Transportation

Item	2020	2025	2030	2035	2040	2045	2050
Light-duty vehicle capital costs -		0	8,683	17,455	59,707	185,491	271,068
Cumulative 5-yr (million \$2018)							
Public EV charging plugs - DC Fast (1000	14.4		31.9		147		402
units)							
Public EV charging plugs - L2 (1000 units)	66.2		766		3,537		9,670
Vehicle sales - Heavy-duty - diesel (%)	97.4	96	91.3	79.8	58.2	32.1	13.7
Vehicle sales - Heavy-duty - EV (%)	0.498	1.45	4.11	10.8	23.6	39.5	51
Vehicle sales - Heavy-duty - gasoline (%)	0.228	0.236	0.239	0.225	0.179	0.109	0.051
Vehicle sales - Heavy-duty - hybrid (%)	0.083	0.094	0.104	0.107	0.092	0.06	0.03
Vehicle sales - Heavy-duty - hydrogen FC	0.332	0.969	2.74	7.17	15.7	26.3	34
(%)							
Vehicle sales - Heavy-duty - other (%)	1.5	1.28	1.46	1.95	2.25	1.96	1.14
Vehicle sales - Light-duty - diesel (%)	1.39	1.82	2.03	1.61	1.02	0.519	0.223
Vehicle sales - Light-duty - EV (%)	4.05	6.4	12.6	27.1	49.7	72.9	87.9
Vehicle sales - Light-duty - gasoline (%)	89.4	85.5	78.4	65.1	44.7	23.9	10.6
Vehicle sales - Light-duty - hybrid (%)	4.99	5.79	6.54	5.88	4.34	2.52	1.21
Vehicle sales - Light-duty - hydrogen FC	0.11	0.371	0.317	0.239	0.168	0.092	0.043
(%)							
Vehicle sales - Light-duty - other (%)	0.095	0.098	0.09	0.078	0.056	0.03	0.014
Vehicle sales - Medium-duty - diesel (%)	64.8	62.2	57.7	49.4	35.6	19.6	8.37
Vehicle sales - Medium-duty - EV (%)	0.664	1.94	5.49	14.3	31.4	52.6	68
Vehicle sales - Medium-duty - gasoline (%)	33.8	34.7	34.7	31.9	24.4	14.2	6.33
Vehicle sales - Medium-duty - hybrid (%)	0.363	0.418	0.464	0.478	0.414	0.275	0.141
Vehicle sales - Medium-duty - hydrogen	0.166	0.485	1.37	3.58	7.86	13.2	17
FC (%)							
Vehicle sales - Medium-duty - other (%)	0.253	0.266	0.279	0.286	0.258	0.184	0.102

Table 24: E- scenario - PILLAR 2: Clean Electricity - Generating capacity

Item	2020	2025	2030	2035	2040	2045	2050
Capital invested - Biomass power plant	0	0.001	0.009	0	0	0	0.012
(billion \$2018)							
Capital invested - Biomass w/ccu allam	0	0	0	0.477	0.303	0.322	0.134
power plant (billion \$2018)							
Capital invested - Biomass w/ccu power	0	0	65.9	57.4	23.9	0.913	0.238
plant (billion \$2018)							
Installed - Biomass (MW)	10,004	9,140	7,850	6,124	4,692	3,372	2,478
Installed - Biomass w cc (MW)	0	0	9,932	18,649	22,298	22,479	22,533
Installed - Ccgt & gas steam (MW)	334,698	308,455	302,510	290,709	215,137	143,639	117,846
Installed - Ccgt w cc (MW)	0	0	67.8	17,456	40,085	51,995	52,067
Installed - Coal (MW)	215,962	59,668	162	122	55.9	42	34.5
Installed - Ct (MW)	146,430	140,119	132,908	111,206	98,767	148,426	241,143
Installed - Geothermal (MW)	2,393	2,397	2,422	2,418	2,427	2,437	2,450
Installed - Grid battery storage (MW)		989	3,715	13,014	37,934	87,773	142,016
Installed - Hydro (MW)	78,608	78,608	78,608	78,608	78,608	78,608	78,608
Installed - Nuclear (MW)	98,481	95,135	93,041	82,240	81,173	73,631	70,690
Installed - Offshore wind (MW)	29.3	1,001	5,040	13,607	38,613	103,767	217,041
Installed - Onshore wind (MW)	97,778	190,523	360,186	535,006	755,512	1,070,110	1,512,260
Installed - Other (MW)	68,061	57,347	55,269	53,804	51,795	50,874	49,607
Installed - Pumped hydro storage (MW)		19,418	19,418	19,418	19,418	19,418	19,418
Installed - Rooftop PV (MW)	33,317	52,523	69,448	90,809	117,114	148,351	185,890
Installed - Utility-scale PV (MW)	36,045	127,524	299,852	482,288	684,358	989,365	1,304,016

Table 25: E- scenario - PILLAR 2: Clean Electricity - Generation

Item	2020	2025	2030	2035	2040	2045	2050
Biomass (TWh)	19.1	23.2	39.7	22.2	3.11	0.406	0.051
Biomass power plant (GWh)	3,564	883	10,475	3,401	1,584	157	35
Biomass w cc (TWh)	0	0	73.9	139	163	165	149
Biomass w/ccu allam power plant (GWh)	0	0	0	391	668	983	1,033

Table 25: E- scenario - PILLAR 2: Clean Electricity - Generation (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Biomass w/ccu power plant (GWh)	0	0	73,933	138,288	161,856	164,137	147,859
Coal (TWh)	979	260	0.568	0.427	0.196	0.147	0.121
Gas (TWh)	1,491	1,682	1,051	443	166	54.4	41.6
Gas w cc (TWh)	0	0	0.342	110	179	217	178
Geothermal (TWh)	14.5	14.5	14.2	14.1	13.4	13.4	13.2
Hydro (TWh)	300	312	295	294	300	291	292
Nuclear (TWh)	802	775	759	671	664	603	580
Offshore wind (TWh)	0.092	3.66	20.4	66.3	168	454	902
Onshore wind (TWh)	412	780	1,497	2,111	2,909	4,105	5,840
Rooftop PV (TWh)	50.1	79.4	101	126	164	208	254
Utility-scale PV (TWh)	91.1	309	690	1,088	1,510	2,194	2,861

Table 26: E- scenario - PILLAR 3: Clean fuels - Bioenergy

Item	2020	2025	2030	2035	2040	2045	2050
Biomass input - BECCS-H2 (1000 tonnes)	0	0	0	143,697	365,549	383,408	381,319
Biomass input - Bio-FT w/ CC (1000	0	0	0	148	207	242	231
tonnes)							
Biomass input - Bio-SNG w/ CC (1000	0	0	31	15.3	10.2	8.15	4.09
tonnes)							
Biomass input - Biopower (1000 tonnes)	12,353	27,983	56,287	38,442	4,029	416	43.3
Biomass input - Biopower w/ cc (1000	0	0	44,659	83,709	98,070	99,590	89,779
tonnes)							
Biomass input - Ethanol (1000 tonnes)	129,506	129,506	129,536	125,006	67,634	10,261	905
Biomass input - FT diesel (1000 tonnes)	0	0	0	103	97.2	78.2	60.2
Biomass input - Pyrolysis liquids (1000	0	0	0	197	5,801	5,774	3,174
tonnes)							
Biomass input - Pyrolysis liquids w/ cc	0	0	0	160	2,119	81,909	109,355
(1000 tonnes)							
Biomass input - SNG (1000 tonnes)	0	8.87	15.7	8.5	7.52	5.18	1.6

Table 27: E- scenario - PILLAR 6: Land sinks - Agriculture

Item	2020	2025	2030	2035	2040	2045	2050
Carbon sink potential - Aggressive deployment - Corn-ethanol to energy							-23,286
grasses (1000 tCO2e/y)							
Carbon sink potential - Aggressive							-203,503
deployment - Cropland measures (1000							
tCO2e/y)							
Carbon sink potential - Aggressive							-7,391
deployment - Permanent conservation							
cover (1000 tCO2e/y)							
Carbon sink potential - Aggressive							-234,180
deployment - Total (1000 tC02e/y)							
Carbon sink potential - Moderate							-23,286
deployment - Corn-ethanol to energy							
grasses (1000 tCO2e/y)							
Carbon sink potential - Moderate							-106,430
deployment - Cropland measures (1000							
tCO2e/y)							
Carbon sink potential - Moderate							-3,696
deployment - Permanent conservation							
cover (1000 tCO2e/y)							
Carbon sink potential - Moderate							-133,412
deployment - Total (1000 tCO2e/y)							
Land impacted for carbon sink -							11,287
Aggressive deployment - Corn-ethanol to							
energy grasses (1000 hectares)							

Table 27: E- scenario - PILLAR 6: Land sinks - Agriculture (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Land impacted for carbon sink -							136,405
Aggressive deployment - Cropland							
measures (1000 hectares)							
Land impacted for carbon sink -							12,749
Aggressive deployment - Permanent							
conservation cover (1000 hectares)							
Land impacted for carbon sink -							160,442
Aggressive deployment - Total (1000							
hectares)							
Land impacted for carbon sink - Moderate							11,287
deployment - Corn-ethanol to energy							
grasses (1000 hectares)							
Land impacted for carbon sink - Moderate							71,390
deployment - Cropland measures (1000							
hectares)							
Land impacted for carbon sink - Moderate							6,375
deployment - Permanent conservation							
cover (1000 hectares)							
Land impacted for carbon sink - Moderate							89,052
deployment - Total (1000 hectares)							

Table 28: E- scenario - PILLAR 6: Land sinks - Forests

Item	2020	2025	2030	2035	2040	2045	2050
Carbon sink potential - High - Accelerate							-48,900
regeneration (1000 tCO2e/y)							
Carbon sink potential - High - All (not							-
counting overlap) (1000 tCO2e/y)							1,535,900
Carbon sink potential - High - Avoid							-84,000
deforestation (1000 tCO2e/y)							
Carbon sink potential - High - Extend							-302,000
rotation length (1000 tCO2e/y)							
Carbon sink potential - High - Improve							-57,000
plantations (1000 tCO2e/y)							
Carbon sink potential - High - Increase							-
retention of HWP (1000 tCO2e/y)							300,000
Carbon sink potential - High - Increase							-60,000
trees outside forests (1000 tCO2e/y)							
Carbon sink potential - High - Reforest							-242,000
cropland (1000 tCO2e/y)							
Carbon sink potential - High - Reforest							-
pasture (1000 tCO2e/y)							264,000
Carbon sink potential - High - Restore							-178,000
productivity (1000 tCO2e/y)							
Carbon sink potential - Low - Accelerate							-24,500
regeneration (1000 tCO2e/y)							
Carbon sink potential - Low - All (not							-
counting overlap) (1000 tCO2e/y)							505,500
Carbon sink potential - Low - Avoid							-14,000
deforestation (1000 tC02e/y)							
Carbon sink potential - Low - Extend							-116,000
rotation length (1000 tCO2e/y)							
Carbon sink potential - Low - Improve							-29,000
plantations (1000 tCO2e/y)							
Carbon sink potential - Low - Increase							-100,000
retention of HWP (1000 tCO2e/y)							
Carbon sink potential - Low - Increase							-21,000
trees outside forests (1000 tCO2e/y)							
Carbon sink potential - Low - Reforest							-121,000
cropland (1000 tCO2e/y)							

Table 28: E- scenario - PILLAR 6: Land sinks - Forests (continued)

Item	2020	2025	2030	2035	2040	2045	205
Carbon sink potential - Low - Reforest							-20,00
pasture (1000 tC02e/y)							(0.00
Carbon sink potential - Low - Restore							-60,00
productivity (1000 tCO2e/y)							0 / 70
Carbon sink potential - Mid - Accelerate							-36,70
regeneration (1000 tC02e/y)							
Carbon sink potential - Mid - All (not							
counting overlap) (1000 tC02e/y)							1,020,20
Carbon sink potential - Mid - Avoid							-49,00
deforestation (1000 tCO2e/y)							
Carbon sink potential - Mid - Extend							-209,00
rotation length (1000 tCO2e/y)							
Carbon sink potential - Mid - Improve							-42,50
plantations (1000 tCO2e/y)							
Carbon sink potential - Mid - Increase							
retention of HWP (1000 tCO2e/y)							200,00
Carbon sink potential - Mid - Increase							-40,50
trees outside forests (1000 tCO2e/y)							
Carbon sink potential - Mid - Reforest							-181,50
cropland (1000 tCO2e/y)							
Carbon sink potential - Mid - Reforest							-142,00
pasture (1000 tCO2e/y)							
Carbon sink potential - Mid - Restore							-119,00
productivity (1000 tCO2e/y)							
Land impacted for carbon sink potential -							8,00
High - Accelerate regeneration (1000							
hectares)							
Land impacted for carbon sink potential -							11,37
High - Avoid deforestation (over 30 years)							
(1000 hectares)							
Land impacted for carbon sink potential -							154,00
High - Extend rotation length (1000							, , , ,
hectares)							
Land impacted for carbon sink potential -							21,00
High - Improve plantations (1000							
hectares)							
Land impacted for carbon sink potential -							
High - Increase retention of HWP (1000							
hectares)							
Land impacted for carbon sink potential -							5,70
High - Increase trees outside forests							0,.0
(1000 hectares)							
Land impacted for carbon sink potential -							16,00
High - Reforest cropland (1000 hectares)							.5,50
Land impacted for carbon sink potential -	-			+			7,50
High - Reforest pasture (1000 hectares)							1,00
Land impacted for carbon sink potential -							59,00
High - Restore productivity (1000							37,00
hectares)							
Land impacted for carbon sink potential -							282,57
High - Total impacted (over 30 years)							202,01
(1000 hectares)							
Land impacted for carbon sink potential -							4,00
Low - Accelerate regeneration (1000							4,00
hectares)							
Land impacted for carbon sink potential -							10,67
Low - Avoid deforestation (over 30 years)							10,67
(1000 hectares)							
7							E0.00
Land impacted for carbon sink potential -							59,00
Low - Extend rotation length (1000							

Table 28: E- scenario - PILLAR 6: Land sinks - Forests (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Land impacted for carbon sink potential -							10,500
Low - Improve plantations (1000							
hectares)							
Land impacted for carbon sink potential -							0
Low - Increase retention of HWP (1000							
hectares)							
Land impacted for carbon sink potential -							3,000
Low - Increase trees outside forests							
(1000 hectares)							
Land impacted for carbon sink potential -							8,000
Low - Reforest cropland (1000 hectares)							
Land impacted for carbon sink potential -							1,300
Low - Reforest pasture (1000 hectares)							,
Land impacted for carbon sink potential -							35,700
Low - Restore productivity (1000							
hectares)							
Land impacted for carbon sink potential -							132,177
Low - Total impacted (over 30 years)							102,111
(1000 hectares)							
Land impacted for carbon sink potential -							6,000
Mid - Accelerate regeneration (1000							0,000
hectares)							
Land impacted for carbon sink potential -							11,025
Mid - Avoid deforestation (over 30 years)							11,023
(1000 hectares)							
Land impacted for carbon sink potential -							106,500
Mid - Extend rotation length (1000							100,000
hectares)							
Land impacted for carbon sink potential -							15,800
Mid - Improve plantations (1000 hectares)							13,000
Land impacted for carbon sink potential -							0
Mid - Increase retention of HWP (1000							U
hectares)							
Land impacted for carbon sink potential -							4,350
Mid - Increase trees outside forests (1000							4,330
hectares)							
Land impacted for carbon sink potential -							12,000
Mid - Reforest cropland (1000 hectares)							12,000
Land impacted for carbon sink potential -							0 / 00
•							9,400
Mid - Reforest pasture (1000 hectares)							71.000
Land impacted for carbon sink potential -							71,900
Mid - Restore productivity (1000							
hectares)							00/075
Land impacted for carbon sink potential -							236,975
Mid - Total impacted (over 30 years) (1000							
hectares)							

# Table 29: E- scenario - PILLAR 6: Land sinks - Total assumed land sink

Item	2020	2025	2030	2035	2040	2045	2050
Total assumed land sink (Gt CO2e/y)	-0.7	-0.73	-0.75	-0.78	-0.8	-0.83	-0.85

# Table 30: E- scenario - IMPACTS - Fossil fuel industries

Item	2020	2025	2030	2035	2040	2045	2050
Natural gas consumption - Annual (tcf)		23,207	18,132	13,835	11,458	9,451	7,359
Natural gas consumption - Cumulative							471,240
(tcf)							
Natural gas production - Annual (tcf)		36,153	32,458	26,253	21,869	19,030	16,824
Natural gas production - Cumulative (tcf)							827,513
Oil consumption - Annual (million bbls)		5,987	5,545	5,112	4,510	3,786	2,730

Table 30: E- scenario - IMPACTS - Fossil fuel industries (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Oil consumption - Cumulative (million							151,515
bbls)							
Oil production - Annual (million bbls)		5,198	5,216	5,209	5,074	4,832	3,313
Oil production - Cumulative (million bbls)							151,997

#### Table 31: E- scenario - IMPACTS - Health

Item	2020	2025	2030	2035	2040	2045	2050
Monetary damages from air pollution -		22,661	29.5	28.3	24.2	16.6	1.24
Coal (million 2019\$)							
Monetary damages from air pollution -		12,934	7,464	3,616	1,603	552	382
Natural Gas (million 2019\$)							
Monetary damages from air pollution -		104,258	107,043	105,711	96,553	77,882	54,050
Transportation (million 2019\$)							
Premature deaths from air pollution -		2,559	3.33	3.2	2.73	1.88	0.14
Coal (deaths)							
Premature deaths from air pollution -		1,460	843	408	181	62.3	43.1
Natural Gas (deaths)							
Premature deaths from air pollution -		11,726	12,039	11,890	10,859	8,759	6,079
Transportation (deaths)							

# Table 32: E- scenario - IMPACTS - Jobs

Item	2020	2025	2030	2035	2040	2045	2050
By economic sector - Agriculture (jobs)		32,671	42,263	55,525	55,304	48,631	47,267
By economic sector - Construction (jobs)		581,151	740,531	848,062	963,235	1,231,236	1,521,901
By economic sector - Manufacturing		643,588	841,653	842,392	846,575	1,022,744	1,121,180
(jobs)							
By economic sector - Mining (jobs)		459,533	349,848	267,959	202,834	155,840	95,673
By economic sector - Other (jobs)		56,713	82,057	105,315	133,287	185,287	253,398
By economic sector - Pipeline (jobs)		46,559	52,128	44,106	34,087	32,405	32,455
By economic sector - Professional (jobs)		329,757	396,268	484,820	601,655	769,834	955,468
By economic sector - Trade (jobs)		299,111	313,315	344,813	391,852	480,920	587,900
By economic sector - Utilities (jobs)		467,151	555,052	647,545	754,638	1,013,321	1,274,330
By education level - All sectors -		877,317	1,032,448	1,120,830	1,235,677	1,554,721	1,876,871
Associates degree or some college (jobs)							
By education level - All sectors -		644,556	719,700	766,180	835,715	1,022,709	1,204,395
Bachelors degree (jobs)							
By education level - All sectors - Doctoral		21,371	23,756	26,444	30,321	37,262	44,622
degree (jobs)							
By education level - All sectors - High		1,221,244	1,428,512	1,544,246	1,678,342	2,074,673	2,464,577
school diploma or less (jobs)							
By education level - All sectors - Masters		151,747	168,698	182,837	203,411	250,853	299,109
or professional degree (jobs)							
By education level - Biomass sector -		16,251	19,569	31,894	45,570	47,098	45,477
Associates degree or some college (jobs)							
By education level - Biomass sector -		14,930	17,672	29,620	45,296	48,357	46,565
Bachelors degree (jobs)							
By education level - Biomass sector -		736	920	1,676	2,768	3,070	2,979
Doctoral degree (jobs)							
By education level - Biomass sector - High		49,010	59,413	84,349	99,696	94,444	90,761
school diploma or less (jobs)							
By education level - Biomass sector -		4,115	5,002	8,479	13,078	14,098	13,643
Masters or professional degree (jobs)							
By education level - CO2 sector -		2,515	38,458	32,848	15,318	23,219	44,587
Associates degree or some college (jobs)							
By education level - CO2 sector -		1,259	18,272	16,339	8,256	12,395	21,828
Bachelors degree (jobs)							
By education level - CO2 sector - Doctoral		25.6	334	332	195	289	436
degree (jobs)							

Table 32: E- scenario - IMPACTS - Jobs (continued)

Table 32: E- scenario - IMPACTS - Jobs (coi	шиши						
Item	2020	2025	2030	2035	2040	2045	2050
By education level - CO2 sector - High		3,107	47,531	40,756	19,094	28,995	55,693
school diploma or less (jobs)							
By education level - CO2 sector - Masters		281	4,019	3,644	1,884	2,820	4,839
or professional degree (jobs)							
By education level - Coal sector -		22,072	6,164	2,995	2,610	2,316	1,994
Associates degree or some college (jobs)		,-	-, -	, -	,	,	,
By education level - Coal sector -		14,426	3,788	1,704	1,536	1,407	1,249
Bachelors degree (jobs)		14,420	0,100	1,104	1,000	1,401	1,2-17
By education level - Coal sector - Doctoral		527	139	51.8	48.4	45.9	42.2
degree (jobs)		321	137	31.0	40.4	43.7	42.2
By education level - Coal sector - High		31,106	9,425	5,799	4,961	4,315	3,636
		31,106	9,425	5,199	4,961	4,315	3,030
school diploma or less (jobs)		0.570	007	070	000	010	070
By education level - Coal sector - Masters		3,542	934	372	338	312	279
or professional degree (jobs)							
By education level - Grid sector -		173,353	228,027	308,713	396,350	576,086	740,915
Associates degree or some college (jobs)							
By education level - Grid sector -		99,341	129,819	174,626	222,780	321,789	411,323
Bachelors degree (jobs)							
By education level - Grid sector - Doctoral		2,864	3,680	4,867	6,104	8,668	10,894
degree (jobs)							
By education level - Grid sector - High		221,673	293,057	398,748	514,506	751,549	971,380
school diploma or less (jobs)		,	-,	,	,		,
By education level - Grid sector - Masters		24,997	32,564	43,669	55,542	79,987	101,940
or professional degree (jobs)		24,771	32,304	43,007	33,342	17,701	101,740
By education level - Natural gas sector -		177,428	132,902	100,712	86,735	70,072	57,130
		111,420	132,902	100,712	00,133	10,012	51,150
Associates degree or some college (jobs)		100 (00	00.750	// 0/0	F / 000	/ 0 440	04.000
By education level - Natural gas sector -		123,689	90,752	66,362	54,800	43,112	34,393
Bachelors degree (jobs)							
By education level - Natural gas sector -		4,108	2,986	2,148	1,737	1,341	1,055
Doctoral degree (jobs)							
By education level - Natural gas sector -		217,308	162,916	122,486	104,023	83,752	67,883
High school diploma or less (jobs)							
By education level - Natural gas sector -		30,288	22,094	16,086	13,254	10,379	8,263
Masters or professional degree (jobs)				•			·
By education level - Nuclear sector -		13,677	15,250	15,745	15,139	13,819	12,177
Associates degree or some college (jobs)		.0,0.1	10,200	10,1 10	10,107	10,017	,
By education level - Nuclear sector -		14,784	16,445	16,939	16,249	14,798	13,010
Bachelors degree (jobs)		14,104	10,443	10,737	10,247	14,1 70	13,010
		(/0	71/	700	/00	/00	
By education level - Nuclear sector -		648	716	733	699	633	553
Doctoral degree (jobs)							
By education level - Nuclear sector - High		16,977	18,981	19,648	18,941	17,332	15,311
school diploma or less (jobs)							
By education level - Nuclear sector -		4,002	4,444	4,569	4,376	3,978	3,492
Masters or professional degree (jobs)							
By education level - Oil sector - Associates		206,241	184,787	166,010	145,737	125,155	81,627
degree or some college (jobs)							
By education level - Oil sector - Bachelors		212,702	187,569	165,668	142,894	120,528	76,911
degree (jobs)		,	,	,	,	,	
By education level - Oil sector - Doctoral		6,871	6,092	5,410	4,694	3,983	2,552
degree (jobs)		0,011	0,072	0,410	4,074	0,700	2,002
By education level - Oil sector - High	+	318,831	287,355	259,739	229,389	198,127	130,297
		310,031	201,333	207,107	227,387	170,121	130,277
school diploma or less (jobs)		/ 0.00/	10.000	07.000	01.007	07.700	1/ 070
By education level - Oil sector - Masters or		48,234	42,333	37,202	31,924	26,788	16,973
professional degree (jobs)							
By education level - Solar PV sector -	T	171,543	245,159	261,046	283,736	371,089	450,507
Associates degree or some college (jobs)							
By education level - Solar PV sector -		99,886	144,608	154,725	169,434	224,069	274,121
Bachelors degree (jobs)							
		0.1/7	4,544	5,240	6,063	8,065	10,514
By education level - Solar PV sector -	1	3,167	4.544	D.Z4U	อ.บท.ว	อ.บทว	10.514

Table 32: E- scenario - IMPACTS - Jobs (continued)

Table 32: E- scenario - IMPACTS - Jobs (co	ontinuedJ						
Item	2020	2025	2030	2035	2040	2045	2050
By education level - Solar PV sector - High		240,887	341,586	360,137	387,232	501,802	601,052
school diploma or less (jobs)							
By education level - Solar PV sector -		21,498	31,168	34,439	38,712	51,558	65,067
Masters or professional degree (jobs)							
By education level - Wind sector -	ļ	94,236	162,133	200,866	244,482	325,867	442,456
Associates degree or some college (jobs)							
By education level - Wind sector -		63,539	110,775	140,196	174,471	236,253	324,995
Bachelors degree (jobs)		2 (2)					1= ===
By education level - Wind sector -		2,424	4,346	5,986	8,014	11,167	15,597
Doctoral degree (jobs)		100.077	000.017	050 505	000 500	00/ 050	500 577
By education level - Wind sector - High	ļ	122,346	208,247	252,585	300,502	394,358	528,566
school diploma or less (jobs)  By education level - Wind sector - Masters		14,791	07.171	07.077	44,303	/ O 001	07 710
or professional degree (jobs)	ļ	14,791	26,141	34,377	44,303	60,931	84,613
By resource sector - Biomass (jobs)		85,042	102,575	156,018	206,408	207,068	199,424
By resource sector - CO2 (jobs)		7,188	102,575	93,920	44,746	67,718	127,383
By resource sector - Coal (jobs)		71,673	20,450	10,922	9,493	8,396	7,200
By resource sector - Goal (jobs)		522,228	687,148	930,623	1,195,282	1,738,078	2,236,452
By resource sector - Grid (jobs)  By resource sector - Natural Gas (jobs)		552,821	411,650	307,795	260,549	208,657	168,724
		50,088	55,836	57,634	55,404	50,559	44,544
By resource sector - Nuclear (jobs) By resource sector - Oil (jobs)		792,878	708,136	634,028		474,581	308,359
By resource sector - Oil (Jobs)		536,980			554,637		1,401,261
By resource sector - Solar (Jobs)			767,065	815,587	885,178	1,156,584	
		297,337	511,641	634,011	771,770	1,028,576	1,396,226
Median wages - Annual - Biomass (\$2019	ļ	51,978	53,602	56,740	60,498	62,984	64,202
per job)		(0.505	(0.700	(/ 000	// 000	/7.00F	// 070
Median wages - Annual - CO2 (\$2019 per job)	ļ	62,505	62,790	64,228	66,288	67,225	66,970
Median wages - Annual - Coal (\$2019 per		60,563	59,804	55,633	56,515	57,451	58,453
job)	ļ	60,363	39,004	33,633	56,515	57,451	30,433
Median wages - Annual - Grid (\$2019 per		62,539	63,375	64,248	65,159	66,110	67,102
job)		62,539	63,313	04,240	65,139	66,110	67,102
Median wages - Annual - Natural Gas		66,265	67,136	67,771	68,258	68,978	69,760
(\$2019 per job)	ļ	00,200	01,130	01,111	00,230	00,710	07,100
Median wages - Annual - Nuclear (\$2019		71,486	73,188	74,974	76,846	78,808	80,864
per job)		11,400	13,100	14,714	10,040	10,000	00,004
Median wages - Annual - Oil (\$2019 per		65,828	66,678	67,513	68,348	69,194	69,918
job)	ļ	00,020	00,010	01,010	00,040	07,174	07,710
Median wages - Annual - Solar (\$2019 per		55,399	56,082	57,093	58,129	59,038	60,292
job)	ļ	00,077	00,002	01,070	00,127	07,000	00,272
Median wages - Annual - Wind (\$2019 per		58,122	59,113	60,675	62,325	63,655	64,920
job)	ļ	30,122	07,110	00,010	02,020	00,000	04,720
On-Site or In-Plant Training - Biomass		8,583	10,499	16,845	23,383	23,942	23,154
sector - 1 to 4 years (jobs)	ļ	0,000	10,477	10,040	20,000	20,742	20,104
On-Site or In-Plant Training - Biomass		2,669	3,231	5,551	8,269	8,664	8,399
sector - 4 to 10 years (jobs)	ļ	2,007	0,201	0,001	0,207	0,004	0,077
On-Site or In-Plant Training - Biomass		13,768	16,945	26,595	36,348	37,151	35,807
sector - None (jobs)	ļ	10,100	10,740	20,070	00,040	31,131	33,001
On-Site or In-Plant Training - Biomass		589	670	994	1,303	1,282	1,237
sector - Over 10 years (jobs)	ļ	007	0.0	//-	1,000	1,202	1,201
On-Site or In-Plant Training - Biomass		59,432	71,230	106,033	137,105	136,029	130,827
sector - Up to 1 year (jobs)	ļ	07,402	11,200	100,000	101,100	100,027	100,021
On-Site or In-Plant Training - CO2 sector -		1,325	20,254	17,327	8,097	12,280	23,564
1 to 4 years (jobs)	ļ	1,020	20,20 :	,621	0,071	12,200	20,00
On-Site or In-Plant Training - CO2 sector -		652	10,094	8,539	3,907	5,940	11,656
4 to 10 years (jobs)		302	.0,07=	0,557	5,701	3,7-10	1.,555
On-Site or In-Plant Training - CO2 sector -		1,101	16,551	14,388	6,918	10,464	19,512
None (jobs)		1,101	10,001	1-,000	0,710	10,-107	17,012
On-Site or In-Plant Training - CO2 sector -		77.5	1,201	1,012	460	699	1,377
Over 10 years (jobs)			.,201	.,512	100		.,011
On-Site or In-Plant Training - CO2 sector -		4,033	60,513	52,654	25,364	38,334	71,274
Up to 1 year (jobs)		.,555	20,010	32,30 !	_0,00 !	35,50 /	,,
						<u> </u>	

Table 32: E- scenario - IMPACTS - Jobs (continued)

Table 32: E- scenario - IMPACTS - Jobs (con	tinuedj						
Item	2020	2025	2030	2035	2040	2045	2050
On-Site or In-Plant Training - Coal sector -		11,186	3,182	1,599	1,384	1,219	1,042
1 to 4 years (jobs)				-			•
On-Site or In-Plant Training - Coal sector -		4,304	1,136	431	372	326	278
4 to 10 years (jobs)		,	,				_
On-Site or In-Plant Training - Coal sector -		10,585	2,911	1,420	1,259	1,136	994
None (jobs)		10,000	2,711	1,420	1,207	1,100	,,,
On-Site or In-Plant Training - Coal sector -		519	135	47.4	42.1	38	33.4
Over 10 years (jobs)		317	133	41.4	42.1	36	33.4
		45,080	10.007	7/0/	/ / 0 /	F /77	4,853
On-Site or In-Plant Training - Coal sector -		45,080	13,086	7,424	6,436	5,677	4,853
Up to 1 year (jobs)		00.100	440.007	4/4400	007000	004 ( / 0	000 5 (0
On-Site or In-Plant Training - Grid sector -		90,199	118,834	161,138	207,208	301,648	388,568
1 to 4 years (jobs)							
On-Site or In-Plant Training - Grid sector -		39,614	52,179	70,737	90,939	132,353	170,446
4 to 10 years (jobs)							
On-Site or In-Plant Training - Grid sector -		79,526	104,407	141,090	180,823	262,378	336,907
None (jobs)							
On-Site or In-Plant Training - Grid sector -		5,135	6,760	9,159	11,767	17,115	22,027
Over 10 years (jobs)							
On-Site or In-Plant Training - Grid sector -		307,754	404,968	548,500	704,545	1,024,584	1,318,505
Up to 1 year (jobs)		, .	. ,	,	- ,	, , , , , , ,	, ,
On-Site or In-Plant Training - Natural gas		93,144	69,692	52,578	44,991	36,270	29,485
sector - 1 to 4 years (jobs)		70,144	07,072	02,010	77,771	00,210	27,400
On-Site or In-Plant Training - Natural gas		41,339	31,167	23,829	20,702	16,834	13,779
sector - 4 to 10 years (jobs)		41,337	31,101	23,629	20,102	10,034	13,117
		00.000	/F 10.0	/ 0 500	/ 0 0 5 5	20.700	07.000
On-Site or In-Plant Training - Natural gas		88,008	65,188	48,520	40,955	32,692	26,390
sector - None (jobs)						2.2.7	
On-Site or In-Plant Training - Natural gas		4,901	3,722	2,877	2,528	2,067	1,700
sector - Over 10 years (jobs)							
On-Site or In-Plant Training - Natural gas		325,428	241,881	179,991	151,372	120,795	97,369
sector - Up to 1 year (jobs)							
On-Site or In-Plant Training - Nuclear		7,391	8,249	8,525	8,204	7,495	6,611
sector - 1 to 4 years (jobs)							
On-Site or In-Plant Training - Nuclear		2,675	2,985	3,084	2,967	2,710	2,390
sector - 4 to 10 years (jobs)				-			
On-Site or In-Plant Training - Nuclear		8,966	9,985	10,296	9,888	9,015	7,935
sector - None (jobs)		0,700	,,,,,	10,270	7,000	7,0.0	1,700
On-Site or In-Plant Training - Nuclear		251	280	288	277	253	223
sector - Over 10 years (jobs)		201	200	200	211	200	220
On-Site or In-Plant Training - Nuclear		30,805	34,338	35,441	34,067	31,085	27,385
<u> </u>		30,805	34,336	35,441	34,067	31,065	21,365
sector - Up to 1 year (jobs)		44 ( 004	407.707	07.404	00 ( (4	74.000	
On-Site or In-Plant Training - Oil sector - 1		116,831	104,736	94,131	82,661	71,002	46,291
to 4 years (jobs)							
On-Site or In-Plant Training - Oil sector -		41,198	37,215	33,709	29,833	25,820	16,989
4 to 10 years (jobs)							
On-Site or In-Plant Training - Oil sector -		127,666	113,154	100,522	87,241	74,055	47,738
None (jobs)							
On-Site or In-Plant Training - Oil sector -		4,563	4,197	3,868	3,480	3,059	2,041
Over 10 years (jobs)		,	.		•		
On-Site or In-Plant Training - Oil sector -		502,621	448,835	401,798	351,423	300,645	195,301
Up to 1 year (jobs)		002,021	110,000	401,170	001,420	000,040	170,001
On-Site or In-Plant Training - Solar PV		86,342	122,621	130,474	141,459	183,962	222,715
sector - 1 to 4 years (jobs)		00,342	122,021	130,414	141,437	103,702	222,110
		20.070	/ 0 000	/7.000	F0 00 <del>7</del>	/7.000	00.077
On-Site or In-Plant Training - Solar PV		30,979	43,032	47,323	52,387	67,399	83,944
sector - 4 to 10 years (jobs)							
On-Site or In-Plant Training - Solar PV		91,756	131,332	139,877	152,108	199,129	241,785
sector - None (jobs)							
On-Site or In-Plant Training - Solar PV		4,308	6,104	6,534	7,115	9,248	11,262
sector - Over 10 years (jobs)							
On-Site or In-Plant Training - Solar PV		323,595	463,976	491,379	532,109	696,846	841,554
sector - Up to 1 year (jobs)							
, , , , , , , , , , , , , , , , , , , ,						I .	<u> </u>

Table 32: E- scenario - IMPACTS - Jobs (continued)

Table 32: E- Scendrio - IMPAGTS - Jobs (Cont	шиеиј					
Item	2020 2025	2030	2035	2040	2045	2050
On-Site or In-Plant Training - Total jobs - 1	461,757	538,301	582,068	638,384	798,608	958,943
to 4 years (jobs)						
On-Site or In-Plant Training - Total jobs - 4	179,879	209,415	230,069	256,135	322,842	392,957
to 10 years (jobs)						
On-Site or In-Plant Training - Total jobs -	472,993	549,490	593,418	650,818	806,800	963,008
None (jobs)	,		0.0,	555,515	,	
On-Site or In-Plant Training - Total jobs -	22,731	27,178	29,932	33,312	42,225	51,381
Over 10 years (jobs)	22,101	21,110	27,732	33,312	42,220	31,301
On-Site or In-Plant Training - Total jobs -	1,778,875	2,048,730	2,205,052	2,404,818	2,969,743	3,523,285
	1,110,013	2,046,130	2,205,052	2,404,010	2,909,143	3,323,203
Up to 1 year (jobs)			22172	100.00=	1/0=00	
On-Site or In-Plant Training - Wind sector	46,757	80,235	99,452	120,997	160,789	217,513
- 1 to 4 years (jobs)						
On-Site or In-Plant Training - Wind sector	16,449	28,377	36,866	46,759	62,796	85,076
- 4 to 10 years (jobs)						
On-Site or In-Plant Training - Wind sector	51,616	89,018	110,709	135,277	180,779	245,939
- None (jobs)						
On-Site or In-Plant Training - Wind sector	2,388	4,110	5,153	6,340	8,464	11,480
- Over 10 years (jobs)	_,_,_	','''		-,	,,,,,,,	,
On-Site or In-Plant Training - Wind sector	180,127	309,901	381,831	462,397	615,749	836,217
- Up to 1 year (jobs)	100,121	307,701	301,031	402,071	013,147	030,211
	E00100	(07/0/	7/./. 000	017.07/	1.005.070	1 005 700
On-the-Job Training - All sectors - 1 to 4	589,129	687,624	744,333	817,976	1,025,873	1,235,420
years (jobs)						
On-the-Job Training - All sectors - 4 to 10	169,191	199,532	221,283	248,227	315,641	387,596
years (jobs)						
On-the-Job Training - All sectors - None	161,830	184,590	198,537	217,212	267,386	317,995
(jobs)						
On-the-Job Training - All sectors - Over 10	29,312	34,688	36,706	39,368	48,413	57,152
years (jobs)	,-	, , , , , , , , ,		,	_,	
On-the-Job Training - All sectors - Up to 1	1,966,773	2,266,679	2,439,679	2,660,684	3,282,905	3,891,411
year (jobs)	1,700,110	2,200,017	2,407,017	2,000,004	0,202,700	0,071,411
On-the-Job Training - Biomass sector - 1	9,389	11,579	19,238	27,648	28,734	27,841
	9,369	11,579	19,236	21,048	20,134	21,841
to 4 years (jobs)	01/0	0.400	/ 000	70/5	7,00	7.400
On-the-Job Training - Biomass sector - 4	2,148	2,693	4,803	7,245	7,639	7,428
to 10 years (jobs)						
On-the-Job Training - Biomass sector -	5,279	6,082	9,258	12,627	12,720	12,160
None (jobs)						
On-the-Job Training - Biomass sector -	604	691	1,053	1,421	1,417	1,369
Over 10 years (jobs)						
On-the-Job Training - Biomass sector - Up	67,622	81,530	121,665	157,468	156,559	150,626
to 1 year (jobs)	0.75==		,	101,100	,	,
On-the-Job Training - CO2 sector - 1 to 4	1,763	26,977	23,043	10,740	16,291	31,334
years (jobs)	1,100	20,711	25,045	10,140	10,271	31,334
	/5/	10.010	0.500	2 001	F 00/	11 7  /
On-the-Job Training - CO2 sector - 4 to 10	656	10,212	8,592	3,891	5,924	11,754
years (jobs)						
On-the-Job Training - CO2 sector - None	338	5,026	4,422	2,168	3,276	5,997
(jobs)						
On-the-Job Training - CO2 sector - Over	71.9	1,094	946	450	683	1,298
10 years (jobs)						
On-the-Job Training - CO2 sector - Up to 1	4,360	65,304	56,917	27,497	41,543	77,000
year (jobs)	,			,	,	,
On-the-Job Training - Coal sector - 1 to 4	14,210	4,006	1,915	1,660	1,465	1,255
years (jobs)	14,210	4,000	1,713	1,000	1,400	1,200
	/ 011	1 101	/ 00	0/0	01/	0/0
On-the-Job Training - Coal sector - 4 to 10	4,211	1,121	423	363	316	268
years (jobs)						
On-the-Job Training - Coal sector - None	3,553	972	508	448	402	350
(jobs)						
On-the-Job Training - Coal sector - Over	482	139	70.7	63.4	57.9	51.4
10 years (jobs)						
On-the-Job Training - Coal sector - Up to 1	49,217	14,212	8,005	6,959	6,155	5,276
year (jobs)	77,211	17,212	3,000	3,707	3,100	5,210
your (Jobo)						

Table 32: E- scenario - IMPACTS - Jobs (continued)

Table 32: E- scenario - IMPACTS - Jobs (co	ntinueaj						
Item	2020	2025	2030	2035	2040	2045	2050
On-the-Job Training - Grid sector - 1 to 4 years (jobs)		117,311	154,477	209,364	269,088	391,534	504,100
On-the-Job Training - Grid sector - 4 to 10 years (jobs)		39,869	52,548	71,283	91,697	133,538	172,077
On-the-Job Training - Grid sector - None (jobs)		25,558	33,583	45,422	58,266	84,624	108,767
On-the-Job Training - Grid sector - Over 10 years (jobs)		4,185	5,517	7,486	9,632	14,032	18,089
On-the-Job Training - Grid sector - Up to 1 year (jobs)		335,305	441,023	597,069	766,598	1,114,349	1,433,419
On-the-Job Training - Natural gas sector - 1 to 4 years (jobs)		122,490	91,627	69,213	59,363	47,896	38,975
On-the-Job Training - Natural gas sector - 4 to 10 years (jobs)		39,335	29,727	22,887	20,072	16,397	13,478
On-the-Job Training - Natural gas sector - None (jobs)		28,855	21,202	15,568	12,935	10,235	8,197
On-the-Job Training - Natural gas sector - Over 10 years (jobs)		5,256	3,904	2,898	2,430	1,942	1,564
On-the-Job Training - Natural gas sector - Up to 1 year (jobs)		356,885	265,191	197,228	165,749	132,187	106,510
On-the-Job Training - Nuclear sector - 1 to 4 years (jobs)		9,697	10,822	11,182	10,760	9,829	8,669
On-the-Job Training - Nuclear sector - 4 to 10 years (jobs)		2,339	2,610	2,697	2,596	2,372	2,092
On-the-Job Training - Nuclear sector - None (jobs)		3,364	3,749	3,868	3,717	3,390	2,986
On-the-Job Training - Nuclear sector - Over 10 years (jobs)		521	582	602	580	530	468
On-the-Job Training - Nuclear sector - Up to 1 year (jobs)		34,167	38,073	39,285	37,751	34,438	30,330
On-the-Job Training - Oil sector - 1 to 4 years (jobs)		144,505	129,357	116,099	101,822	87,357	56,884
On-the-Job Training - Oil sector - 4 to 10 years (jobs)		34,135	30,881	28,017	24,834	21,524	14,206
On-the-Job Training - Oil sector - None (jobs)		48,244	42,447	37,430	32,239	27,156	17,403
On-the-Job Training - Oil sector - Over 10 years (jobs)		7,740	6,934	6,229	5,469	4,697	3,065
On-the-Job Training - Oil sector - Up to 1 year (jobs)		558,254	498,517	446,253	390,274	333,848	216,802
On-the-Job Training - Solar PV sector - 1 to 4 years (jobs)		109,729	155,655	165,906	180,069	234,031	283,751
On-the-Job Training - Solar PV sector - 4 to 10 years (jobs)		30,665	42,443	46,934	52,136	66,972	83,805
On-the-Job Training - Solar PV sector - None (jobs)		30,332	43,367	46,764	51,367	67,382	82,880
On-the-Job Training - Solar PV sector - Over 10 years (jobs)		6,844	9,701	10,071	10,680	13,771	16,180
On-the-Job Training - Solar PV sector - Up to 1 year (jobs)		359,410	515,899	545,912	590,926	774,427	934,644
On-the-Job Training - Wind sector - 1 to 4 years (jobs)		60,037	103,125	128,372	156,825	208,736	282,610
On-the-Job Training - Wind sector - 4 to 10 years (jobs)		15,832	27,298	35,647	45,394	60,958	82,489
On-the-Job Training - Wind sector - None (jobs)		16,306	28,164	35,298	43,444	58,200	79,256
On-the-Job Training - Wind sector - Over 10 years (jobs)		3,608	6,126	7,349	8,644	11,283	15,067
On-the-Job Training - Wind sector - Up to 1 year (jobs)		201,554	346,928	427,344	517,462	689,400	936,803

Table 32: E- scenario - IMPACTS - Jobs (continued)

Table 32: E- scenario - IMPACTS - Jobs (coi	ntinueuj						
Item	2020	2025	2030	2035	2040	2045	2050
Related work experience - All sectors - 1		1,059,755	1,215,937	1,309,813	1,433,440	1,776,043	2,113,756
to 4 years (jobs)							
Related work experience - All sectors - 4		675,403	778,883	839,366	920,779	1,145,764	1,369,722
to 10 years (jobs)							
Related work experience - All sectors -		412,312	479,693	520,232	570,168	708,706	848,028
None (jobs)		,-	,		,	,	,
Related work experience - All sectors -		187,752	216,027	230,005	249,597	308,897	365,935
Over 10 years (jobs)		101,102	210,021	200,000	247,071	300,071	000,700
Related work experience - All sectors - Up		581,013	682,574	741,123	809,483	1,000,808	1,192,133
·		361,013	002,314	141,123	007,403	1,000,606	1,172,133
to 1 year (jobs)		05 /75	01 500	50.050	40.000	71.007	(0.00/
Related work experience - Biomass sector		25,475	31,590	50,358	69,822	71,904	69,386
- 1 to 4 years (jobs)		10.0/0	15.000				
Related work experience - Biomass sector		13,243	15,909	26,334	38,711	40,580	39,157
- 4 to 10 years (jobs)							
Related work experience - Biomass sector		14,396	17,318	25,423	31,889	31,116	29,868
- None (jobs)							
Related work experience - Biomass sector		3,634	4,259	6,881	10,001	10,410	10,054
- Over 10 years (jobs)							
Related work experience - Biomass sector		28,293	33,498	47,022	55,985	53,058	50,959
- Up to 1 year (jobs)			55,	,		,	
Related work experience - CO2 sector - 1		2,572	38,682	33,555	16,084	24,311	45,391
to 4 years (jobs)		2,512	30,002	33,333	10,004	24,011	43,371
		1770	07,000	00.000	11.007	1/ / 00	01 / 0 /
Related work experience - CO2 sector - 4		1,778	26,893	23,208	11,024	16,680	31,434
to 10 years (jobs)							
Related work experience - CO2 sector -		1,111	16,924	14,505	6,804	10,308	19,683
None (jobs)							
Related work experience - CO2 sector -		438	6,520	5,709	2,781	4,197	7,707
Over 10 years (jobs)							
Related work experience - CO2 sector -		1,290	19,595	16,943	8,053	12,221	23,169
Up to 1 year (jobs)				-			
Related work experience - Coal sector - 1		27,190	7,760	4,177	3,623	3,197	2,734
to 4 years (jobs)			.,	.,	0,020	57.7.	_,
Related work experience - Coal sector - 4		16,006	4,373	2,054	1,806	1,616	1,403
· ·		10,000	4,515	2,034	1,000	1,010	1,403
to 10 years (jobs)		07//	0.710	1.050	1100	10//	005
Related work experience - Coal sector -		9,744	2,719	1,358	1,180	1,044	895
None (jobs)							
Related work experience - Coal sector -		4,035	1,138	566	500	450	393
Over 10 years (jobs)							
Related work experience - Coal sector -		14,699	4,460	2,767	2,384	2,089	1,775
Up to 1 year (jobs)							
Related work experience - Grid sector - 1		188,840	248,283	335,996	431,217	626,558	805,601
to 4 years (jobs)			•	-	-		
Related work experience - Grid sector - 4		123,754	162,589	219,867	281,967	409,391	525,979
to 10 years (jobs)		120,104	102,007	217,001	201,701	407,071	020,717
Related work experience - Grid sector -		77,566	102,139	138,428	177,913	258,865	333,281
		11,500	102,137	130,420	111,713	230,003	333,201
None (jobs)		00.077	/01//	F7.0F0	70.000	107.055	10 / 70 /
Related work experience - Grid sector -		32,077	42,166	57,053	73,209	106,355	136,724
Over 10 years (jobs)							
Related work experience - Grid sector -		99,992	131,970	179,280	230,976	336,909	434,867
Up to 1 year (jobs)							
Related work experience - Natural gas		204,017	151,824	113,306	95,655	76,470	61,747
sector - 1 to 4 years (jobs)							
Related work experience - Natural gas		135,709	101,088	75,757	64,353	51,598	41,784
sector - 4 to 10 years (jobs)						- ,	,
Related work experience - Natural gas		80,026	59,877	45,157	38,619	31,112	25,287
sector - None (jobs)		30,020	57,011	40,101	30,019	01,112	20,201
		2/ 071	97.000	20 171	1/ 010	10 057	10,719
Related work experience - Natural gas		36,871	27,298	20,171	16,819	13,357	10,719
sector - Over 10 years (jobs)		2		F2 / - :			
Holated work expenience. Natural age		96,199	71,564	53,404	45,103	36,121	29,186
Related work experience - Natural gas sector - Up to 1 year (jobs)		70,177	11,004	00,404	40,100	00,121	27,100

Table 32: E- scenario - IMPACTS - Jobs (continued)

Table 32. E- Scellul lo - IMPAG 13 - Jobs (Co	mulinueuj						
Item	2020	2025	2030	2035	2040	2045	2050
Related work experience - Nuclear sector		18,695	20,834	21,497	20,659	18,846	16,599
- 1 to 4 years (jobs)							
Related work experience - Nuclear sector		12,128	13,513	13,940	13,394	12,216	10,758
- 4 to 10 years (jobs)							
Related work experience - Nuclear sector		6,313	7,045	7,280	7,006	6,399	5,644
- None (jobs)							
Related work experience - Nuclear sector		3,734	4,163	4,297	4,132	3,771	3,322
- Over 10 years (jobs)				-		·	
Related work experience - Nuclear sector		9,217	10,281	10,619	10,214	9,327	8,222
- Up to 1 year (jobs)				-			
Related work experience - Oil sector - 1 to		302,135	269,872	241,614	211,329	180,792	117,324
4 years (jobs)						·	-
Related work experience - Oil sector - 4 to		183,324	163,462	146,091	127,563	108,950	70,576
10 years (jobs)				•	·	·	·
Related work experience - Oil sector -		106,857	95,809	86,141	75,674	65,021	42,502
None (jobs)		,	-,	,	-,-		,
Related work experience - Oil sector -		52,718	46,922	41,873	36,525	31,181	20,166
Over 10 years (jobs)		, -	-,	,	, .	, -	.,
Related work experience - Oil sector - Up		147,845	132,071	118,309	103,547	88,636	57,791
to 1 year (jobs)		,	10_,011	,	,.	55,555	2.7.
Related work experience - Solar PV sector		186,024	266,270	284,039	309,311	405,153	492,891
- 1 to 4 years (jobs)		,				,	,
Related work experience - Solar PV sector		120,241	171,610	182,799	198,639	259,422	314,784
- 4 to 10 years (jobs)		,	,	,			,
Related work experience - Solar PV sector		75,899	108,403	115,902	126,397	165,406	201,697
- None (jobs)		·		-	•		·
Related work experience - Solar PV sector		34,260	49,212	51,438	55,099	72,032	85,728
- Over 10 years (jobs)		,				·	·
Related work experience - Solar PV sector		120,556	171,570	181,408	195,732	254,570	306,160
- Up to 1 year (jobs)				-			
Related work experience - Wind sector - 1		104,807	180,823	225,270	275,742	368,812	502,083
to 4 years (jobs)		·	·	-			
Related work experience - Wind sector - 4		69,220	119,444	149,316	183,323	245,311	333,848
to 10 years (jobs)					-		
Related work experience - Wind sector -		40,401	69,459	86,038	104,686	139,433	189,172
None (jobs)		,	,	•	·	·	,
Related work experience - Wind sector -		19,986	34,349	42,016	50,530	67,143	91,120
Over 10 years (jobs)		·	,	•		·	
Related work experience - Wind sector -		62,923	107,564	131,370	157,489	207,877	280,004
Up to 1 year (jobs)			,			,	,
Wage income - Biomass (million \$2019)		4,420	5,498	8,852	12,487	13,042	12,804
Wage income - CO2 (million \$2019)		449	6,820	6,032	2,966	4,552	8,531
Wage income - Coal (million \$2019)		4,341	1,223	608	536	482	421
Wage income - Grid (million \$2019)		32,660	43,548	59,790	77,883	114,904	150,070
Wage income - Natural Gas (million \$2019)		36,633	27,637	20,860	17,785	14,393	11,770
Wage income - Nuclear (million \$2019)		3,581	4,087	4,321	4,258	3,984	3,602
Wage income - Oil (million \$2019)		52,193	47,217	42,805	37,909	32,838	21,560
Wage income - Solar (million \$2019)		29,748	43,018	46,564	51,454	68,283	84,485
Wage income - Wind (million \$2019)		17,282	30,245	38,469	48,100	65,475	90,643
**************************************		11,202	00,270	00,707	70,100	55,715	70,040

Table 33: E+RE+ scenario - PILLAR 1: Efficiency/Electrification - Commercial

Item	2020	2025	2030	2035	2040	2045	2050
Commercial HVAC investment in 2020s -		1,047,657	1,162,511				
Cumulative 5-yr (million \$2018)							
Sales of cooking units - Electric	32.5	46.4	80	86.6	87	87	87
Resistance (%)							
Sales of cooking units - Gas (%)	67.5	53.6	20	13.4	13	13	13
Sales of space heating units - Electric	2.95	17.6	52.9	76.9	80.6	80.8	80.8
Heat Pump (%)							

Table 22: E. DE.	coopania DILLAD 1	Efficiency/Electrification -	Commonaid (continued)
1401E 33. E+KE+	SCENULIO - PILLAR I.	EIIICIEIICV/EIECH IIICUHUH -	- Gummerciai icomunaeai

Item	2020	2025	2030	2035	2040	2045	2050
Sales of space heating units - Electric	7.91	9.07	14.4	17.7	18.4	18.4	18.4
Resistance (%)							
Sales of space heating units - Fossil (%)	3.94	3.28	0.655	0.028	0	0	0
Sales of space heating units - Gas Furnace	85.2	70.1	32.1	5.37	1.07	0.82	0.817
(%)							
Sales of water heating units - Electric	0.385	7.96	43.3	59.2	61.2	61.3	61.3
Heat Pump (%)							
Sales of water heating units - Electric	3.8	7.16	24	35.7	37.5	37.6	37.6
Resistance (%)							
Sales of water heating units - Gas Furnace	94.1	83.3	31.5	4.03	0.235	0.003	0
(%)							
Sales of water heating units - Other (%)	1.66	1.59	1.2	1.1	1.1	1.11	1.11

# Table 34: E+RE+ scenario - PILLAR 1: Efficiency/Electrification - Electricity demand

Item	2020	2025	2030	2035	2040	2045	2050
Electricity distribution capital invested -		182	187	336	359	314	329
Cumulative 5-yr (billion \$2018)							

# Table 35: E+RE+ scenario - PILLAR 1: Efficiency/Electrification - Overview

Item	2020	2025	2030	2035	2040	2045	2050
Final energy use - Commercial (PJ)	9,015	8,942	8,619	8,103	7,608	7,344	7,297
Final energy use - Industry (PJ)	25,107	26,056	26,110	25,372	25,108	24,870	24,572
Final energy use - Residential (PJ)	11,788	11,090	10,221	8,966	7,776	6,967	6,512
Final energy use - Transportation (PJ)	27,996	26,390	23,464	19,872	16,608	14,565	13,649

# Table 36: E+RE+ scenario - PILLAR 1: Efficiency/Electrification - Residential

Item	2020	2025	2030	2035	2040	2045	2050
Residential HVAC investment in 2020s vs.		254	307				
REF - Cumulative 5-yr (billion \$2018)							
Sales of cooking units - Electric	61.3	69.6	94.8	99.7	100	100	100
Resistance (%)							
Sales of cooking units - Gas (%)	38.7	30.4	5.2	0.262	0	0	0
Sales of space heating units - Electric	14.6	27.2	64.4	85	88	88.1	88.1
Heat Pump (%)							
Sales of space heating units - Electric	20.3	22.6	12.3	8.07	7.57	7.66	7.68
Resistance (%)							
Sales of space heating units - Fossil (%)	9.95	13.2	6.18	3.41	3.02	2.91	2.9
Sales of space heating units - Gas (%)	55.2	36.9	17.1	3.52	1.45	1.32	1.3
Sales of water heating units - Electric	0	7.44	41.8	56.2	58.5	59.2	59
Heat Pump (%)							
Sales of water heating units - Electric	38.4	49.2	38.5	39.8	39.9	39.3	39.5
Resistance (%)							
Sales of water heating units - Gas Furnace	58	40.9	18	2.56	0.155	0.003	0
(%)							
Sales of water heating units - Other (%)	3.58	2.47	1.63	1.47	1.51	1.54	1.53

# ${\it Table~37:~E+RE+~scenario~-PILLAR~1:~Efficiency/Electrification~-Transportation}$

Item	2020	2025	2030	2035	2040	2045	2050
Light-duty vehicle capital costs -		51,477	133,974	213,805	325,180	352,492	336,852
Cumulative 5-yr (million \$2018)							
Public EV charging plugs - DC Fast (1000	14.4		93.9		391		628
units)							
Public EV charging plugs - L2 (1000 units)	66.2		2,256		9,394		15,098
Vehicle sales - Heavy-duty - diesel (%)	97.2	92.1	67	23.3	4.22	0.628	0
Vehicle sales - Heavy-duty - EV (%)	0.588	3.81	19	45.6	57.4	59.6	60
Vehicle sales - Heavy-duty - gasoline (%)	0.227	0.227	0.176	0.066	0.013	0.002	0

Table 37: E+RE+ scenario - PILLAR 1: Efficiency/Electrification - Transportation (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Vehicle sales - Heavy-duty - hybrid (%)	0.082	0.09	0.077	0.031	0.007	0.001	0
Vehicle sales - Heavy-duty - hydrogen FC	0.392	2.54	12.7	30.4	38.2	39.7	40
(%)							
Vehicle sales - Heavy-duty - other (%)	1.5	1.23	1.07	0.568	0.163	0.038	0
Vehicle sales - Light-duty - diesel (%)	1.4	1.68	1.2	0.382	0.072	0.013	0
Vehicle sales - Light-duty - EV (%)	4.41	16.7	48.7	82.7	96.4	99.3	100
Vehicle sales - Light-duty - gasoline (%)	89.1	76.3	46.4	15.6	3.17	0.586	0
Vehicle sales - Light-duty - hybrid (%)	4.91	4.89	3.38	1.24	0.304	0.067	0
Vehicle sales - Light-duty - hydrogen FC	0.11	0.331	0.191	0.059	0.012	0.002	0
(%)							
Vehicle sales - Light-duty - other (%)	0.095	0.091	0.058	0.02	0.004	0.001	0
Vehicle sales - Medium-duty - diesel (%)	64.7	59.7	42.3	14.4	2.59	0.384	0
Vehicle sales - Medium-duty - EV (%)	0.784	5.07	25.3	60.8	76.5	79.5	80
Vehicle sales - Medium-duty - gasoline (%)	33.7	33.3	25.5	9.32	1.77	0.277	0
Vehicle sales - Medium-duty - hybrid (%)	0.363	0.402	0.341	0.14	0.03	0.005	0
Vehicle sales - Medium-duty - hydrogen	0.196	1.27	6.33	15.2	19.1	19.9	20
FC (%)							
Vehicle sales - Medium-duty - other (%)	0.253	0.255	0.205	0.083	0.019	0.004	0

Table 38: E+RE+ scenario - PILLAR 2: Clean Electricity - Generating capacity

Item	2020	2025	2030	2035	2040	2045	2050
Capital invested - Biomass power plant	0	0.001	0.006	0.011	0.001	0	0
(billion \$2018)							
Capital invested - Biomass w/ccu allam	0	0	0	0.175	0.15	0.086	0.162
power plant (billion \$2018)							
Capital invested - Biomass w/ccu power	0	0	0.198	0.008	0.074	0.13	0.137
plant (billion \$2018)							
Installed - Biomass (MW)	10,003	9,140	7,854	6,156	4,735	3,409	2,488
Installed - Biomass w cc (MW)	0	0	29.9	54.6	85.8	108	150
Installed - Ccgt & gas steam (MW)	334,781	312,898	343,874	346,127	273,137	203,281	171,091
Installed - Ccgt w cc (MW)	0	0	77.3	164	233	304	331
Installed - Coal (MW)	216,076	60,056	185	104	84.5	61	26.1
Installed - Ct (MW)	146,242	137,398	142,744	165,901	204,190	319,096	515,962
Installed - Geothermal (MW)	2,390	2,394	2,414	2,426	2,428	2,457	4,871
Installed - Grid battery storage (MW)		987	11,630	42,944	105,233	143,960	186,175
Installed - Hydro (MW)	78,608	78,608	78,608	78,608	78,608	78,608	78,608
Installed - Nuclear (MW)	98,501	94,063	83,809	56,742	41,522	14,825	0
Installed - Offshore wind (MW)	29.3	1,026	4,957	36,176	99,902	227,465	457,951
Installed - Onshore wind (MW)	97,803	200,500	386,229	693,913	1,069,220	1,521,230	2,186,500
Installed - Other (MW)	68,093	57,211	55,709	54,353	52,339	51,350	40,191
Installed - Pumped hydro storage (MW)		19,418	19,418	19,418	19,418	19,418	19,418
Installed - Rooftop PV (MW)	33,317	52,523	69,448	90,809	117,114	148,351	185,890
Installed - Utility-scale PV (MW)	35,099	150,447	361,210	725,568	1,120,211	1,665,399	2,454,547

Table 39: E+RE+ scenario - PILLAR 2: Clean Electricity - Generation

Item	2020	2025	2030	2035	2040	2045	2050
Biomass (TWh)	18.8	17.7	39	29.3	21.4	15.2	0.108
Biomass power plant (GWh)	3,549	620	9,773	9,073	6,438	2,637	31.1
Biomass w cc (TWh)	0	0	0.079	0.098	0.188	0.358	0.556
Biomass w/ccu allam power plant (GWh)	0	0	0	51.1	90	161	285
Biomass w/ccu power plant (GWh)	0	0	79	47.1	97.6	197	271
Coal (TWh)	981	328	0.647	0.364	0.296	0.214	0.092
Gas (TWh)	1,489	1,589	1,262	737	422	151	51.9
Gas w cc (TWh)	0	0	0.154	0.216	0.297	0.344	0.23
Geothermal (TWh)	14.5	14.5	14.1	14.2	13.7	13.5	25.7
Hydro (TWh)	300	312	295	294	300	291	291
Nuclear (TWh)	802	766	683	462	338	121	0
Offshore wind (TWh)	0.092	3.82	20.2	183	437	978	1,833

#### Table 39: E+RE+ scenario - PILLAR 2: Clean Electricity - Generation (continued)

		,	•	,			
Item	2020	2025	2030	2035	2040	2045	2050
Onshore wind (TWh)	413	816	1,593	2,720	4,109	5,852	8,245
Rooftop PV (TWh)	50.1	79.4	101	126	165	208	249
Utility-scale PV (TWh)	89.6	362	825	1,615	2,438	3,648	5,253

#### Table 40: E+RE+ scenario - PILLAR 2: Clean Electricity - Transmission

Item	2020	2025	2030	2035	2040	2045	2050
Total HV transmission (for wind and solar)	0	13.4	35.1	86.8	162	267	430
- Base all (%)							

# Table 41: E+RE+ scenario - PILLAR 3: Clean fuels - Bioenergy

	•						
Item	2020	2025	2030	2035	2040	2045	2050
Biomass input - BECCS-H2 (1000 tonnes)	0	0	0	2.28	19,065	118,177	120,886
Biomass input - Bio-FT w/ CC (1000	0	0	0	67.5	112	276	352
tonnes)							
Biomass input - Bio-SNG w/ CC (1000	0	0	9.39	4.81	7.06	45.5	179,016
tonnes)							
Biomass input - Biopower (1000 tonnes)	11,647	16,788	55,652	45,494	37,066	28,898	161
Biomass input - Biopower w/ cc (1000	0	0	47.7	51.6	99.5	192	292
tonnes)							
Biomass input - Ethanol (1000 tonnes)	129,506	129,506	129,536	125,006	67,634	10,261	905
Biomass input - FT diesel (1000 tonnes)	0	0	0	158	201	193	104
Biomass input - Pyrolysis liquids (1000	0	0	0	64,735	133,702	142,225	140,053
tonnes)							
Biomass input - Pyrolysis liquids w/ cc	0	0	0	65.4	117	7,078	142,580
(1000 tonnes)							
Biomass input - SNG (1000 tonnes)	0	9.34	18.9	26	25.6	52.2	8.78

# Table 42: E+RE+ scenario - PILLAR 4: CCUS - CO2 storage

Item	2020	2025	2030	2035	2040	2045	2050
CO2 storage (MMT)	0	0	0	0	0	0	0

#### Table 43: E+RE+ scenario - PILLAR 6: Land sinks - Agriculture

Item	2020	2025	2030	2035	2040	2045	2050
Carbon sink potential - Aggressive							-23,286
deployment - Corn-ethanol to energy							
grasses (1000 tCO2e/y)							
Carbon sink potential - Aggressive							-203,503
deployment - Cropland measures (1000							
tCO2e/y)							
Carbon sink potential - Aggressive							-7,391
deployment - Permanent conservation							
cover (1000 tCO2e/y)							
Carbon sink potential - Aggressive							-234,180
deployment - Total (1000 tCO2e/y)							
Carbon sink potential - Moderate							-23,286
deployment - Corn-ethanol to energy							
grasses (1000 tC02e/y)							
Carbon sink potential - Moderate							-106,430
deployment - Cropland measures (1000							
tCO2e/y)							
Carbon sink potential - Moderate							-3,696
deployment - Permanent conservation							
cover (1000 tCO2e/y)							
Carbon sink potential - Moderate							-133,412
deployment - Total (1000 tCO2e/y)							

Table 43: E+RE+ scenario - PILLAR 6: Land sinks - Agriculture (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Land impacted for carbon sink -							11,287
Aggressive deployment - Corn-ethanol to							
energy grasses (1000 hectares)							
Land impacted for carbon sink -							136,405
Aggressive deployment - Cropland							
measures (1000 hectares)							
Land impacted for carbon sink -							12,749
Aggressive deployment - Permanent							
conservation cover (1000 hectares)							
Land impacted for carbon sink -							160,442
Aggressive deployment - Total (1000							
hectares)							
Land impacted for carbon sink - Moderate							11,287
deployment - Corn-ethanol to energy							
grasses (1000 hectares)							
Land impacted for carbon sink - Moderate							71,390
deployment - Cropland measures (1000							
hectares)							
Land impacted for carbon sink - Moderate							6,375
deployment - Permanent conservation							
cover (1000 hectares)							
Land impacted for carbon sink - Moderate							89,052
deployment - Total (1000 hectares)							

Table 44: E+RE+ scenario - PILLAR 6: Land sinks - Forests

Item	2020	2025	2030	2035	2040	2045	2050
Carbon sink potential - High - Accelerate							-48,900
regeneration (1000 tCO2e/y)							
Carbon sink potential - High - All (not							-
counting overlap) (1000 tCO2e/y)							1,535,900
Carbon sink potential - High - Avoid							-84,000
deforestation (1000 tCO2e/y)							
Carbon sink potential - High - Extend							-302,000
rotation length (1000 tCO2e/y)							
Carbon sink potential - High - Improve							-57,000
plantations (1000 tCO2e/y)							
Carbon sink potential - High - Increase							-
retention of HWP (1000 tCO2e/y)							300,000
Carbon sink potential - High - Increase							-60,000
trees outside forests (1000 tCO2e/y)							
Carbon sink potential - High - Reforest							-242,000
cropland (1000 tCO2e/y)							
Carbon sink potential - High - Reforest							-
pasture (1000 tCO2e/y)							264,000
Carbon sink potential - High - Restore							-178,000
productivity (1000 tCO2e/y)							
Carbon sink potential - Low - Accelerate							-24,500
regeneration (1000 tCO2e/y)							
Carbon sink potential - Low - All (not							-
counting overlap) (1000 tCO2e/y)							505,500
Carbon sink potential - Low - Avoid							-14,000
deforestation (1000 tCO2e/y)							
Carbon sink potential - Low - Extend							-116,000
rotation length (1000 tCO2e/y)							
Carbon sink potential - Low - Improve							-29,000
plantations (1000 tCO2e/y)							
Carbon sink potential - Low - Increase							-100,000
retention of HWP (1000 tCO2e/y)							
Carbon sink potential - Low - Increase							-21,000
trees outside forests (1000 tCO2e/y)							

Table 44: E+RE+ scenario - PILLAR 6: Land sinks - Forests (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Carbon sink potential - Low - Reforest							-121,000
cropland (1000 tCO2e/y)							
Carbon sink potential - Low - Reforest							-20,000
pasture (1000 tC02e/y)							
Carbon sink potential - Low - Restore							-60,000
productivity (1000 tCO2e/y)							
Carbon sink potential - Mid - Accelerate							-36,700
regeneration (1000 tCO2e/y)							
Carbon sink potential - Mid - All (not							
counting overlap) (1000 tCO2e/y)							1,020,20
Carbon sink potential - Mid - Avoid							-49,000
deforestation (1000 tCO2e/y)							
Carbon sink potential - Mid - Extend							-209,000
rotation length (1000 tCO2e/y)							
Carbon sink potential - Mid - Improve							-42,500
plantations (1000 tCO2e/y)							
Carbon sink potential - Mid - Increase							
retention of HWP (1000 tCO2e/y)							200,000
Carbon sink potential - Mid - Increase							-40,500
trees outside forests (1000 tCO2e/y)							
Carbon sink potential - Mid - Reforest							-181,50
cropland (1000 tCO2e/y)							
Carbon sink potential - Mid - Reforest							-142,00
pasture (1000 tCO2e/y)							
Carbon sink potential - Mid - Restore							-119,00
productivity (1000 tCO2e/y)							
Land impacted for carbon sink potential -							8,00
High - Accelerate regeneration (1000							
hectares)							
Land impacted for carbon sink potential -							11,37
High - Avoid deforestation (over 30 years)							
(1000 hectares)							
Land impacted for carbon sink potential -							154,00
High - Extend rotation length (1000							
hectares)							
Land impacted for carbon sink potential -							21,00
High - Improve plantations (1000							
hectares)							
Land impacted for carbon sink potential -							
High - Increase retention of HWP (1000							
hectares)							
Land impacted for carbon sink potential -							5,70
High - Increase trees outside forests							
(1000 hectares)							
Land impacted for carbon sink potential -							16,00
High - Reforest cropland (1000 hectares)							
Land impacted for carbon sink potential -							7,50
High - Reforest pasture (1000 hectares)							.,00
Land impacted for carbon sink potential -							59,00
High - Restore productivity (1000							07,00
hectares)							
Land impacted for carbon sink potential -							282,57
High - Total impacted (over 30 years)							202,01
(1000 hectares)							
Land impacted for carbon sink potential -							4,00
Low - Accelerate regeneration (1000							4,00
hectares)							
Land impacted for carbon sink potential -							10,67
							10,67
Low - Avoid deforestation (over 30 years)							l

Table 44: E+RE+ scenario - PILLAR 6: Land sinks - Forests (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Land impacted for carbon sink potential -							59,000
Low - Extend rotation length (1000							
hectares)							
Land impacted for carbon sink potential -							10,500
Low - Improve plantations (1000							
hectares)							
Land impacted for carbon sink potential -							0
Low - Increase retention of HWP (1000							
hectares)							
Land impacted for carbon sink potential -							3,000
Low - Increase trees outside forests							
(1000 hectares)							
Land impacted for carbon sink potential -							8,000
Low - Reforest cropland (1000 hectares)							
Land impacted for carbon sink potential -							1,300
Low - Reforest pasture (1000 hectares)							
Land impacted for carbon sink potential -							35,700
Low - Restore productivity (1000							
hectares)							
Land impacted for carbon sink potential -							132,177
Low - Total impacted (over 30 years)							
(1000 hectares)							
Land impacted for carbon sink potential -							6,000
Mid - Accelerate regeneration (1000							
hectares)							
Land impacted for carbon sink potential -							11,025
Mid - Avoid deforestation (over 30 years)							
(1000 hectares)							
Land impacted for carbon sink potential -							106,500
Mid - Extend rotation length (1000							
hectares)							
Land impacted for carbon sink potential -							15,800
Mid - Improve plantations (1000 hectares)							
Land impacted for carbon sink potential -							0
Mid - Increase retention of HWP (1000							
hectares)							
Land impacted for carbon sink potential -							4,350
Mid - Increase trees outside forests (1000							
hectares)							
Land impacted for carbon sink potential -							12,000
Mid - Reforest cropland (1000 hectares)							
Land impacted for carbon sink potential -							9,400
Mid - Reforest pasture (1000 hectares)							
Land impacted for carbon sink potential -							71,900
Mid - Restore productivity (1000							
hectares)							
Land impacted for carbon sink potential -							236,975
Mid - Total impacted (over 30 years) (1000							
hectares)							

### Table 45: E+RE+ scenario - PILLAR 6: Land sinks - Total assumed land sink

Item	2020	2025	2030	2035	2040	2045	2050
Total assumed land sink (Gt CO2e/y)	-0.7	-0.73	-0.75	-0.78	-0.8	-0.83	-0.85

# Table 46: E+RE+ scenario - IMPACTS - Fossil fuel industries

Item	2020	2025	2030	2035	2040	2045	2050
Natural gas consumption - Annual (tcf)		22,299	18,474	12,539	8,059	4,669	3,040
Natural gas consumption - Cumulative (tcf)							408,044

Table 46: E+RE+ scenario - IMPACTS - Fossil fuel industries (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Natural gas production - Annual (tcf)		35,349	33,543	27,543	22,024	15,809	9,807
Natural gas production - Cumulative (tcf)							798,868
Oil consumption - Annual (million bbls)		5,925	5,139	3,984	2,776	1,608	0.837
Oil consumption - Cumulative (million							115,785
bbls)							
Oil production - Annual (million bbls)		5,198	5,216	5,078	3,797	2,654	583
Oil production - Cumulative (million bbls)							125,883

#### Table 47: E+RE+ scenario - IMPACTS - Health

Item	2020	2025	2030	2035	2040	2045	2050
Monetary damages from air pollution -		22,661	29.5	28.3	24.2	16.6	1.24
Coal (million 2019\$)							
Monetary damages from air pollution -		11,869	8,363	4,638	3,236	1,166	340
Natural Gas (million 2019\$)							
Monetary damages from air pollution -		102,386	96,814	74,557	43,657	20,044	7,790
Transportation (million 2019\$)							
Premature deaths from air pollution -		2,559	3.33	3.2	2.73	1.88	0.14
Coal (deaths)							
Premature deaths from air pollution -		1,340	944	524	365	132	38.4
Natural Gas (deaths)							
Premature deaths from air pollution -		11,515	10,889	8,385	4,910	2,254	876
Transportation (deaths)							

#### Table 48: E+RE+ scenario - IMPACTS - Jobs

Item	2020	2025	2030	2035	2040	2045	2050
By economic sector - Agriculture (jobs)		31,644	36,897	42,750	36,387	31,197	47,266
By economic sector - Construction (jobs)		615,091	766,830	1,095,266	1,315,338	1,662,012	2,268,223
By economic sector - Manufacturing		708,145	931,655	1,298,402	1,269,224	1,433,061	1,851,180
(jobs)		,	,				
By economic sector - Mining (jobs)		455,199	345,035	249,121	151,098	81,299	14,201
By economic sector - Other (jobs)		62,554	92,801	154,006	200,123	276,352	415,903
By economic sector - Pipeline (jobs)		44,749	39,489	31,071	21,589	13,204	3,548
By economic sector - Professional (jobs)		343,678	420,403	600,437	759,221	993,617	1,406,825
By economic sector - Trade (jobs)		307,034	326,576	410,763	477,213	603,718	845,202
By economic sector - Utilities (jobs)		489,095	552,098	796,794	1,016,890	1,333,474	1,878,475
By education level - All sectors -		923,227	1,076,952	1,462,875	1,664,246	2,059,407	2,814,023
Associates degree or some college (jobs)							
By education level - All sectors -		670,997	748,208	965,469	1,070,614	1,301,578	1,756,710
Bachelors degree (jobs)							
By education level - All sectors - Doctoral		22,068	24,725	32,096	37,384	46,651	64,043
degree (jobs)							
By education level - All sectors - High		1,283,452	1,486,758	1,991,046	2,216,725	2,701,665	3,661,110
school diploma or less (jobs)							
By education level - All sectors - Masters		157,445	175,142	227,123	258,114	318,631	434,938
or professional degree (jobs)							
By education level - Biomass sector -		15,552	16,889	19,994	22,250	26,445	49,645
Associates degree or some college (jobs)							
By education level - Biomass sector -		14,138	15,252	17,355	20,555	25,986	49,050
Bachelors degree (jobs)							
By education level - Biomass sector -		685	770	905	1,198	1,633	3,096
Doctoral degree (jobs)							
By education level - Biomass sector - High		47,358	52,271	59,779	55,811	55,334	96,306
school diploma or less (jobs)							
By education level - Biomass sector -		3,886	4,287	4,946	5,961	7,609	14,274
Masters or professional degree (jobs)							
By education level - CO2 sector -		0	0.004	0.003	0.004	0.006	0.003
Associates degree or some college (jobs)							
By education level - CO2 sector -		0	0.004	0.003	0.004	0.006	0.003
Bachelors degree (jobs)							

Table 48: E+RE+ scenario - IMPACTS - Jobs (continued)

By education level - CO2 sector - Doctoral degree (jobs)         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	045 209 0 0 0.00 007 0.00 001 0.0 312 1,99
degree (jobs)         0.001         0.005         0.004         0.006         0.00           school diploma or less (jobs)         0.001         0.005         0.004         0.006         0.00           By education level - CO2 sector - Masters or professional degree (jobs)         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.0	007 0.00 001 0.0 312 1,99
By education level - CO2 sector - High school diploma or less (jobs)         0.001         0.005         0.004         0.006         0.005           By education level - CO2 sector - Masters or professional degree (jobs)         0         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001	001 0.0 312 1,9
school diploma or less (jobs)  By education level - CO2 sector - Masters or professional degree (jobs)  By education level - Coal sector - 22,915 6,176 2,967 2,570 2,  Associates degree or some college (jobs)  By education level - Coal sector - 14,923 3,797 1,687 1,511 1,44	001 0.0 312 1,9
By education level - CO2 sector - Masters 0 0.001 0.001 0.001 0.001 or professional degree (jobs)  By education level - Coal sector - 22,915 6,176 2,967 2,570 2, Associates degree or some college (jobs)  By education level - Coal sector - 14,923 3,797 1,687 1,511 1,4 Bachelors degree (jobs)	312 1,93
or professional degree (jobs)  By education level - Coal sector - Associates degree or some college (jobs)  By education level - Coal sector - Bachelors degree (jobs)  14,923  3,797  1,687  1,511  1,4	312 1,93
By education level - Coal sector - Associates degree or some college (jobs)  By education level - Coal sector - Bachelors degree (jobs)  22,915  6,176  2,967  2,570  2,  14,923  3,797  1,687  1,511  1,4	
Associates degree or some college (jobs)  By education level - Coal sector - 14,923 3,797 1,687 1,511 1,4  Bachelors degree (jobs)	
By education level - Coal sector - 14,923 3,797 1,687 1,511 1,4 Bachelors degree (jobs)	1,20
Bachelors degree (jobs)	1,21
	I
By adjusting level Cool spoton Doctoral	5.9 40
By education level - Coal sector - Doctoral 540 139 51.4 47.7 4 degree (jobs)	5.9 40
	3,50
school diploma or less (jobs)	,00 3,30
	311 2
or professional degree (jobs)	311
By education level - Grid sector - 191,619 259,230 444,808 596,108 824,	718 1,195,85
Associates degree or some college (jobs)	1,170,0
By education level - Grid sector - 109,809 147,584 251,609 335,059 460,	670 663,8
Bachelors degree (jobs)	000,0
By education level - Grid sector - Doctoral 3,166 4,183 7,012 9,180 12,4	<u>+09 17,58</u>
degree (jobs)	11,50
By education level - Grid sector - High 245,031 333,160 574,535 773,813 1,075,9	909 1,567,7
school diploma or less (jobs)	1,001,1
By education level - Grid sector - Masters 27,631 37,021 62,921 83,535 114,5	08 164,53
or professional degree (jobs)	10 1,00
By education level - Natural gas sector - 173,454 138,732 102,315 85,093 58,5	524 45,7
Associates degree or some college (jobs)	,24   40,1
By education level - Natural gas sector - 120,841 94,837 68,163 54,426 35,8	365 26,0
Bachelors degree (jobs)	20,0
	,141 78
Doctoral degree (jobs)	
	931 51,28
High school diploma or less (jobs)	
	767 6,40
Masters or professional degree (jobs)	
	957 1,1
Associates degree or some college (jobs)	
	238 1,1
Bachelors degree (jobs)	
By education level - Nuclear sector - 646 615 452 307	181 50
Doctoral degree (jobs)	
By education level - Nuclear sector - High 16,926 16,282 12,115 8,305 4,9	964 1,40
school diploma or less (jobs)	
By education level - Nuclear sector - 3,990 3,812 2,817 1,919 1,	139 33
Masters or professional degree (jobs)	
By education level - Oil sector - Associates 205,534 180,474 151,993 103,553 64,	672 10,46
degree or some college (jobs)	
By education level - Oil sector - Bachelors 212,005 183,408 152,219 101,861 62,5	544 10,1
degree (jobs)	
By education level - Oil sector - Doctoral 6,849 5,963 4,985 3,354 2,0	073 3
degree (jobs)	
By education level - Oil sector - High 317,683 280,308 237,011 162,536 102,0	16,3
school diploma or less (jobs)	
	932 2,2
professional degree (jobs)	
By education level - Solar PV sector - 199,096 287,606 435,512 467,266 589,6	662 824,3
Associates degree or some college (jobs)	
By education level - Solar PV sector - 116,255 169,874 259,498 279,991 356,	591 502,9
Bachelors degree (jobs)	

Table 48: E+RE+ scenario - IMPACTS - Jobs (continued)

Item	2020	2025	2030	2035	2040	2045	2050
By education level - Solar PV sector -		3,596	5,264	8,256	9,557	12,503	18,225
Doctoral degree (jobs)							
By education level - Solar PV sector - High		279,619	400,826	601,954	639,042	798,578	1,104,496
school diploma or less (jobs)  By education level - Solar PV sector -		24,804	36,432	56,429	62,798	81,195	116,575
Masters or professional degree (jobs)		24,804	30,432	36,429	02,198	61,195	116,575
By education level - Wind sector -		101,421	174,762	295,578	380,766	489,116	684,955
Associates degree or some college (jobs)		101,421	114,102	273,310	300,100	407,110	004,733
By education level - Wind sector -		68,289	119,349	204,494	270,085	354,280	502,298
Bachelors degree (jobs)		00,207	117,017	20 1, 17 1	210,000	00 1,200	002,270
By education level - Wind sector -		2,569	4,664	8,198	11,971	16,666	23,922
Doctoral degree (jobs)		,	,		•	-,	
By education level - Wind sector - High		131,912	224,599	375,743	471,570	592,611	819,947
school diploma or less (jobs)							
By education level - Wind sector - Masters		15,806	28,118	48,799	67,482	91,169	130,304
or professional degree (jobs)							
By resource sector - Biomass (jobs)		81,618	89,469	102,980	105,776	117,006	212,370
By resource sector - CO2 (jobs)		0.001	0.013	0.011	0.016	0.02	0.012
By resource sector - Coal (jobs)		74,788	20,480	10,819	9,345	8,380	6,937
By resource sector - Grid (jobs)		577,256	781,177	1,340,885	1,797,695	2,488,215	3,609,601
By resource sector - Natural Gas (jobs)		540,072	429,685	313,458	255,339	172,228	130,289
By resource sector - Nuclear (jobs)		49,936	47,897	35,536	24,295	14,480	4,078
By resource sector - Oil (jobs)		790,152	691,583	580,471	394,105	245,253	39,559
By resource sector - Solar (jobs)		623,369	900,002	1,361,648	1,458,654	1,838,529	2,566,564
By resource sector - Wind (jobs)		319,998	551,492	932,812	1,201,874	1,543,842	2,161,427
Median wages - Annual - Biomass (\$2019		51,709	53,024	54,711	58,635	62,473	64,124
per job)							
Median wages - Annual - CO2 (\$2019 per		70,992	72,624	74,331	76,115	77,980	79,929
job)							
Median wages - Annual - Coal (\$2019 per		60,299	59,831	55,635	56,518	57,460	58,461
job)							
Median wages - Annual - Grid (\$2019 per		62,539	63,375	64,248	65,159	66,110	67,102
job)							
Median wages - Annual - Natural Gas		66,255	67,149	67,918	68,399	68,816	68,665
(\$2019 per job)							
Median wages - Annual - Nuclear (\$2019		71,486	73,188	74,974	76,846	78,808	80,864
per job)							
Median wages - Annual - Oil (\$2019 per		65,834	66,727	67,655	68,473	69,353	70,884
job)							
Median wages - Annual - Solar (\$2019 per		55,327	56,038	56,875	57,941	58,924	60,009
job)							
Median wages - Annual - Wind (\$2019 per		58,021	59,082	60,123	61,956	63,600	64,825
job)							
On-Site or In-Plant Training - Biomass		8,227	9,032	10,798	11,784	13,705	25,340
sector - 1 to 4 years (jobs)							
On-Site or In-Plant Training - Biomass		2,556	2,763	3,401	3,988	4,919	9,426
sector - 4 to 10 years (jobs)							
On-Site or In-Plant Training - Biomass		13,142	14,575	17,029	18,260	20,980	37,999
sector - None (jobs)							
On-Site or In-Plant Training - Biomass		572	605	679	668	712	1,355
sector - Over 10 years (jobs)							
On-Site or In-Plant Training - Biomass		57,121	62,494	71,072	71,076	76,689	138,249
sector - Up to 1 year (jobs)							
On-Site or In-Plant Training - CO2 sector -		0	0.002	0.002	0.002	0.003	0.002
1 to 4 years (jobs)							
On-Site or In-Plant Training - CO2 sector -		0	0.001	0.001	0.001	0.001	0.001
4 to 10 years (jobs)		_					
On-Site or In-Plant Training - CO2 sector -		0	0.002	0.002	0.003	0.003	0.002
None (jobs)				_		_	_
Un Urta an In Diant Training 000 seaton					^		0
On-Site or In-Plant Training - CO2 sector - Over 10 years (jobs)		0	0	0	0	0	0

Table 48: E+RE+ scenario - IMPACTS - Jobs (continued)

Table 48: E+RE+ scenario - IMPACTS - Jobs (	continue	uj					
Item	2020	2025	2030	2035	2040	2045	2050
On-Site or In-Plant Training - CO2 sector -		0.001	0.008	0.007	0.01	0.012	0.007
Up to 1 year (jobs)							
On-Site or In-Plant Training - Coal sector -		11,633	3,188	1,585	1,363	1,217	1,005
1 to 4 years (jobs)			,	·		,	
On-Site or In-Plant Training - Coal sector -		4,427	1,140	427	366	326	268
4 to 10 years (jobs)		.,	.,0		000	020	
On-Site or In-Plant Training - Coal sector -		10,986	2,917	1,406	1,239	1,134	957
None (jobs)		10,700	2,711	1,400	1,207	1,104	/51
On-Site or In-Plant Training - Coal sector -		532	135	47	41.4	38	32.2
-		552	135	47	41.4	36	32.2
Over 10 years (jobs)		17.010	10.101	7.057	, , , , ,	F / / F	, , , , ,
On-Site or In-Plant Training - Coal sector -		47,210	13,101	7,354	6,336	5,665	4,674
Up to 1 year (jobs)							
On-Site or In-Plant Training - Grid sector -		99,703	135,096	232,175	311,640	431,837	627,144
1 to 4 years (jobs)							
On-Site or In-Plant Training - Grid sector -		43,788	59,319	101,921	136,772	189,475	275,097
4 to 10 years (jobs)							
On-Site or In-Plant Training - Grid sector -		87,906	118,694	203,289	271,956	375,618	543,762
None (jobs)		-,	-,-		,	,-	,
On-Site or In-Plant Training - Grid sector -		5,676	7,685	13,196	17,697	24,502	35,551
Over 10 years (jobs)		3,010	1,000	10,170	11,071	24,002	00,001
On-Site or In-Plant Training - Grid sector -		340,182	460,384	790,303	1,059,630	1,466,784	2,128,047
		340,182	460,384	190,303	1,059,630	1,466,764	2,128,047
Up to 1 year (jobs)		21.222					22.12.1
On-Site or In-Plant Training - Natural gas		91,008	72,717	53,365	43,919	29,964	23,136
sector - 1 to 4 years (jobs)							
On-Site or In-Plant Training - Natural gas		40,405	32,509	24,091	20,136	13,945	11,033
sector - 4 to 10 years (jobs)							
On-Site or In-Plant Training - Natural gas		85,997	68,068	49,491	40,303	27,179	20,634
sector - None (jobs)							
On-Site or In-Plant Training - Natural gas		4,794	3,885	2,913	2,474	1,732	1,384
sector - Over 10 years (jobs)		.,	0,000	_,,	_,	.,. 0_	.,
On-Site or In-Plant Training - Natural gas		317,869	252,506	183,598	148,507	99,407	74,103
sector - Up to 1 year (jobs)		311,009	232,300	103,370	140,501	77,401	14,103
On-Site or In-Plant Training - Nuclear		72/0	7,076	E OE/	3,598	2,147	605
		7,369	7,076	5,256	3,598	2,147	605
sector - 1 to 4 years (jobs)							
On-Site or In-Plant Training - Nuclear		2,667	2,560	1,901	1,301	776	219
sector - 4 to 10 years (jobs)							
On-Site or In-Plant Training - Nuclear		8,938	8,565	6,348	4,336	2,582	727
sector - None (jobs)							
On-Site or In-Plant Training - Nuclear		250	240	178	122	72.4	20.4
sector - Over 10 years (jobs)							
On-Site or In-Plant Training - Nuclear		30,712	29,456	21,852	14,938	8,903	2,507
sector - Up to 1 year (jobs)		00,1.12	27, 100	21,002	1 1,700	0,700	2,001
On-Site or In-Plant Training - Oil sector - 1		116,435	102,317	86,241	58,766	36,712	5,954
		110,433	102,311	00,241	30,100	30,112	5,954
to 4 years (jobs)		/1.055	04.004	00.000	01.17/	10.000	0.157
On-Site or In-Plant Training - Oil sector -		41,055	36,334	30,828	21,174	13,322	2,156
4 to 10 years (jobs)							
On-Site or In-Plant Training - Oil sector -		127,228	110,514	92,040	61,993	38,270	6,123
None (jobs)							
On-Site or In-Plant Training - Oil sector -		4,547	4,098	3,539	2,472	1,580	261
Over 10 years (jobs)							
On-Site or In-Plant Training - Oil sector -		500,887	438,320	367,823	249,700	155,369	25,065
Up to 1 year (jobs)		000,001	100,020	00.,020	217,100	100,007	20,000
On-Site or In-Plant Training - Solar PV		100,025	143,715	216,807	232,302	291,908	406,416
sector - 1 to 4 years (jobs)		100,023	140,110	210,001	202,002	271,700	400,410
		05.015	10077	75 / 00	00 / 0/	105 110	1/7501
On-Site or In-Plant Training - Solar PV		35,315	49,977	75,490	83,404	105,119	147,501
sector - 4 to 10 years (jobs)							
On-Site or In-Plant Training - Solar PV		106,536	154,101	233,551	250,640	316,508	442,691
sector - None (jobs)							
					44 400	44 40-	00 / 0 /
On-Site or In-Plant Training - Solar PV		4,979	7,145	10,791	11,628	14,635	20,426

Table 48: E+RE+ scenario - IMPACTS - Jobs (continued)

District or In-Plant Training - Solar PV   376,514   545,064   825,009   880,680   1,110,360   1,549;   sector - Up to I year (jobs)   District or In-Plant Training - Total jobs - 1   484,678   559,607   752,069   851,450   1,048,770   1,426;   10 (1) years (jobs)   District or In-Plant Training - Total jobs - 4   187,730   215,098   289,739   337,916   421,771   576,   10 (1) years (jobs)   District or In-Plant Training - Total jobs - 4   496,271   573,379   765,795   859,173   1,053,568   1,433,   1,433,   1,434,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,   1,435,	Table 48: E+RE+ scenario - IMPACIS - Job		,					
Sector - Up to I year (jobs)   On-Site or In-Plant Training - Total jobs - 1		2020	2025	2030	2035	2040	2045	2050
Dn-Site or In-Plant Training - Total jobs - 1			376,514	545,064	825,009	880,680	1,110,360	1,549,529
to 4 years (jobs) On-Site or In-Plant Training - Total jobs - 4 to 10 years (jobs) On-Site or In-Plant Training - Total jobs - 4 to 10 years (jobs) On-Site or In-Plant Training - Total jobs - 4 to 10 years (jobs) On-Site or In-Plant Training - Total jobs - 2 23,913 28,218 38,829 44,899 55,961 76 76 7000000000000000000000000000000								
Dn-Site or In-Plant Training - Total jobs - 4 to 10 years (jobs)			484,678	559,607	752,069	851,450	1,048,770	1,426,206
To 10 years (jobs)								
Dn-Site or In-Plant Training - Total jobs - None (jobs)   23,913   28,218   38,829   44,899   55,961   76   76   76   76   76   76   76	• •		187,730	215,098	289,739	337,916	421,771	576,579
None (jobs)   Con-Site or In-Plant Training - Total jobs -   Cover 10 years (jobs)   Con-Site or In-Plant Training - Total jobs -   Cover 10 years (jobs)   Con-Site or In-Plant Training - Total jobs -   Cover 10 years (jobs)   Con-Site or In-Plant Training - Wind sector   Cover 10 years (jobs)   Con-Site or In-Plant Training - Wind sector   Cover 10 years (jobs)   Con-Site or In-Plant Training - Wind sector   Cover 10 years (jobs)   Con-Site or In-Plant Training - Wind sector   Cover 10 years (jobs)   Con-Site or In-Plant Training - Wind sector   Cover 10 years (jobs)   Con-Site or In-Plant Training - Wind sector   Cover 10 years (jobs)   Con-Site or In-Plant Training - Wind sector   Cover 10 years (jobs)   Con-Site or In-Plant Training - Wind sector   Cover 10 years (jobs)   Con-Site or In-Plant Training - Wind sector   Cover 10 years (jobs)   Con-Site or In-Plant Training - Wind sector   Cover 10 years (jobs)   Con-Site or In-Plant Training - Wind sector   Cover 10 years (jobs)   Con-Site or In-Plant Training - Wind sector   Cover 10 years (jobs)   Con-He-Job Training - All sectors - 1 to 4   Cover (jobs)   Con-He-Job Training - All sectors - 4 to 10   Cover (jobs)   Con-He-Job Training - All sectors - 4 to 10   Cover (jobs)   Con-He-Job Training - All sectors - Over 10   Cover (jobs)   Con-He-Job Training - All sectors - Over 10   Cover (jobs)   Con-He-Job Training - Biomass sector - 1   Cover (jobs)   Con-He-Job Training - Biomass sector - 1   Cover (jobs)   Con-He-Job Training - Biomass sector - 1   Cover (jobs)   Con-He-Job Training - Biomass sector - 1   Cover (jobs)   Con-He-Job Training - Biomass sector - 1   Cover (jobs)   Con-He-Job Training - Biomass sector - 1   Cover (jobs)   Con-He-Job Training - Biomass sector - 1   Cover (jobs)   Con-He-Job Training - Biomass sector - 1   Cover (jobs)   Con-He-Job Training - Biomass sector - 1   Cover (jobs)   Con-He-Job Training - Cover (jobs)   Con								
On-Site or In-Plant Training - Total jobs - Over 10 years (jobs)			496,271	573,379	765,795	859,173	1,053,568	1,433,509
Over 10 years (jobs)								
Dn-Site or In-Plant Training - Notal jobs - Up to 1 year (jobs)   Dn-Site or In-Plant Training - Wind sector - 1 to 1 year (jobs)   Solution - 1 to 1 years (jobs)   Solution - 1 to 2 years (jobs)   Solution - 1 to 4 years (jobs)   So			23,913	28,218	38,829	44,899	55,961	76,771
Up to 1 year (jobs)								
On-Site or In-Plant Training - Wind sector			1,864,597	2,135,484	2,832,177	3,153,645	3,847,864	5,217,758
-1 to 4 years [jobs] On-Site or In-Plant Training - Wind sector -4 to 10 years [jobs] On-Site or In-Plant Training - Wind sector - None [jobs] On-Site or In-Plant Training - Wind sector - None [jobs] On-Site or In-Plant Training - Wind sector - Over 10 years [jobs] On-Site or In-Plant Training - Wind sector - Over 10 years [jobs] On-Site or In-Plant Training - Wind sector - Over 10 years [jobs] On-Site or In-Plant Training - Wind sector - Up to 1 year [jobs] On-Site or In-Plant Training - Wind sector - Up to 1 year [jobs] On-the-Job Training - All sectors - 1 to 4 - Up to 1 year [jobs] On-the-Job Training - All sectors - 4 to 10 - years [jobs] On-the-Job Training - All sectors - None - In-Plant Training - Wind sector - Up to 1 year [jobs] On-the-Job Training - All sectors - Up to 1 - Years [jobs] On-the-Job Training - All sectors - Up to 1 - Years [jobs] On-the-Job Training - All sectors - Up to 1 - Years [jobs] On-the-Job Training - Biomass sector - 1 - Up 4 years [jobs] On-the-Job Training - Biomass sector - 1 - Up 4 years [jobs] On-the-Job Training - Biomass sector - 4 - Up 4 years [jobs] On-the-Job Training - Biomass sector - 5,066 - S,387 - S,981 - S,981 - S,988 - S,								
Dn-Site or In-Plant Training - Wind sector			50,279	86,466	145,842	188,079	241,280	336,605
- 4 to 10 years (jobs) On-Site or In-Plant Training - Wind sector - None (jobs) On-Site or In-Plant Training - Wind sector - Over 10 years (jobs) On-Site or In-Plant Training - Wind sector - Up to 1 year (jobs) On-Site or In-Plant Training - Wind sector - Up to 1 year (jobs) On-Site or In-Plant Training - Wind sector - Up to 1 year (jobs) On-Site or In-Plant Training - Wind sector - Up to 1 year (jobs) On-Site or In-Plant Training - Wind sector - Up to 1 year (jobs) On-Site or In-Plant Training - Wind sector - Up to 1 year (jobs) On-Site or In-Plant Training - Wind sector - Up to 1 year (jobs) On-Site or In-Plant Training - Wind sector - Up to 1 year (jobs) On-Site or In-Plant Training - Wind sector - Up to 1 year (jobs) On-Site or In-Plant Training - Wind sector - Up to 1 year (jobs) On-Site or In-Plant Training - Wind sector - Up to 1 year (jobs) On-Site or In-Plant Training - Wind sector - Ver 10 years (jobs) On-Site or In-Plant Training - Wind sector - Ver 10 years (jobs) On-Site or In-Plant Training - Wind sector - Ver 10 years (jobs) On-Site or In-Plant Training - Wind sector - Ver 10 years (jobs) On-Site or In-Plant Training - Wind sector - Ver 10 years (jobs) On-Site or In-Plant Training - Wind sector - Ver 10 years (jobs) On-Site or In-Plant Training - Wind sector - Ver 10 years (jobs) On-Site or In-Plant Training - Wind sector - Ver 10 years (jobs) On-Site or In-Plant Training - Wind sector - Ver 10 years (jobs) On-Site or In-Plant Training - Wind sector - Ver 10 years (jobs) On-Site or In-Plant Training - CO2 sector - Ver 10 On-Site or In-Plant Training - CO2 sector - Ver 10 On-Site or In-Plant Training - CO2 sector - Ver 10 On-Site or In-Plant Training - CO2 sector - Ver 10 On-Site - Ver 10								
On-Site or In-Plant Training - Wind sector			17,516	30,496	51,680	70,775	93,888	130,879
None (jobs   On-Site or In-Plant Training - Wind sector   2,563   4,426   7,487   9,797   12,690   17,	- 4 to 10 years (jobs)							
On-Site or In-Plant Training - Wind sector	On-Site or In-Plant Training - Wind sector		55,538	95,944	162,639	210,445	271,296	380,616
Over 10 years (jobs)								
On-Site or In-Plant Training - Wind sector	On-Site or In-Plant Training - Wind sector		2,563	4,426	7,487	9,797	12,690	17,742
- Up to 1 year (jobs) On-the-Job Training - All sectors - 1 to 4 years (jobs) On-the-Job Training - All sectors - 4 to 10 years (jobs) On-the-Job Training - All sectors - 4 to 10 years (jobs) On-the-Job Training - All sectors - None (jobs) On-the-Job Training - All sectors - None (jobs) On-the-Job Training - All sectors - Over 10 On-the-Job Training - All sectors - Up to 1 years (jobs) On-the-Job Training - Biomass sector - 1 to 4 years (jobs) On-the-Job Training - Biomass sector - 4 to 10 years (jobs) On-the-Job Training - Biomass sector - 5,066 On-the-Job Training - CO2 sector - 1 to 4 On-the-Job Training - CO2 sector - 1 to 4 On-the-Job Training - CO2 sector - 1 to 0 On-the-Job Training - CO2 sector - 1 to 0 On-the-Job Training - CO2 sector - 1 to 0 On-the-Job Training - CO2 sector - 1 to 0 On-the-Job Training - CO2 sector - 1 to 0 On-the-Job Training - CO2 sector - 1 to 0 On-the-Job Training - CO2 sector - 1 to 0 On-the-Job Training - CO2 sector - 1 to 0 On-the-Job Training - CO2 sector - 1 to 0 On-the-Job Training - CO2 sector - 1 to 0 On-the-Job Training - CO2 sector - 1 to 0 On-the-Job Training - CO2 sector - 1 to 0 On-the-Job Training - CO2 sector - 1 to 0 On-the-Job Training - CO2 sector - 1 to 0 On-the-Job Training - CO2 sector - 1 to 0 On-the-Job Training - CO2 sector - 1 to 0 On-the-Job Training - CO2 sector - 1 to 0 On-the-Job Training - CO2 sector - 1 to 0 On-the-Job Training - C								
On-the-Job Training - All sectors - 1 to 4   618,296   714,244   961,804   1,093,576   1,350,249   1,838, years (jobs)   On-the-Job Training - All sectors - 4 to 10   176,961   205,039   280,398   331,116   416,603   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600   572,600	On-Site or In-Plant Training - Wind sector		194,101	334,160	565,164	722,779	924,688	1,295,584
vears (jobs)         0n-the-Job Training - All sectors - 4 to 10         176,961         205,039         280,398         331,116         416,603         572,00           vears (jobs)         0n-the-Job Training - All sectors - None (jobs)         169,235         192,437         253,227         282,712         345,779         470, 470, 470, 470, 470, 470, 470, 470,								
On-the-Job Training - All sectors - 4 to 10   176,961   205,039   280,398   331,116   416,603   572,1   years (jobs)   On-the-Job Training - All sectors - None (jobs)   169,235   192,437   253,227   282,712   345,779   470, (jobs)   On-the-Job Training - All sectors - Over 10   30,947   36,394   48,635   53,200   64,096   85, years (jobs)   On-the-Job Training - All sectors - Up to 1   year (jobs)   On-the-Job Training - Biomass sector - 1   8,979   9,877   12,031   13,677   16,440   30, to 4 years (jobs)   On-the-Job Training - Biomass sector - 4   2,054   2,258   2,913   3,534   4,432   8,4   10 (years (jobs)   On-the-Job Training - Biomass sector - 5,066   5,387   5,981   6,164   6,923   12,8   10 (years (jobs)   On-the-Job Training - Biomass sector - 586   619   708   722   796   1,0   708   722   796   1,0   708   722   796   1,0   708   722   796   1,0   708   728   728   708   728   728   738   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   748   7	On-the-Job Training - All sectors - 1 to 4		618,296	714,244	961,804	1,093,576	1,350,249	1,838,355
Vears (jobs)	years (jobs)							
Vears (jobs)			176,961	205,039	280,398	331,116	416,603	572,624
On-the-Job Training - All sectors - None   169,235   192,437   253,227   282,712   345,779   470,   (jobs)   On-the-Job Training - All sectors - Over 10   30,947   36,394   48,635   53,200   64,096   85,   vears (jobs)   On-the-Job Training - All sectors - Up to 1   2,061,750   2,363,671   3,134,544   3,486,479   4,251,206   5,763;   vear (jobs)   On-the-Job Training - Biomass sector - 1   8,979   9,877   12,031   13,677   16,440   30;   to 4 years (jobs)   On-the-Job Training - Biomass sector - 4   2,054   2,258   2,913   3,534   4,432   8,4   to 10 years (jobs)   On-the-Job Training - Biomass sector - 5,066   5,387   5,981   6,164   6,923   12,8   (10,948)   On-the-Job Training - Biomass sector - Up   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,000   0,0	years (jobs)							
Comparison   Com			169,235	192,437	253,227	282,712	345,779	470,199
On-the-Job Training - All sectors - Over 10 years (jobs)         30,947         36,394         48,635         53,200         64,096         85, years (jobs)           On-the-Job Training - All sectors - Up to 1 year (jobs)         2,061,750         2,363,671         3,134,544         3,486,479         4,251,206         5,763,763,763,763,7763,7763,7763,7763,77			,	,			,	
Vears (jobs)			30,947	36,394	48,635	53,200	64,096	85,918
On-the-Job Training - All sectors - Up to 1 year (jobs)	=		,	,			,	
year (jobs)         8,979         9,877         12,031         13,677         16,440         30,70           to 4 years (jobs)         0n-the-Job Training - Biomass sector - 4         2,054         2,258         2,913         3,534         4,432         8,67           On-the-Job Training - Biomass sector - None (jobs)         5,066         5,387         5,981         6,164         6,923         12,87           On-the-Job Training - Biomass sector - Over 10 years (jobs)         586         619         708         722         796         1,70           On-the-Job Training - Biomass sector - Up to 10 years (jobs)         64,933         71,327         81,346         81,677         88,415         158,415           On-the-Job Training - C02 sector - 1 to 4 years (jobs)         0         0.002         0.002         0.003         0.004         0.00           On-the-Job Training - C02 sector - 4 to 10 years (jobs)         0         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.00			2.061.750	2,363,671	3.134.544	3.486.479	4.251.206	5,763,728
On-the-Job Training - Biomass sector - 1 to 4 years (jobs)         8,979         9,877         12,031         13,677         16,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,440         30, 10,44			, ,	,,-	_, _ ,-	_,,	, -,	
to 4 years (jobs)         2,054         2,258         2,913         3,534         4,432         8,4 to 10 years (jobs)           On-the-Job Training - Biomass sector - None (jobs)         5,066         5,387         5,981         6,164         6,923         12,8 to 10,924         7,981         1,981         1,982         7,981         1,982         1,992         1,992         7,981         1,982         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992         1,992 <td></td> <td></td> <td>8.979</td> <td>9,877</td> <td>12.031</td> <td>13.677</td> <td>16,440</td> <td>30,702</td>			8.979	9,877	12.031	13.677	16,440	30,702
On-the-Job Training - Biomass sector - 4 to 10 years (jobs)         2,054         2,258         2,913         3,534         4,432         8,4 to 10 years (jobs)           On-the-Job Training - Biomass sector - None (jobs)         5,066         5,387         5,981         6,164         6,923         12,8 to 12,8				.,	,	,	10,110	
to 10 years (jobs)         5,066         5,387         5,981         6,164         6,923         12,8           None (jobs)         5,066         5,387         5,981         6,164         6,923         12,8           On-the-Job Training - Biomass sector - Over 10 years (jobs)         586         619         708         722         796         1,           On-the-Job Training - Biomass sector - Up to 1 years (jobs)         64,933         71,327         81,346         81,677         88,415         158,           On-the-Job Training - C02 sector - 1 to 4 years (jobs)         0         0.002         0.002         0.003         0.004         0.0           On-the-Job Training - C02 sector - 4 to 10 years (jobs)         0         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001 <t< td=""><td></td><td></td><td>2.054</td><td>2.258</td><td>2,913</td><td>3,534</td><td>4,432</td><td>8,465</td></t<>			2.054	2.258	2,913	3,534	4,432	8,465
On-the-Job Training - Biomass sector - None (jobs)         5,066         5,387         5,981         6,164         6,923         12,8           On-the-Job Training - Biomass sector - Over 10 years (jobs)         586         619         708         722         796         1,0           On-the-Job Training - Biomass sector - Up to 1 year (jobs)         64,933         71,327         81,346         81,677         88,415         158,7           On-the-Job Training - C02 sector - 1 to 4 years (jobs)         0         0.002         0.002         0.003         0.004         0.0           On-the-Job Training - C02 sector - 4 to 10 years (jobs)         0         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001			_,00.	_,	_,,	0,00	., .==	0,100
None (jobs)         586         619         708         722         796         1, 0ver 10 years (jobs)           On-the-Job Training - Biomass sector - Up to 1 year (jobs)         64,933         71,327         81,346         81,677         88,415         158,7 to 1 year (jobs)           On-the-Job Training - C02 sector - 1 to 4 years (jobs)         0         0.002         0.002         0.003         0.004         0.00 years (jobs)           On-the-Job Training - C02 sector - 4 to 10 years (jobs)         0         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.0			5.066	5 387	5 981	6 164	6 923	12,884
On-the-Job Training - Biomass sector - Over 10 years (jobs)         586         619         708         722         796         1, 0ver 10 years (jobs)           On-the-Job Training - Biomass sector - Up to 1 year (jobs)         64,933         71,327         81,346         81,677         88,415         158, 158, 158, 158, 158, 158, 158, 158,	_		0,000	0,001	0,701	0,10 1	0,720	12,00
Over 10 years (jobs)         64,933         71,327         81,346         81,677         88,415         158,7           to 1 year (jobs)         0         0.002         0.002         0.003         0.004         0.0           On-the-Job Training - C02 sector - 1 to 4 years (jobs)         0         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001<			586	619	708	722	796	1,521
On-the-Job Training - Biomass sector - Up to 1 year (jobs)         64,933         71,327         81,346         81,677         88,415         158, 158, 158, 158, 158, 158, 158, 158,			000	017	100	122	170	1,021
to 1 year (jobs)  On-the-Job Training - CO2 sector - 1 to 4 years (jobs)  On-the-Job Training - CO2 sector - 4 to 10 years (jobs)  On-the-Job Training - CO2 sector - None (jobs)  On-the-Job Training - CO2 sector - Over 10 years (jobs)  On-the-Job Training - CO2 sector - Over 10 years (jobs)  On-the-Job Training - CO2 sector - Up to 1 year (jobs)			6/, 933	71 327	813/.6	81 677	88 /15	158,798
On-the-Job Training - CO2 sector - 1 to 4 years (jobs)         0         0.002         0.002         0.003         0.004         0.004 years (jobs)           On-the-Job Training - CO2 sector - 4 to 10 years (jobs)         0         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001			04,733	11,021	01,540	01,011	00,413	130,170
years (jobs)         0n-the-Job Training - CO2 sector - 4 to 10 years (jobs)         0 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.00			0	0.002	0.002	0.003	0.00%	0.002
On-the-Job Training - CO2 sector - 4 to 10 years (jobs)         0         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001 <th< td=""><td></td><td></td><td></td><td>0.002</td><td>0.002</td><td>0.003</td><td>0.004</td><td>0.002</td></th<>				0.002	0.002	0.003	0.004	0.002
years (jobs)         0         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001			0	0.001	0.001	0.001	0.001	0.001
On-the-Job Training - CO2 sector - None (jobs)         0         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001         0.001 <td>9</td> <td></td> <td>  "</td> <td>0.001</td> <td>0.001</td> <td>0.001</td> <td>0.001</td> <td>0.001</td>	9		"	0.001	0.001	0.001	0.001	0.001
(jobs)     0n-the-Job Training - CO2 sector - Over     0     0     0     0     0       10 years (jobs)     0n-the-Job Training - CO2 sector - Up to 1 year (jobs)     0.001     0.009     0.008     0.011     0.014     0.009			0	0.001	0.001	0.001	0.001	0.001
On-the-Job Training - CO2 sector - Over         0         0         0         0         0           10 years (jobs)         0.001         0.009         0.008         0.011         0.014         0.0           year (jobs)         0.001         0.009         0.008         0.011         0.014         0.0	=		"	0.001	0.001	0.001	0.001	0.001
10 years (jobs)						0		
On-the-Job Training - CO2 sector - Up to 1 0.001 0.009 0.008 0.011 0.014 0.009 0.008			U	U	U	U	U	0
year (jobs)			0.001	0.000	0.000	0.011	0.01/	0.000
			0.001	0.009	0.008	0.011	0.014	0.008
On-the-Joh Training - Coal sector - 1 to Δ                       Δ ΜΔ       1898       1635       1763			47.500		1.000		1110	1011
	_		14,738	4,014	1,898	1,635	1,463	1,211
years (jobs)								
			4,330	1,125	419	357	316	258
years (jobs)								
	4		3,704	973	503	441	401	336
(jobs)	9 ,							
			500	139	70	62.4	57.8	49.6
10 years (jobs)	10 years (jobs)							

Table 48: E+RE+ scenario - IMPACTS - Jobs (continued)

On-the-Job Training - Coal sector - Up to 1   51,515   14,229   7,928   6,850   6,142   5,08   vear (jobs)   On-the-Job Training - Grid sector - 1 to 4   129,672   175,615   301,662   404,707   560,517   813,61   vears (jobs)   On-the-Job Training - Grid sector - 4 to 10   44,070   59,739   102,707   137,912   191,172   277,725   vears (jobs)   On-the-Job Training - Grid sector - None   28,251   38,178   65,446   87,631   121,147   175,545   (jobs)   On-the-Job Training - Grid sector - Over   4,626   6,272   10,786   14,487   20,089   29,196   10 years (jobs)   On-the-Job Training - Grid sector - Up to 1   370,636   501,373   860,284   1,152,958   1,595,290   2,313,51   year (jobs)   On-the-Job Training - Natural gas sector - 110,4 years (jobs)   On-the-Job Training - Natural gas sector - 38,459   31,003   23,091   19,510   13,659   11,015   4 to 10 years (jobs)   On-the-Job Training - Natural gas sector - 28,179   22,136   15,903   12,710   8,434   6,25   None (jobs)   On-the-Job Training - Natural gas sector - 5,129   4,071   2,940   2,350   1,565   1,166   No-the-Job Training - Natural gas sector - 5,129   4,071   2,940   2,350   1,565   1,166   No-the-Job Training - Natural gas sector - 5,129   4,071   2,940   2,350   1,565   1,166   No-the-Job Training - Nuclear sector - 1 to 4 years (jobs)   On-the-Job Training - Nuclear sector - 1 to 4 years (jobs)   On-the-Job Training - Nuclear sector - 4   2,332   2,239   1,663   1,138   679   197   10 years (jobs)   On-the-Job Training - Nuclear sector - 520   499   371   254   152   42,8   150   10 years (jobs)   On-the-Job Training - Nuclear sector - 520   499   371   254   152   42,8   150   10 years (jobs)   On-the-Job Training - Nuclear sector - 10 years (jobs)   On-the-Job Training - Nuclear sector - 10 years (jobs)   On-the-Job Training - Nuclear sector - 10 years (jobs)   On-the-Job Training - Nuclear sector - 10 years (jobs)   On-the-Job Training - 10 years (jobs)   On-the-Job Training - 10 years (jobs)   On-the-Job Training - 10 years (jobs)   On-the-Job	Table 48: E+RE+ scenario - IMPACTS - Jobs	s (continue	-					
vear (jobs)		2020	2025	2030			2045	2050
Dn-the-Job Training - Grid sector - 1 to 4 years (jobs)   Dn-the-Job Training - Grid sector - 4 to 10 years (jobs)   Dn-the-Job Training - Grid sector - 4 to 10 years (jobs)   Dn-the-Job Training - Grid sector - 4 to 10 years (jobs)   Dn-the-Job Training - Grid sector - Over   Dn-the-Job Training - Grid sector - Over   Dn-the-Job Training - Grid sector - Over   Dn-the-Job Training - Grid sector - Up to 1   Sn-the-Job Training - Grid sector - Up to 1   Sn-the-Job Training - Grid sector - Up to 1   Sn-the-Job Training - Grid sector - Up to 1   Sn-the-Job Training - Natural gas sector - Up to 1   Sn-the-Job Training - Natural gas sector - Up to 1   Sn-the-Job Training - Natural gas sector - Up to 1   Sn-the-Job Training - Natural gas sector - Up to 1   Sn-the-Job Training - Natural gas sector - Up to 1   Sn-the-Job Training - Natural gas sector - Up to 1   Sn-the-Job Training - Natural gas sector - Up to 1   Sn-the-Job Training - Natural gas sector - Up to 1   Sn-the-Job Training - Natural gas sector - Up to 1   Sn-the-Job Training - Natural gas sector - Up to 1   Sn-the-Job Training - Natural gas sector - Up to 1   Sn-the-Job Training - Natural gas sector - Up to 1   Sn-the-Job Training - Natural gas sector - Up to 1   Sn-the-Job Training - Natural gas sector - Up to 1   Sn-the-Job Training - Natural gas sector - Up to 1   Sn-the-Job Training - Natural gas sector - Up to 1   Sn-the-Job Training - Nuclear sector - Up to 1   Sn-the-Job Training - Nuclear sector - Up to 1   Sn-the-Job Training - Nuclear sector - Up to 1   Sn-the-Job Training - Nuclear sector - Up   Sn-the-Job Training - Nuclear sector - Up   Sn-the-Job Training - Up to 1   Sn-the-Job Training - Up to 1			51,515	14,229	7,928	6,850	6,142	5,081
vears (jobs)								
Dn-the-Job Training - Grid sector - 4 to 10   44,070   59,739   102,707   137,912   191,172   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725   277,725			129,672	175,615	301,662	404,707	560,517	813,611
vears (jobs)								
Dn-the-Job Training - Grid sector - None (jobs)   Dn-the-Job Training - Grid sector - Over (Joyans (jobs)   Dn-the-Job Training - Grid sector - Over (Joyans (jobs)   Dn-the-Job Training - Grid sector - Up to 1 (Joyans (jobs)   Dn-the-Job Training - Grid sector - Up to 1 (Joyans (jobs)   Dn-the-Job Training - Natural gas sector - Ito 4 years (jobs)   Dn-the-Job Training - Natural gas sector - Ito 4 years (jobs)   Dn-the-Job Training - Natural gas sector - Ito 4 years (jobs)   Dn-the-Job Training - Natural gas sector - Ito 4 years (jobs)   Dn-the-Job Training - Natural gas sector - Ito 4 years (jobs)   Dn-the-Job Training - Natural gas sector - Ito 4 years (jobs)   Dn-the-Job Training - Natural gas sector - Ito 4 years (jobs)   Dn-the-Job Training - Natural gas sector - Ito 4 years (jobs)   Dn-the-Job Training - Natural gas sector - Ito 4 years (jobs)   Dn-the-Job Training - Natural gas sector - Ito 4 years (jobs)   Dn-the-Job Training - Natural gas sector - Ito 4 years (jobs)   Dn-the-Job Training - Natural gas sector - Ito 4 years (jobs)   Dn-the-Job Training - Natural gas sector - Ito 4 years (jobs)   Dn-the-Job Training - Natlear sector - Ito 4 years (jobs)   Dn-the-Job Training - Natlear sector - Ito 4 years (jobs)   Dn-the-Job Training - Natlear sector - Ito 4 years (jobs)   Dn-the-Job Training - Natlear sector - Ito 4 years (jobs)   Dn-the-Job Training - Natlear sector - Ito 4 years (jobs)   Dn-the-Job Training - Itolear sector - Itole - Itole - Itole - Itolear (jobs)   Dn-the-Job Training - Itolear sector - Itole - Itolear (jobs)   Dn-the-Job Training - Itolear sector - Itole - Itolear (jobs)   Dn-the-Job Training - Itolear Sector - Itolear (jobs)   Dn-the-Job Training - Itolear Sector - Itolear (jobs)   Dn-the-Job Training - Itolear Sector - Itolear - Itole	9		44,070	59,739	102,707	137,912	191,172	277,729
(jobs)   On-the-Job Training - Grid sector - Over   4,626   6,272   10,786   14,487   20,089   29,196   10 years (jobs)   On-the-Job Training - Grid sector - Up to 1 year (jobs)   370,636   501,373   860,284   1,152,958   1,595,290   2,313,51   year (jobs)   On-the-Job Training - Natural gas sector - 119,696   95,608   70,226   57,982   39,688   30,846   10 years (jobs)   On-the-Job Training - Natural gas sector - 28,179   22,136   15,903   12,710   8,434   6,25   None (jobs)   On-the-Job Training - Natural gas sector - 28,179   22,136   15,903   12,710   8,434   6,25   On-the-Job Training - Natural gas sector - 34,610   276,866   201,297   162,788   108,882   81,000   10 years (jobs)   On-the-Job Training - Natural gas sector - 10 years (jobs)   On-the-Job Training - Natural gas sector - 10 years (jobs)   On-the-Job Training - Natural gas sector - 10 years (jobs)   On-the-Job Training - Natural gas sector - 10 years (jobs)   On-the-Job Training - Natural gas sector - 10 years (jobs)   On-the-Job Training - Natural gas sector - 10 years (jobs)   On-the-Job Training - Nuclear sector - 10 years (jobs)   On-the-Job Training - Nuclear sector - 10 years (jobs)   On-the-Job Training - Nuclear sector - 10 years (jobs)   On-the-Job Training - Nuclear sector - 10 years (jobs)   On-the-Job Training - Nuclear sector - 10 years (jobs)   On-the-Job Training - Nuclear sector - 10 years (jobs)   On-the-Job Training - Nuclear sector - 10 years (jobs)   On-the-Job Training - 10 year (jobs)   On-the-Job Training - 10 years (jobs)   On-the-Job Training - 10								
On-the-Job Training - Grid sector - Over   4,626   6,272   10,786   14,487   20,089   29,196   10 years (jobs)   370,636   501,373   860,284   1,152,958   1,595,290   2,313,51 year (jobs)   70-the-Job Training - Natural gas sector - 119,696   95,608   70,226   57,982   39,688   30,846   110,4 years (jobs)   70-the-Job Training - Natural gas sector - 28,179   22,136   15,903   12,710   8,434   6,25   70,000   70-the-Job Training - Natural gas sector - 28,179   22,136   15,903   12,710   8,434   6,25   70,000   70-the-Job Training - Natural gas sector - 28,179   22,136   15,903   12,710   8,434   6,25   70-the-Job Training - Natural gas sector - 5,129   4,071   2,940   2,350   1,565   1,166   70-the-Job Training - Natural gas sector - 348,610   276,866   201,297   162,788   108,882   81,003   70-the-Job Training - Nuclear sector - 1 to 4 years (jobs)   70-the-Job Training - Nuclear sector - 1 to 4 years (jobs)   70-the-Job Training - Nuclear sector - 20,000   70-the-Job Training - Nuclear sector - 3,354   3,216   2,385   1,630   971   273   70-the-Job Training - Nuclear sector - 5,20   499   371   254   152   42,300   70-the-Job Training - Nuclear sector - 5,20   499   371   254   152   42,300   70-the-Job Training - Nuclear sector - 5,20   499   371   254   152   42,300   70-the-Job Training - Nuclear sector - 5,335   34,063   32,660   24,223   16,554   9,863   2,777   70-the-Job Training - Nuclear sector - 10 years (jobs)   70-the-Job Training - Nuclear sector - 10 years (jobs)   70-the-Job Training - 0il sector - 1 to 4   48,074   41,427   34,202   22,869   14,003   2,203   70-the-Job Training - 0il sector - 0 years (jobs)   77,14   6,774   5,705   3,886   2,427   397   70-the-Job Training - 0il sector - 0 years (jobs)   77,14   6,774   5,705   3,886   2,427   397   70-the-Job Training - 0il sector - 1 to 1   77,14   6,774   5,705   3,886   2,427   397   70-the-Job Training - 0il sector - 1   70-the-Job Training - 0il sector - 1   70-the-Job Training - 0il sector - 1   70-the-Job Training - 50lar PV sector -	=		28,251	38,178	65,446	87,631	121,147	175,548
10 years (jobs)	9 ,							
On-the-Job Training - Grid sector - Up to 1   370,636   501,373   860,284   1,152,958   1,595,290   2,313,51     year (jobs)   On-the-Job Training - Natural gas sector -   119,696   95,608   70,226   57,982   39,688   30,844     1 to 4 years (jobs)   On-the-Job Training - Natural gas sector -   38,459   31,003   23,091   19,510   13,659   11,015     4 to 10 years (jobs)   On-the-Job Training - Natural gas sector -   28,179   22,136   15,903   12,710   8,434   6,25     None (jobs)   On-the-Job Training - Natural gas sector -   5,129   4,071   2,940   2,350   1,565   1,166     On-the-Job Training - Natural gas sector -   348,610   276,866   201,297   162,788   108,882   81,003     Up to 1 years (jobs)   On-the-Job Training - Nuclear sector - 1 to   9,668   9,283   6,895   4,718   2,815   794     4 years (jobs)   On-the-Job Training - Nuclear sector - 4   2,332   2,239   1,663   1,138   679   197     to 10 years (jobs)   On-the-Job Training - Nuclear sector -   3,354   3,216   2,385   1,630   971   277     None (jobs)   On-the-Job Training - Nuclear sector -   520   499   371   254   152   42,8     On-the-Job Training - Nuclear sector -   520   499   371   254   152   42,8     On-the-Job Training - Nuclear sector -   520   499   371   254   152   42,8     On-the-Job Training - Oil sector - 1 to 4   144,018   126,388   106,403   72,405   45,178   7,321     On-the-Job Training - Oil sector - 1 to 4   144,018   126,388   106,403   72,405   45,178   7,321     On-the-Job Training - Oil sector - None   48,074   41,427   34,202   22,869   14,003   2,203     On-the-Job Training - Oil sector - None   48,074   41,427   34,202   22,869   14,003   2,203     On-the-Job Training - Solar PV sector - 1   127,012   182,347   275,103   295,223   371,019   516,745     On-the-Job Training - Solar PV sector - 1   127,012   182,347   275,103   295,223   371,019   516,745     On-the-Job Training - Solar PV sector - 4   34,865   49,217   74,363   82,591   104,163   146,375     On-the-Job Training - Solar PV sector - 4   34,865   49,217			4,626	6,272	10,786	14,487	20,089	29,196
Vear (jobs)								
On-the-Job Training - Natural gas sector - 119,696   95,608   70,226   57,982   39,688   30,848   10 4 years (jobs)   On-the-Job Training - Natural gas sector - 4 to 10 years (jobs)   On-the-Job Training - Natural gas sector - None (jobs)   On-the-Job Training - Natural gas sector - None (jobs)   On-the-Job Training - Natural gas sector - Over 10 years (jobs)   On-the-Job Training - Natural gas sector - Over 10 years (jobs)   On-the-Job Training - Natural gas sector - Over 10 years (jobs)   On-the-Job Training - Natural gas sector - Up to 1 year (jobs)   On-the-Job Training - Nuclear sector - 1 to 4 years (jobs)   On-the-Job Training - Nuclear sector - 4 to 10 years (jobs)   On-the-Job Training - Nuclear sector - 3,354   3,216   2,385   1,630   971   273   274   274   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275   275			370,636	501,373	860,284	1,152,958	1,595,290	2,313,517
1 to 4 years (jobs)								
On-the-Job Training - Natural gas sector -   38,459   31,003   23,091   19,510   13,659   11,015   4 to 10 years (jobs)   On-the-Job Training - Natural gas sector -   28,179   22,136   15,903   12,710   8,434   6,25			119,696	95,608	70,226	57,982	39,688	30,848
4 to 10 years (jobs)								
On-the-Job Training - Natural gas sector - None (jobs)			38,459	31,003	23,091	19,510	13,659	11,015
None (jobs)								
On-the-Job Training - Natural gas sector - Over 10 years (jobs)         5,129         4,071         2,940         2,350         1,565         1,166           On-the-Job Training - Natural gas sector - Up to 1 year (jobs)         348,610         276,866         201,297         162,788         108,882         81,003           On-the-Job Training - Nuclear sector - 1 to 4 years (jobs)         9,668         9,283         6,895         4,718         2,815         794           4 years (jobs)         0n-the-Job Training - Nuclear sector - 4 to 10 years (jobs)         2,332         2,239         1,663         1,138         679         193           0n-the-Job Training - Nuclear sector - None (jobs)         0n-the-Job Training - Nuclear sector - 520         499         371         254         152         42.8           0n-the-Job Training - Nuclear sector - Up to 1 years (jobs)         34,063         32,660         24,223         16,554         9,863         2,77           0n-the-Job Training - Oil sector - 1 to 4 years (jobs)         144,018         126,388         106,403         72,405         45,178         7,322           0n-the-Job Training - Oil sector - 4 to 10 years (jobs)         34,014         30,133         25,578         17,598         11,082         1,779           0n-the-Job Training - Oil sector - None (jobs)         7,714	= = =		28,179	22,136	15,903	12,710	8,434	6,257
Over 10 years (jobs)         348,610         276,866         201,297         162,788         108,882         81,000           On-the-Job Training - Nuclear sector - 1 to 4 years (jobs)         9,668         9,283         6,895         4,718         2,815         794           4 years (jobs)         0n-the-Job Training - Nuclear sector - 4 to 10 years (jobs)         2,332         2,239         1,663         1,138         679         195           0n-the-Job Training - Nuclear sector - 3,354         3,216         2,385         1,630         971         273           None (jobs)         0n-the-Job Training - Nuclear sector - 10 years (jobs)         520         499         371         254         152         42.8           0n-the-Job Training - Nuclear sector - Up to 1 year (jobs)         34,063         32,660         24,223         16,554         9,863         2,77           to 1 year (jobs)         0n-the-Job Training - Oil sector - 1 to 4         144,018         126,388         106,403         72,405         45,178         7,322           years (jobs)         0n-the-Job Training - Oil sector - 4 to 10         34,014         30,133         25,578         17,598         11,082         1,776           years (jobs)         0n-the-Job Training - Oil sector - None (jobs)         7,714         6,774 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>								
On-the-Job Training - Natural gas sector - Up to 1 year (jobs)         348,610         276,866         201,297         162,788         108,882         81,003           On-the-Job Training - Nuclear sector - 1 to 4 years (jobs)         9,668         9,283         6,895         4,718         2,815         794           On-the-Job Training - Nuclear sector - 4 to 10 years (jobs)         2,332         2,239         1,663         1,138         679         193           On-the-Job Training - Nuclear sector - None (jobs)         3,354         3,216         2,385         1,630         971         273           On-the-Job Training - Nuclear sector - Over 10 years (jobs)         520         499         371         254         152         42.8           On-the-Job Training - Nuclear sector - Up to 1 year (jobs)         34,063         32,660         24,223         16,554         9,863         2,77           to 1 year (jobs)         0n-the-Job Training - Oil sector - 1 to 4         144,018         126,388         106,403         72,405         45,178         7,327           years (jobs)         0n-the-Job Training - Oil sector - 4 to 10         34,014         30,133         25,578         17,598         11,082         1,776           years (jobs)         0n-the-Job Training - Oil sector - Over 10         7,714         6,774			5,129	4,071	2,940	2,350	1,565	1,166
Up to 1 year (jobs) On-the-Job Training - Nuclear sector - 1 to 4 years (jobs) On-the-Job Training - Nuclear sector - Up to 1 year (jobs) On-the-Job Training - Oil sector - 4 to 10 years (jobs) On-the-Job Training - Oil sector - None (jobs) On-the-Job Training - Oil sector - Up to 1 years (jobs) On-the-Job Training - Oil sector - Up to 1 years (jobs) On-the-Job Training - Oil sector - Up to 1 years (jobs) On-the-Job Training - Oil sector - Up to 1 years (jobs) On-the-Job Training - Oil sector - Up to 1 years (jobs) On-the-Job Training - Oil sector - Vore 10 years (jobs) On-the-Job Training - Oil sector - Vore 10 years (jobs) On-the-Job Training - Oil sector - Vore 10 years (jobs) On-the-Job Training - Oil sector - Vore 10 years (jobs) On-the-Job Training - Oil sector - Vore 10 years (jobs) On-the-Job Training - Oil sector - Vore 10 years (jobs) On-the-Job Training - Oil sector - Vore 10 years (jobs) On-the-Job Training - Oil sector - Vore 10 years (jobs) On-the-Job Training - Oil sector - Vore 10 years (jobs) On-the-Job Training - Oil sector - Vore 10 years (jobs) On-the-Job Training - Solar PV sector - 1 127,012 182,347 275,103 295,223 371,019 516,744 to 10 years (jobs) On-the-Job Training - Solar PV sector - 4 to 10 years (jobs) On-the-Job Training - Solar PV sector - 4 to 10 years (jobs) On-the-Job Training - Solar PV sector - 4 to 10 years (jobs) On-the-Job Training - Solar PV sector - 4 to 10 years (jobs) On-the-Job Training - Solar PV sector - 4 to 10 years (jobs) On-the-Job Training - Solar PV sector - 4 to 10 years (jobs) On-the-Job Training - Solar PV sector - 4 to 10 years (jobs)								
On-the-Job Training - Nuclear sector - 1 to 4 years (jobs)	On-the-Job Training - Natural gas sector -		348,610	276,866	201,297	162,788	108,882	81,003
4 years (jobs)         0n-the-Job Training - Nuclear sector - 4 to 10 years (jobs)         2,332         2,239         1,663         1,138         679         199 to 10 years (jobs)           0n-the-Job Training - Nuclear sector - None (jobs)         3,354         3,216         2,385         1,630         971         273 years (jobs)           0n-the-Job Training - Nuclear sector - Over 10 years (jobs)         520         499         371         254         152         42.8 years (jobs)           0n-the-Job Training - Nuclear sector - Up to 1 year (jobs)         34,063         32,660         24,223         16,554         9,863         2,77           0n-the-Job Training - Oil sector - 1 to 4 years (jobs)         144,018         126,388         106,403         72,405         45,178         7,322           0n-the-Job Training - Oil sector - 4 to 10 years (jobs)         34,014         30,133         25,578         17,598         11,082         1,776           0n-the-Job Training - Oil sector - None (jobs)         48,074         41,427         34,202         22,869         14,003         2,203           0n-the-Job Training - Oil sector - Over 10 years (jobs)         7,714         6,774         5,705         3,886         2,427         393           0n-the-Job Training - Solar PV sector - 1 to 4 years (jobs)         127,012         182,347<								
On-the-Job Training - Nuclear sector - 4   2,332   2,239   1,663   1,138   679   192   192   193   193   194   194   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   195   1	On-the-Job Training - Nuclear sector - 1 to		9,668	9,283	6,895	4,718	2,815	794
to 10 years (jobs)  On-the-Job Training - Nuclear sector -	4 years (jobs)							
On-the-Job Training - Nuclear sector - None (jobs)         3,354         3,216         2,385         1,630         971         273           On-the-Job Training - Nuclear sector - Over 10 years (jobs)         520         499         371         254         152         42.8           On-the-Job Training - Nuclear sector - Up to 1 year (jobs)         34,063         32,660         24,223         16,554         9,863         2,77           On-the-Job Training - Oil sector - 1 to 4 years (jobs)         144,018         126,388         106,403         72,405         45,178         7,322           years (jobs)         0n-the-Job Training - Oil sector - 4 to 10         34,014         30,133         25,578         17,598         11,082         1,779           years (jobs)         0n-the-Job Training - Oil sector - None (jobs)         48,074         41,427         34,202         22,869         14,003         2,203           years (jobs)         0n-the-Job Training - Oil sector - Over 10         7,714         6,774         5,705         3,886         2,427         39,99           year (jobs)         0n-the-Job Training - Solar PV sector - 1         127,012         182,347         275,103         295,223         371,019         516,745           to 4 years (jobs)         0n-the-Job Training - Solar PV sector - 4	On-the-Job Training - Nuclear sector - 4		2,332	2,239	1,663	1,138	679	192
None (jobs)	to 10 years (jobs)							
None (jobs)			3,354	3,216	2,385	1,630	971	273
On-the-Job Training - Nuclear sector - Over 10 years (jobs)         520         499         371         254         152         42.8           Over 10 years (jobs)         34,063         32,660         24,223         16,554         9,863         2,77           to 1 year (jobs)         10,554         9,863         2,77         45,178         7,322           years (jobs)         144,018         126,388         106,403         72,405         45,178         7,322           years (jobs)         10-the-Job Training - Oil sector - 4 to 10         34,014         30,133         25,578         17,598         11,082         1,779           10-the-Job Training - Oil sector - None (jobs)         48,074         41,427         34,202         22,869         14,003         2,203           10-the-Job Training - Oil sector - Over 10 years (jobs)         7,714         6,774         5,705         3,886         2,427         392           year (jobs)         10-the-Job Training - Oil sector - Up to 1 years (jobs)         556,332         486,861         408,582         277,346         172,564         27,863           year (jobs)         10-the-Job Training - Solar PV sector - 1 to 4 years (jobs)         127,012         182,347         275,103         295,223         371,019         516,745	None (jobs)							
Over 10 years (jobs)         34,063         32,660         24,223         16,554         9,863         2,77           to 1 year (jobs)         0n-the-Job Training - Oil sector - 1 to 4 years (jobs)         144,018         126,388         106,403         72,405         45,178         7,322           years (jobs)         0n-the-Job Training - Oil sector - 4 to 10 years (jobs)         34,014         30,133         25,578         17,598         11,082         1,779           On-the-Job Training - Oil sector - None (jobs)         48,074         41,427         34,202         22,869         14,003         2,203           (jobs)         0n-the-Job Training - Oil sector - Over 10 years (jobs)         7,714         6,774         5,705         3,886         2,427         393           On-the-Job Training - Oil sector - Up to 1 year (jobs)         556,332         486,861         408,582         277,346         172,564         27,863           On-the-Job Training - Solar PV sector - 1 to 4 years (jobs)         127,012         182,347         275,103         295,223         371,019         516,746           On the-Job Training - Solar PV sector - 4 to 10 years (jobs)         34,865         49,217         74,363         82,591         104,163         146,376           On-the-Job Training - Solar PV sector -         35,086         5			520	499	371	254	152	42.8
On-the-Job Training - Nuclear sector - Up to 1 year (jobs)         34,063         32,660         24,223         16,554         9,863         2,77           0n-the-Job Training - Oil sector - 1 to 4 years (jobs)         144,018         126,388         106,403         72,405         45,178         7,322           0n-the-Job Training - Oil sector - 4 to 10 years (jobs)         34,014         30,133         25,578         17,598         11,082         1,779           0n-the-Job Training - Oil sector - None (jobs)         48,074         41,427         34,202         22,869         14,003         2,203           (jobs)         7,714         6,774         5,705         3,886         2,427         393           years (jobs)         7,714         6,774         5,705         3,886         2,427         393           year (jobs)         7,714         6,774         5,705         3,886         2,427         393           year (jobs)         7,714         6,774         5,705         3,886         2,427         393           year (jobs)         7,714         6,774         5,705         3,886         2,727         34,865           0n-the-Job Training - Solar PV sector - 1         127,012         182,347         275,103         295,223         371,019 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
to 1 year (jobs) On-the-Job Training - Oil sector - 1 to 4 years (jobs) On-the-Job Training - Oil sector - 4 to 10 years (jobs) On-the-Job Training - Oil sector - 8 to 10 years (jobs) On-the-Job Training - Oil sector - 8 to 10 years (jobs) On-the-Job Training - Oil sector - 8 to 10 years (jobs) On-the-Job Training - Oil sector - 9 to 10 years (jobs) On-the-Job Training - Oil sector - 10 years (jobs) On-the-Job Training - Oil sector - 10 years (jobs) On-the-Job Training - Solar PV sector - 1 to 4 years (jobs) On-the-Job Training - Solar PV sector - 4 to 10 years (jobs) On-the-Job Training - Solar PV sector - 4 to 10 years (jobs) On-the-Job Training - Solar PV sector - 4 to 10 years (jobs) On-the-Job Training - Solar PV sector - 4 to 10 years (jobs) On-the-Job Training - Solar PV sector - 4 to 10 years (jobs) On-the-Job Training - Solar PV sector - 35,086			34,063	32,660	24,223	16,554	9,863	2,777
On-the-Job Training - Oil sector - 1 to 4 years (jobs)         144,018         126,388         106,403         72,405         45,178         7,322 years (jobs)           On-the-Job Training - Oil sector - 4 to 10 years (jobs)         34,014         30,133         25,578         17,598         11,082         1,779 years (jobs)           On-the-Job Training - Oil sector - None (jobs)         48,074         41,427         34,202         22,869         14,003         2,203 years (jobs)           On-the-Job Training - Oil sector - Over 10 years (jobs)         7,714         6,774         5,705         3,886         2,427         393 years (jobs)           On-the-Job Training - Oil sector - Up to 1 years (jobs)         556,332         486,861         408,582         277,346         172,564         27,863 years (jobs)           On-the-Job Training - Solar PV sector - 1 to 4 years (jobs)         127,012         182,347         275,103         295,223         371,019         516,749 years (jobs)           On-the-Job Training - Solar PV sector - 4 to 10 years (jobs)         34,865         49,217         74,363         82,591         104,163         146,379 years (jobs)           On-the-Job Training - Solar PV sector -         35,086         50,776         77,297         83,961         106,609         150,156			,			•		
years (jobs)         34,014         30,133         25,578         17,598         11,082         1,779           years (jobs)         0n-the-Job Training - Oil sector - None (jobs)         48,074         41,427         34,202         22,869         14,003         2,203           On-the-Job Training - Oil sector - Over 10 years (jobs)         7,714         6,774         5,705         3,886         2,427         392           On-the-Job Training - Oil sector - Up to 1 year (jobs)         556,332         486,861         408,582         277,346         172,564         27,863           On-the-Job Training - Solar PV sector - 1 to 4 years (jobs)         127,012         182,347         275,103         295,223         371,019         516,746           On-the-Job Training - Solar PV sector - 4 to 10 years (jobs)         34,865         49,217         74,363         82,591         104,163         146,379           On-the-Job Training - Solar PV sector -         35,086         50,776         77,297         83,961         106,609         150,156			144,018	126,388	106,403	72,405	45,178	7,322
On-the-Job Training - Oil sector - 4 to 10 years (jobs)         34,014         30,133         25,578         17,598         11,082         1,779           On-the-Job Training - Oil sector - None (jobs)         48,074         41,427         34,202         22,869         14,003         2,203           On-the-Job Training - Oil sector - Over 10 years (jobs)         7,714         6,774         5,705         3,886         2,427         392           On-the-Job Training - Oil sector - Up to 1 year (jobs)         556,332         486,861         408,582         277,346         172,564         27,863           On-the-Job Training - Solar PV sector - 1 to 4 years (jobs)         127,012         182,347         275,103         295,223         371,019         516,746           On-the-Job Training - Solar PV sector - 4 to 10 years (jobs)         34,865         49,217         74,363         82,591         104,163         146,379           On-the-Job Training - Solar PV sector -         35,086         50,776         77,297         83,961         106,609         150,156	=		,	-,		,		,-
years (jobs)         48,074         41,427         34,202         22,869         14,003         2,203           (jobs)         0n-the-Job Training - Oil sector - Over 10 years (jobs)         7,714         6,774         5,705         3,886         2,427         393           On-the-Job Training - Oil sector - Up to 1 year (jobs)         556,332         486,861         408,582         277,346         172,564         27,863           On-the-Job Training - Solar PV sector - 1 to 4 years (jobs)         127,012         182,347         275,103         295,223         371,019         516,745           On-the-Job Training - Solar PV sector - 4 to 10 years (jobs)         34,865         49,217         74,363         82,591         104,163         146,379           On-the-Job Training - Solar PV sector -         35,086         50,776         77,297         83,961         106,609         150,156			34.014	30.133	25.578	17.598	11.082	1,779
On-the-Job Training - Oil sector - None (jobs)         48,074         41,427         34,202         22,869         14,003         2,203           On-the-Job Training - Oil sector - Over 10 years (jobs)         7,714         6,774         5,705         3,886         2,427         393           On-the-Job Training - Oil sector - Up to 1 year (jobs)         556,332         486,861         408,582         277,346         172,564         27,863           On-the-Job Training - Solar PV sector - 1 to 4 years (jobs)         127,012         182,347         275,103         295,223         371,019         516,745           On-the-Job Training - Solar PV sector - 4 to 10 years (jobs)         34,865         49,217         74,363         82,591         104,163         146,379           On-the-Job Training - Solar PV sector -         35,086         50,776         77,297         83,961         106,609         150,156	9		0 .,0	337.33		,070	,002	.,,
(jobs)       7,714       6,774       5,705       3,886       2,427       392 (2,427)         years (jobs)       0n-the-Job Training - Oil sector - Up to 1 (2) (2) (3) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4			48.074	41.427	34.202	22.869	14.003	2,203
On-the-Job Training - Oil sector - Over 10 years (jobs)         7,714         6,774         5,705         3,886         2,427         392 years (jobs)           On-the-Job Training - Oil sector - Up to 1 year (jobs)         556,332         486,861         408,582         277,346         172,564         27,863 years (jobs)           On-the-Job Training - Solar PV sector - 1 to 4 years (jobs)         127,012         182,347         275,103         295,223         371,019         516,749 years (jobs)           On-the-Job Training - Solar PV sector - 4 to 10 years (jobs)         34,865         49,217         74,363         82,591         104,163         146,379 years (jobs)           On-the-Job Training - Solar PV sector - 35,086         50,776         77,297         83,961         106,609         150,156	=		,	,	,	,_,	,	_,
years (jobs)         556,332         486,861         408,582         277,346         172,564         27,863           year (jobs)         0n-the-Job Training - Solar PV sector - 1 to 4 years (jobs)         127,012         182,347         275,103         295,223         371,019         516,749           0n-the-Job Training - Solar PV sector - 4 to 10 years (jobs)         34,865         49,217         74,363         82,591         104,163         146,379           0n-the-Job Training - Solar PV sector -         35,086         50,776         77,297         83,961         106,609         150,156			7.714	6.774	5.705	3.886	2.427	392
On-the-Job Training - Oil sector - Up to 1 year (jobs)       556,332       486,861       408,582       277,346       172,564       27,863         On-the-Job Training - Solar PV sector - 1 to 4 years (jobs)       127,012       182,347       275,103       295,223       371,019       516,749         On-the-Job Training - Solar PV sector - 4 to 10 years (jobs)       34,865       49,217       74,363       82,591       104,163       146,379         On-the-Job Training - Solar PV sector -       35,086       50,776       77,297       83,961       106,609       150,156			.,	0,114	0,100	0,000	2,721	072
year (jobs)         127,012         182,347         275,103         295,223         371,019         516,749           to 4 years (jobs)         0n-the-Job Training - Solar PV sector - 4         34,865         49,217         74,363         82,591         104,163         146,379           to 10 years (jobs)         0n-the-Job Training - Solar PV sector -         35,086         50,776         77,297         83,961         106,609         150,156			556 332	486 861	408 582	277.346	172 564	27.863
On-the-Job Training - Solar PV sector - 1 to 4 years (jobs)       127,012       182,347       275,103       295,223       371,019       516,749         On-the-Job Training - Solar PV sector - 4 to 10 years (jobs)       34,865       49,217       74,363       82,591       104,163       146,379         On-the-Job Training - Solar PV sector -       35,086       50,776       77,297       83,961       106,609       150,156	•		000,002	400,001	400,002	211,040	112,004	21,000
to 4 years (jobs)  On-the-Job Training - Solar PV sector - 4 to 10 years (jobs)  On-the-Job Training - Solar PV sector - 35,086 50,776 77,297 83,961 106,609 150,156			127 012	182 347	275 103	295 223	371 019	516 749
On-the-Job Training - Solar PV sector - 4 to 10 years (jobs)         34,865         49,217         74,363         82,591         104,163         146,379           On-the-Job Training - Solar PV sector -         35,086         50,776         77,297         83,961         106,609         150,156			121,012	102,041	210,100	270,220	311,017	010,147
to 10 years (jobs) Solar PV sector - 35,086 50,776 77,297 83,961 106,609 150,156			3/, 865	/ <sub>1</sub> 9 217	7/, 363	82 501	107, 163	1/16 379
On-the-Job Training - Solar PV sector -         35,086         50,776         77,297         83,961         106,609         150,156			34,003	47,211	14,505	02,071	104,103	140,517
			2E 004	50 774	77 207	02 041	104 400	150 154
			33,000	30,110	11,271	03,701	100,009	130,136
			7076	11 /.10	17.005	17702	22.07.0	30,143
Over 10 years (jobs)			1,910	11,410	11,025	11,193	22,040	30,143
			/10 / 00	/ O / OF1	017.050	070.007	1007 707	1700107
			418,430	606,251	917,859	979,086	1,234,697	1,723,136
to 1 year (jobs)			( / 540	444.44.0	407.507	010000	040 400	
	=		64,513	111,110	187,587	243,229	313,130	437,118
years (jobs)								
			16,836	29,325	49,662	68,475	91,099	126,807
10 years (jobs)					_			
	_		17,520	30,343	51,510	67,305	87,290	122,541
(jobs)								
			3,897	6,610	11,029	13,645	16,970	23,408
10 years (jobs)	10 years (inhs)							

Table 48: E+RE+ scenario - IMPACTS - Jobs (continued)

Table 48: E+RE+ scenario - IMPACTS - Job	s (continu	edJ					
Item	2020	2025	2030	2035	2040	2045	2050
On-the-Job Training - Wind sector - Up to		217,231	374,104	633,024	809,220	1,035,353	1,451,553
1 year (jobs)							
Related work experience - All sectors - 1		1,109,104	1,264,286	1,674,545	1,878,001	2,299,966	3,119,060
to 4 years (jobs)		707.000	000700	1.077.400	1.045.405	4 / 00 050	0.007.044
Related work experience - All sectors - 4		707,289	809,720	1,077,428	1,215,185	1,492,852	2,027,011
to 10 years (jobs)		/ 00 155	/00.000	////00	750 707	000 000	105/75/
Related work experience - All sectors -		432,155	498,000	666,430	750,787	922,233	1,256,756
None (jobs)  Related work experience - All sectors -		107,000	225,752	298,693	331,047	402,870	543,997
Over 10 years (jobs)		196,988	225,752	296,693	331,047	402,870	543,997
Related work experience - All sectors - Up		611,652	714,028	961,513	1,072,062	1,310,012	1,784,001
to 1 year (jobs)		611,652	114,020	901,513	1,012,062	1,310,012	1,764,001
Related work experience - Biomass sector		24,277	26,997	31,853	34,825	40,687	73,929
-1 to 4 years (jobs)		24,211	20,771	31,000	34,023	40,001	13,727
Related work experience - Biomass sector		12,619	13,694	16,064	18,393	22,461	42,237
- 4 to 10 years (jobs)		12,017	10,074	10,004	10,070	22,401	72,201
Related work experience - Biomass sector		13,859	15,184	17,335	16,944	17,786	31,692
- None (jobs)		10,007	10,10	11,000	10,7 1 1	11,100	0.,072
Related work experience - Biomass sector		3,478	3,729	4,280	4,755	5,696	10,830
- Over 10 years (jobs)		0,	0,127	1,250	1,100	0,070	10,000
Related work experience - Biomass sector		27,386	29,866	33,448	30,859	30,376	53,683
- Up to 1 year (jobs)		2.,000		35,115	00,007	00,0.0	00,000
Related work experience - CO2 sector - 1		0.001	0.005	0.004	0.006	0.008	0.004
to 4 years (jobs)					0.000		
Related work experience - CO2 sector - 4		0	0.003	0.003	0.004	0.005	0.003
to 10 years (jobs)							
Related work experience - CO2 sector -		0	0.002	0.002	0.002	0.003	0.002
None (jobs)							
Related work experience - CO2 sector -		0	0.001	0.001	0.001	0.001	0.001
Over 10 years (jobs)							
Related work experience - CO2 sector -		0	0.002	0.002	0.003	0.003	0.002
Up to 1 year (jobs)							
Related work experience - Coal sector - 1		28,389	7,771	4,137	3,566	3,191	2,634
to 4 years (jobs)							
Related work experience - Coal sector - 4		16,591	4,383	2,034	1,778	1,613	1,351
to 10 years (jobs)							
Related work experience - Coal sector -		10,136	2,723	1,346	1,162	1,042	862
None (jobs)							
Related work experience - Coal sector -		4,189	1,141	561	493	449	379
Over 10 years (jobs)							
Related work experience - Coal sector -		15,483	4,463	2,741	2,347	2,085	1,710
Up to 1 year (jobs)							
Related work experience - Grid sector - 1		208,739	282,258	484,118	648,547	896,974	1,300,229
to 4 years (jobs)		101-01	121 222	211 - 21			
Related work experience - Grid sector - 4		136,794	184,838	316,794	424,076	586,079	848,922
to 10 years (jobs)		05.700	44 ( 44 (	100 / 5 /	0.7500	070 500	507044
Related work experience - Grid sector -		85,739	116,116	199,454	267,580	370,589	537,911
None (jobs)		05 / 57	/700/	00.007	110.107	150.057	000 (71
Related work experience - Grid sector -		35,457	47,936	82,204	110,106	152,256	220,671
Over 10 years (jobs)		110 500	150,000	050.015	0./7.007	/ 00 01/	701.070
Related work experience - Grid sector -		110,528	150,029	258,315	347,387	482,316	701,869
Up to 1 year (jobs)		100.017	150 500	115 507	02.000	/0.100	1.7 1 0 1
Related work experience - Natural gas		199,314	158,500	115,534	93,908	63,139	47,424
sector - 1 to 4 years (jobs)		100 /10	105 500	77455	/0.100	/ 0.010	00.770
Related work experience - Natural gas		132,613	105,533	77,155	63,183	42,812	32,649
sector - 4 to 10 years (jobs)		70 100	60 / 00	/.E 000	9770E	05 770	10.07.0
Related work experience - Natural gas		78,199	62,490	45,890	37,795	25,770	19,842
sector - None (jobs)  Related work experience - Natural gas		24.007	28,497	20 E00	16,500	10,944	8,038
sector - Over 10 years (jobs)		36,004	20,491	20,599	10,500	10,744	0,038
sector - Over 10 years (Juns)			l				

Table 48: E+RE+ scenario - IMPACTS - Jobs (continued)

Table 40. E+KE+ Scellul IU - IMPACIS - JUL							
Item	2020	2025	2030	2035	2040	2045	2050
Related work experience - Natural gas		93,942	74,664	54,280	43,954	29,562	22,336
sector - Up to 1 year (jobs)							
Related work experience - Nuclear sector		18,639	17,871	13,255	9,059	5,397	1,520
- 1 to 4 years (jobs)							
Related work experience - Nuclear sector		12,092	11,592	8,595	5,873	3,499	985
- 4 to 10 years (jobs)							
Related work experience - Nuclear sector		6,294	6,044	4,489	3,072	1,833	517
- None (jobs)					•		
Related work experience - Nuclear sector		3,722	3,571	2,650	1,812	1,080	304
- Over 10 years (jobs)							
Related work experience - Nuclear sector		9,189	8,820	6,548	4,479	2,671	753
- Up to 1 year (jobs)		, -	-,	-,-	,	,-	
Related work experience - Oil sector - 1 to		301,109	263,650	221,423	150,297	93,538	15,160
4 years (jobs)		00.,.07	200,000	,	.00/27.	70,000	.07.00
Related work experience - Oil sector - 4 to		182,706	159,719	133,934	90,747	56,384	9,131
10 years (jobs)		.02,.00	.07,7	.00,70	70,	33,23 .	7,.0
Related work experience - Oil sector -		106,478	93,499	78,696	53,672	33,526	5,380
None (jobs)		100, 110	70, 177	10,070	00,012	00,020	0,000
Related work experience - Oil sector -		52,545	45,879	38,462	26,026	16,169	2,639
Over 10 years (jobs)		02,040	40,017	00,402	20,020	10,107	2,007
Related work experience - Oil sector - Up		147,314	128,836	107,956	73,363	45,636	7,249
to 1 year (jobs)		171,017	120,000	101,700	10,000	40,000	1,247
Related work experience - Solar PV sector		215,901	312,361	473,727	509,206	643,629	901,300
- 1 to 4 years (jobs)		213,901	312,301	413,121	307,200	043,027	701,300
Related work experience - Solar PV sector		139,474	201,262	304,569	326,808	412,018	575,424
- 4 to 10 years (jobs)		157,414	201,202	304,307	320,000	412,010	313,424
Related work experience - Solar PV sector		87,975	127,078	192,688	207,571	262,410	367,716
- None (jobs)		01,710	121,010	172,000	201,311	202,410	301,110
Related work experience - Solar PV sector		40,027	57,947	87,332	92,037	115,384	159,820
- Over 10 years (jobs)		40,021	31,741	01,002	72,001	113,304	137,020
Related work experience - Solar PV sector		139,992	201,354	303,331	323,032	405,087	562,303
- Up to 1 year (jobs)		137,772	201,354	303,331	323,032	403,061	302,303
Related work experience - Wind sector - 1		112,738	194,877	330,496	428,594	553,411	776,866
to 4 years (jobs)		112,130	194,011	330,490	420,394	555,411	110,000
		74,402	128,700	010 007	007.007	2/700/	516,311
Related work experience - Wind sector - 4 to 10 years (jobs)		74,402	128,700	218,284	284,327	367,984	516,311
Related work experience - Wind sector -		/0/7/	7/ 0/7	107 500	1/0.001	000 077	000 007
·		43,474	74,867	126,533	162,991	209,277	292,837
None (jobs)		01.577	07.050	(0 (05	70.000	100.000	1/1 015
Related work experience - Wind sector -		21,566	37,053	62,605	79,320	100,892	141,315
Over 10 years (jobs)		(7.010	115.005	10/ 00/	01///0	040.070	101 000
Related work experience - Wind sector -		67,818	115,995	194,894	246,642	312,279	434,098
Up to 1 year (jobs)							
Wage income - Biomass (million \$2019)		4,220	4,744	5,634	6,202	7,310	13,618
Wage income - CO2 (million \$2019)		0	0.001	0.001	0.001	0.002	0.001
Wage income - Coal (million \$2019)		4,510	1,225	602	528	482	406
Wage income - Grid (million \$2019)		36,101	49,507	86,149	117,136	164,496	242,211
Wage income - Natural Gas (million \$2019)		35,783	28,853	21,290	17,465	11,852	8,946
Wage income - Nuclear (million \$2019)		3,570	3,505	2,664	1,867	1,141	330
Wage income - Oil (million \$2019)		52,019	46,147	39,272	26,986	17,009	2,804
Wage income - Solar (million \$2019)		34,489	50,435	77,444	84,516	108,333	154,016
Wage income - Wind (million \$2019)		18,567	32,583	56,084	74,464	98,189	140,114

Table 49: E+RE- scenario - PILLAR 1: Efficiency/Electrification - Commercial

Item	2020	2025	2030	2035	2040	2045	2050
Commercial HVAC investment in 2020s -		1,047,657	1,162,511				
Cumulative 5-yr (million \$2018)							
Sales of cooking units - Electric	32.5	46.4	80	86.6	87	87	87
Resistance (%)							
Sales of cooking units - Gas (%)	67.5	53.6	20	13.4	13	13	13

Table 49: F+RF- :	coonanio	DTIIAD 1.	Efficiency/	Electrification	Commonaial	(nontinued)
Table 49: F+RF- :	scenario -	PILLAR I:	ETTICIENCV/I	= lectrification -	Commercial	i continuea i

Item	2020	2025	2030	2035	2040	2045	2050
Sales of space heating units - Electric Heat Pump (%)	2.95	17.6	52.9	76.9	80.6	80.8	80.8
Sales of space heating units - Electric Resistance (%)	7.91	9.07	14.4	17.7	18.4	18.4	18.4
Sales of space heating units - Fossil (%)	3.94	3.28	0.655	0.028	0	0	0
Sales of space heating units - Gas Furnace (%)	85.2	70.1	32.1	5.37	1.07	0.82	0.817
Sales of water heating units - Electric Heat Pump (%)	0.385	7.96	43.3	59.2	61.2	61.3	61.3
Sales of water heating units - Electric Resistance (%)	3.8	7.16	24	35.7	37.5	37.6	37.6
Sales of water heating units - Gas Furnace (%)	94.1	83.3	31.5	4.03	0.235	0.003	0
Sales of water heating units - Other (%)	1.66	1.59	1.2	1.1	1.1	1.11	1.11

# Table 50: E+RE- scenario - PILLAR 1: Efficiency/Electrification - Electricity demand

Item	2020	2025	2030	2035	2040	2045	2050
Electricity distribution capital invested -		182	187	336	359	314	329
Cumulative 5-yr (billion \$2018)							

### Table 51: E+RE- scenario - PILLAR 1: Efficiency/Electrification - Overview

Item	2020	2025	2030	2035	2040	2045	2050
Final energy use - Commercial (PJ)	9,015	8,942	8,619	8,103	7,608	7,344	7,297
Final energy use - Industry (PJ)	25,107	26,056	26,110	25,372	25,108	24,870	24,572
Final energy use - Residential (PJ)	11,788	11,090	10,221	8,966	7,776	6,967	6,512
Final energy use - Transportation (PJ)	27,996	26,390	23,464	19,872	16,608	14,565	13,649

### Table 52: E+RE- scenario - PILLAR 1: Efficiency/Electrification - Residential

Item	2020	2025	2030	2035	2040	2045	2050
Residential HVAC investment in 2020s vs.		254	307				
REF - Cumulative 5-yr (billion \$2018)							
Sales of cooking units - Electric	61.3	69.6	94.8	99.7	100	100	100
Resistance (%)							
Sales of cooking units - Gas (%)	38.7	30.4	5.2	0.262	0	0	0
Sales of space heating units - Electric	14.6	27.2	64.4	85	88	88.1	88.1
Heat Pump (%)							
Sales of space heating units - Electric	20.3	22.6	12.3	8.07	7.57	7.66	7.68
Resistance (%)							
Sales of space heating units - Fossil (%)	9.95	13.2	6.18	3.41	3.02	2.91	2.9
Sales of space heating units - Gas (%)	55.2	36.9	17.1	3.52	1.45	1.32	1.3
Sales of water heating units - Electric	0	7.44	41.8	56.2	58.5	59.2	59
Heat Pump (%)							
Sales of water heating units - Electric	38.4	49.2	38.5	39.8	39.9	39.3	39.5
Resistance (%)							
Sales of water heating units - Gas Furnace	58	40.9	18	2.56	0.155	0.003	0
(%)							
Sales of water heating units - Other (%)	3.58	2.47	1.63	1.47	1.51	1.54	1.53

## Table 53: E+RE- scenario - PILLAR 1: Efficiency/Electrification - Transportation

Item	2020	2025	2030	2035	2040	2045	2050
Light-duty vehicle capital costs -		51,477	133,974	213,805	325,180	352,492	336,852
Cumulative 5-yr (million \$2018)							
Public EV charging plugs - DC Fast (1000 units)	14.4		93.9		391		628
Public EV charging plugs - L2 (1000 units)	66.2		2,256		9,394		15,098
Vehicle sales - Heavy-duty - diesel (%)	97.2	92.1	67	23.3	4.22	0.628	0

Table 53: E+RE- scenario - PILLAR 1: Efficiency/Electrification - Transportation (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Vehicle sales - Heavy-duty - EV (%)	0.588	3.81	19	45.6	57.4	59.6	60
Vehicle sales - Heavy-duty - gasoline (%)	0.227	0.227	0.176	0.066	0.013	0.002	0
Vehicle sales - Heavy-duty - hybrid (%)	0.082	0.09	0.077	0.031	0.007	0.001	0
Vehicle sales - Heavy-duty - hydrogen FC	0.392	2.54	12.7	30.4	38.2	39.7	40
(%)							
Vehicle sales - Heavy-duty - other (%)	1.5	1.23	1.07	0.568	0.163	0.038	0
Vehicle sales - Light-duty - diesel (%)	1.4	1.68	1.2	0.382	0.072	0.013	0
Vehicle sales - Light-duty - EV (%)	4.41	16.7	48.7	82.7	96.4	99.3	100
Vehicle sales - Light-duty - gasoline (%)	89.1	76.3	46.4	15.6	3.17	0.586	0
Vehicle sales - Light-duty - hybrid (%)	4.91	4.89	3.38	1.24	0.304	0.067	0
Vehicle sales - Light-duty - hydrogen FC	0.11	0.331	0.191	0.059	0.012	0.002	0
(%)							
Vehicle sales - Light-duty - other (%)	0.095	0.091	0.058	0.02	0.004	0.001	0
Vehicle sales - Medium-duty - diesel (%)	64.7	59.7	42.3	14.4	2.59	0.384	0
Vehicle sales - Medium-duty - EV (%)	0.784	5.07	25.3	60.8	76.5	79.5	80
Vehicle sales - Medium-duty - gasoline (%)	33.7	33.3	25.5	9.32	1.77	0.277	0
Vehicle sales - Medium-duty - hybrid (%)	0.363	0.402	0.341	0.14	0.03	0.005	0
Vehicle sales - Medium-duty - hydrogen	0.196	1.27	6.33	15.2	19.1	19.9	20
FC (%)							
Vehicle sales - Medium-duty - other (%)	0.253	0.255	0.205	0.083	0.019	0.004	0

Table 54: E+RE- scenario - PILLAR 2: Clean Electricity - Generating capacity

Item	2020	2025	2030	2035	2040	2045	2050
Capital invested - Biomass power plant	0	0.001	0.245	0	0	0	0
(billion \$2018)							
Capital invested - Biomass w/ccu allam	0	0	0	0.523	0.171	0.171	0.881
power plant (billion \$2018)							
Capital invested - Biomass w/ccu power	0	0	66.3	5.89	5.65	48.6	73.9
plant (billion \$2018)							
Installed - Biomass (MW)	10,015	9,155	8,012	6,276	4,837	3,506	2,590
Installed - Biomass w cc (MW)	0	0	9,991	10,948	11,823	19,170	30,427
Installed - Ccgt & gas steam (MW)	337,190	357,350	444,963	472,429	417,657	342,550	265,745
Installed - Ccgt w cc (MW)	0	0	8.75	25,157	76,333	162,793	230,887
Installed - Coal (MW)	215,985	44,884	62.3	136	148	147	33.9
Installed - Ct (MW)	143,739	129,695	94,911	100,127	170,549	157,934	130,899
Installed - Geothermal (MW)	2,397	2,403	24,727	24,718	24,710	24,702	24,666
Installed - Grid battery storage (MW)		819	1,328	3,062	13,842	44,320	52,980
Installed - Hydro (MW)	78,608	78,608	78,608	78,608	78,608	78,608	78,608
Installed - Nuclear (MW)	98,486	95,135	95,008	99,119	130,574	191,067	310,836
Installed - Offshore wind (MW)	29.3	5,029	10,029	15,029	20,029	25,000	30,000
Installed - Onshore wind (MW)	92,786	165,010	230,880	275,200	372,928	467,805	527,977
Installed - Other (MW)	68,074	57,101	54,650	53,942	52,322	51,237	44,539
Installed - Pumped hydro storage (MW)		19,418	19,418	19,418	19,418	19,418	19,418
Installed - Rooftop PV (MW)	33,317	52,523	69,448	90,809	117,114	148,351	185,890
Installed - Utility-scale PV (MW)	32,757	107,757	182,757	257,752	332,448	397,567	450,000

Table 55: E+RE- scenario - PILLAR 2: Clean Electricity - Generation

Item	2020	2025	2030	2035	2040	2045	2050
Biomass (TWh)	18.2	19.6	43.4	25.4	19.4	14.6	0.174
Biomass power plant (GWh)	3,616	794	14,160	5,310	4,477	2,155	48
Biomass w cc (TWh)	0	0	74.4	81.5	87.9	143	226
Biomass w/ccu allam power plant (GWh)	0	0	0	484	576	725	1,609
Biomass w/ccu power plant (GWh)	0	0	74,392	80,983	87,310	141,852	224,713
Coal (TWh)	982	225	0.218	0.476	0.52	0.515	0.119
Gas (TWh)	1,518	1,881	1,802	1,967	1,561	643	112
Gas w cc (TWh)	0	0	0.046	198	585	1,189	1,415
Geothermal (TWh)	14.6	14.6	151	151	151	151	150
Hydro (TWh)	300	312	295	296	304	294	296

# Table 55: E+RE- scenario - PILLAR 2: Clean Electricity - Generation (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Nuclear (TWh)	802	775	775	812	1,075	1,580	2,578
Offshore wind (TWh)	0.092	20.3	42.4	76.3	90.7	109	133
Onshore wind (TWh)	390	686	974	1,157	1,585	1,984	2,223
Rooftop PV (TWh)	50.1	79.4	102	130	173	220	270
Utility-scale PV (TWh)	84.9	275	452	632	819	990	1,099

### Table 56: E+RE- scenario - PILLAR 2: Clean Electricity - Transmission

Item	2020	2025	2030	2035	2040	2045	2050
Total HV transmission (for wind and solar)	0	13.9	24.4	35.9	55.4	75.6	89.4
- Base all (%)							

#### Table 57: E+RE- scenario - PILLAR 3: Clean fuels - Bioenergy

		<u> </u>					
Item	2020	2025	2030	2035	2040	2045	2050
Biomass input - BECCS-H2 (1000 tonnes)	0	0	0	181,112	265,263	317,346	406,847
Biomass input - Bio-FT w/ CC (1000	0	0	0	139	152	169	172
tonnes)							
Biomass input - Bio-SNG w/ CC (1000	0	0	92.7	70.2	47	24.8	5.58
tonnes)							
Biomass input - Biopower (1000 tonnes)	10,321	20,110	59,104	41,822	35,169	28,144	186
Biomass input - Biopower w/ cc (1000	0	0	44,936	49,136	52,999	86,012	136,463
tonnes)							
Biomass input - Ethanol (1000 tonnes)	129,506	129,506	129,537	125,006	67,634	10,261	905
Biomass input - FT diesel (1000 tonnes)	0	0	0	94.3	105	111	67.2
Biomass input - Pyrolysis liquids (1000	0	0	0	205	227	232	9,595
tonnes)							
Biomass input - Pyrolysis liquids w/ cc	0	0	0	178	195	225	30,115
(1000 tonnes)							
Biomass input - SNG (1000 tonnes)	0	11.2	45.8	16.6	9.09	8.18	2.31

## Table 58: E+RE- scenario - PILLAR 4: CCUS - CO2 storage

		-					
Item	2020	2025	2030	2035	2040	2045	2050
CO2 storage (MMT)	0	2.77	197	576	889	1,266	1,649

### Table 59: E+RE- scenario - PILLAR 6: Land sinks - Agriculture

Item	2020	2025	2030	2035	2040	2045	2050
Carbon sink potential - Aggressive							-23,286
deployment - Corn-ethanol to energy							
grasses (1000 tCO2e/y)							
Carbon sink potential - Aggressive							-203,503
deployment - Cropland measures (1000							
tCO2e/y)							
Carbon sink potential - Aggressive							-7,391
deployment - Permanent conservation							
cover (1000 tCO2e/y)							
Carbon sink potential - Aggressive							-234,180
deployment - Total (1000 tCO2e/y)							
Carbon sink potential - Moderate							-23,286
deployment - Corn-ethanol to energy							
grasses (1000 tCO2e/y)							
Carbon sink potential - Moderate							-106,430
deployment - Cropland measures (1000							
tCO2e/y)							
Carbon sink potential - Moderate							-3,696
deployment - Permanent conservation							
cover (1000 tC02e/y)							
Carbon sink potential - Moderate							-133,412
deployment - Total (1000 tCO2e/y)							

Table 59: E+RE- scenario - PILLAR 6: Land sinks - Agriculture (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Land impacted for carbon sink -							11,287
Aggressive deployment - Corn-ethanol to							
energy grasses (1000 hectares)							
Land impacted for carbon sink -							136,405
Aggressive deployment - Cropland							
measures (1000 hectares)							
Land impacted for carbon sink -							12,749
Aggressive deployment - Permanent							
conservation cover (1000 hectares)							
Land impacted for carbon sink -							160,442
Aggressive deployment - Total (1000							
hectares)							
Land impacted for carbon sink - Moderate							11,287
deployment - Corn-ethanol to energy							
grasses (1000 hectares)							
Land impacted for carbon sink - Moderate							71,390
deployment - Cropland measures (1000							
hectares)							
Land impacted for carbon sink - Moderate							6,375
deployment - Permanent conservation							
cover (1000 hectares)							
Land impacted for carbon sink - Moderate							89,052
deployment - Total (1000 hectares)							

# Table 60: E+RE- scenario - PILLAR 6: Land sinks - Forests

Item	2020	2025	2030	2035	2040	2045	2050
Carbon sink potential - High - Accelerate							-48,900
regeneration (1000 tCO2e/y)							
Carbon sink potential - High - All (not							-
counting overlap) (1000 tCO2e/y)							1,535,900
Carbon sink potential - High - Avoid							-84,000
deforestation (1000 tCO2e/y)							
Carbon sink potential - High - Extend							-302,000
rotation length (1000 tCO2e/y)							
Carbon sink potential - High - Improve							-57,000
plantations (1000 tCO2e/y)							
Carbon sink potential - High - Increase							-
retention of HWP (1000 tCO2e/y)							300,000
Carbon sink potential - High - Increase							-60,000
trees outside forests (1000 tCO2e/y)							
Carbon sink potential - High - Reforest							-242,000
cropland (1000 tCO2e/y)							
Carbon sink potential - High - Reforest							-
pasture (1000 tCO2e/y)							264,000
Carbon sink potential - High - Restore							-178,000
productivity (1000 tCO2e/y)							
Carbon sink potential - Low - Accelerate							-24,500
regeneration (1000 tCO2e/y)							
Carbon sink potential - Low - All (not							-
counting overlap) (1000 tCO2e/y)							505,500
Carbon sink potential - Low - Avoid							-14,000
deforestation (1000 tCO2e/y)							
Carbon sink potential - Low - Extend							-116,000
rotation length (1000 tCO2e/y)							
Carbon sink potential - Low - Improve							-29,000
plantations (1000 tCO2e/y)							
Carbon sink potential - Low - Increase							-100,000
retention of HWP (1000 tCO2e/y)							
Carbon sink potential - Low - Increase							-21,000
trees outside forests (1000 tCO2e/y)							

Table 60: E+RE- scenario - PILLAR 6: Land sinks - Forests (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Carbon sink potential - Low - Reforest							-121,000
cropland (1000 tCO2e/y)							
Carbon sink potential - Low - Reforest							-20,000
pasture (1000 tC02e/y)							
Carbon sink potential - Low - Restore							-60,000
productivity (1000 tC02e/y)							07.700
Carbon sink potential - Mid - Accelerate							-36,700
regeneration (1000 tCO2e/y) Carbon sink potential - Mid - All (not							
counting overlap) (1000 tC02e/y)							1,020,200
Carbon sink potential - Mid - Avoid							-49,000
deforestation (1000 tC02e/y)							47,000
Carbon sink potential - Mid - Extend							-209,000
rotation length (1000 tCO2e/y)							
Carbon sink potential - Mid - Improve							-42,500
plantations (1000 tCO2e/y)							
Carbon sink potential - Mid - Increase							
retention of HWP (1000 tCO2e/y)							200,000
Carbon sink potential - Mid - Increase							-40,500
trees outside forests (1000 tCO2e/y)							
Carbon sink potential - Mid - Reforest							-181,500
cropland (1000 tCO2e/y)							
Carbon sink potential - Mid - Reforest							-142,000
pasture (1000 tC02e/y)							110.000
Carbon sink potential - Mid - Restore							-119,000
productivity (1000 tCO2e/y)							0.000
Land impacted for carbon sink potential - High - Accelerate regeneration (1000							8,000
hectares)							
Land impacted for carbon sink potential -	+	+					11,373
High - Avoid deforestation (over 30 years)							11,010
(1000 hectares)							
Land impacted for carbon sink potential -							154,000
High - Extend rotation length (1000							
hectares)							
Land impacted for carbon sink potential -							21,000
High - Improve plantations (1000							
hectares)							
Land impacted for carbon sink potential -							(
High - Increase retention of HWP (1000							
hectares)							
Land impacted for carbon sink potential -							5,700
High - Increase trees outside forests (1000 hectares)							
Land impacted for carbon sink potential -							16,000
High - Reforest cropland (1000 hectares)							10,000
Land impacted for carbon sink potential -	+	+					7,500
High - Reforest pasture (1000 hectares)							1,500
Land impacted for carbon sink potential -							59,000
High - Restore productivity (1000							07,000
hectares)							
Land impacted for carbon sink potential -							282,573
High - Total impacted (over 30 years)							
(1000 hectares)							
Land impacted for carbon sink potential -							4,000
Low - Accelerate regeneration (1000							
hectares)							
Land impacted for carbon sink potential -							10,67
Low - Avoid deforestation (over 30 years)							
(1000 hectares)							

Table 60: E+RE- scenario - PILLAR 6: Land sinks - Forests (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Land impacted for carbon sink potential -							59,000
Low - Extend rotation length (1000							
hectares)							
Land impacted for carbon sink potential -							10,500
Low - Improve plantations (1000							
hectares)							
Land impacted for carbon sink potential -							0
Low - Increase retention of HWP (1000							
hectares)							
Land impacted for carbon sink potential -							3,000
Low - Increase trees outside forests							
(1000 hectares)							0.000
Land impacted for carbon sink potential -							8,000
Low - Reforest cropland (1000 hectares)							1.000
Land impacted for carbon sink potential -							1,300
Low - Reforest pasture (1000 hectares)							05.700
Land impacted for carbon sink potential -							35,700
Low - Restore productivity (1000							
hectares)							100 177
Land impacted for carbon sink potential -							132,177
Low - Total impacted (over 30 years)							
(1000 hectares)							( 000
Land impacted for carbon sink potential -							6,000
Mid - Accelerate regeneration (1000							
hectares)							11 005
Land impacted for carbon sink potential -							11,025
Mid - Avoid deforestation (over 30 years)							
(1000 hectares)							107 500
Land impacted for carbon sink potential -							106,500
Mid - Extend rotation length (1000							
hectares)  Land impacted for carbon sink potential -							15,800
Mid - Improve plantations (1000 hectares)							15,600
Land impacted for carbon sink potential -							0
·							U
Mid - Increase retention of HWP (1000							
hectares)  Land impacted for carbon sink potential -							4,350
Mid - Increase trees outside forests (1000							4,350
-							
hectares)							10.000
Land impacted for carbon sink potential - Mid - Reforest cropland (1000 hectares)							12,000
							9,400
Land impacted for carbon sink potential -							9,400
Mid - Reforest pasture (1000 hectares)							71,900
Land impacted for carbon sink potential -							71,900
Mid - Restore productivity (1000							
hectares)  Land impacted for carbon sink potential -							00/075
							236,975
Mid - Total impacted (over 30 years) (1000 hectares)							
Hectaresj							

Table 61: E+RE- scenario - PILLAR 6: Land sinks - Total assumed land sink

Item	2020	2025	2030	2035	2040	2045	2050
Total assumed land sink (Gt CO2e/y)	-0.7	-0.73	-0.75	-0.78	-0.8	-0.83	-0.85

### Table 62: E+RE- scenario - IMPACTS - Fossil fuel industries

Item	2020	2025	2030	2035	2040	2045	2050
Natural gas consumption - Annual (tcf)		24,131	21,291	20,400	18,525	15,159	12,531
Natural gas consumption - Cumulative (tcf)							604,218

Table 62: E+RE- scenario - IMPACTS - Fossil fuel industries (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Natural gas production - Annual (tcf)		37,107	36,554	35,527	33,060	29,484	24,832
Natural gas production - Cumulative (tcf)							1,031,902
Oil consumption - Annual (million bbls)		5,922	5,196	4,119	3,106	2,384	1,930
Oil consumption - Cumulative (million							128,050
bbls)							
Oil production - Annual (million bbls)		5,198	5,216	5,209	4,127	3,429	2,512
Oil production - Cumulative (million bbls)							137,850

#### Table 63: E+RE- scenario - IMPACTS - Health

Item	2020	2025	2030	2035	2040	2045	2050
Monetary damages from air pollution -		22,661	29.5	28.3	24.2	16.6	1.24
Coal (million 2019\$)							
Monetary damages from air pollution -		13,081	8,360	9,347	8,269	3,897	985
Natural Gas (million 2019\$)							
Monetary damages from air pollution -		102,386	96,814	74,557	43,657	20,044	7,790
Transportation (million 2019\$)							
Premature deaths from air pollution -		2,559	3.33	3.2	2.73	1.88	0.14
Coal (deaths)							
Premature deaths from air pollution -		1,477	944	1,055	933	440	111
Natural Gas (deaths)							
Premature deaths from air pollution -		11,515	10,889	8,385	4,910	2,254	876
Transportation (deaths)							

#### Table 64: E+RE- scenario - IMPACTS - Jobs

Item	2020	2025	2030	2035	2040	2045	2050
By economic sector - Agriculture (jobs)		32,312	43,254	55,699	47,806	40,069	47,266
By economic sector - Construction (jobs)		564,240	617,991	685,586	719,730	743,266	850,372
By economic sector - Manufacturing		588,096	542,489	535,843	511,626	442,548	427,854
(jobs)							
By economic sector - Mining (jobs)		462,328	364,057	291,916	202,222	144,611	95,196
By economic sector - Other (jobs)		53,014	58,064	71,028	84,820	95,569	129,975
By economic sector - Pipeline (jobs)		47,529	56,650	51,074	38,386	34,708	36,901
By economic sector - Professional (jobs)		319,609	332,341	387,337	432,164	465,444	539,068
By economic sector - Trade (jobs)		292,298	275,926	286,155	286,444	289,100	322,851
By economic sector - Utilities (jobs)		476,510	542,229	654,430	753,103	848,724	1,023,980
By education level - All sectors -		852,749	861,209	922,936	952,528	966,808	1,085,013
Associates degree or some college (jobs)							
By education level - All sectors -		628,739	613,529	644,107	651,344	659,923	737,730
Bachelors degree (jobs)							
By education level - All sectors - Doctoral		20,890	20,613	22,291	23,272	24,429	28,105
degree (jobs)							
By education level - All sectors - High		1,184,963	1,191,502	1,273,949	1,289,116	1,287,990	1,435,786
school diploma or less (jobs)							
By education level - All sectors - Masters		148,595	146,148	155,786	160,040	164,889	186,829
or professional degree (jobs)							
By education level - Biomass sector -		15,585	19,605	32,904	34,187	35,394	45,925
Associates degree or some college (jobs)							
By education level - Biomass sector -		14,089	17,574	30,605	33,633	36,161	46,832
Bachelors degree (jobs)							
By education level - Biomass sector -		682	913	1,736	2,038	2,297	2,992
Doctoral degree (jobs)							
By education level - Biomass sector - High		47,821	60,096	85,822	79,460	73,172	91,357
school diploma or less (jobs)							
By education level - Biomass sector -		3,878	4,982	8,752	9,750	10,586	13,711
Masters or professional degree (jobs)							
By education level - CO2 sector -		2,815	43,524	37,197	17,230	26,131	50,333
Associates degree or some college (jobs)							
By education level - CO2 sector -		1,395	20,717	18,544	9,251	13,901	24,619
Bachelors degree (jobs)					-		

Table 64: E+RE- scenario - IMPACTS - Jobs (continued)

Separation   Sep	Table 64: E+RE- scenario - IMPACTS - Jobs		-					
degree (jobs)   Sy education level - CO2 sector - High school diploma or less (jobs)   Sy education level - CO2 sector - Masters   Si   Sy education level - CO2 sector - Masters   Si   Sy education level - CO2 sector - Masters   Si   Sy education level - CO2 sector - Masters   Si   Sy education level - CO2 sector - Masters   Si   Sy education level - CO2 sector - Masters   Si   Sy education level - CO2 sector - Secondary   Sy education level - CO2 sector - High sector - Secondary   Sy education level - CO2 sector - High sector - Secondary   Sy education level - CO2 sector - High sector - Secondary   Sy education level - CO2 sector - Masters   Si   Si   Si   Si   Si   Si   Si   S	Item	2020	2025	2030	2035	2040	2045	2050
Pyeducation level - COZ sector - High school diploma or less (jobs)   Sy education level - COZ sector - Masters or professional degree (jobs)   Sy education level - COZ sector - Masters or professional degree (jobs)   Sy education level - COZ sector - Masters or professional degree (jobs)   Sy education level - CoZ sector - Masters or professional degree (jobs)   Sy education level - CoZ sector - Masters or professional degree (jobs)   Sy education level - CoZ sector - Masters or professional degree (jobs)   Sy education level - CoZ sector - Baschelors degree (jobs)   Sy education level - CoZ sector - Baschelors degree (jobs)   Sy education level - CoZ sector - Baschelors degree (jobs)   Sy education level - CoZ sector - High school diploma or less (jobs)   Sy education level - CoZ sector - High school diploma or less (jobs)   Sy education level - Grid sector - Masters or professional degree (jobs)   Sy education level - Grid sector - Masters or professional degree (jobs)   Sy education level - Grid sector - Sachol diploma or less (jobs)   Sy education level - Grid sector - Baschelors degree (jobs)   Sy education level - Grid sector - Baschelors degree (jobs)   Sy education level - Grid sector - Baschelors degree (jobs)   Sy education level - Grid sector - Baschelors degree (jobs)   Sy education level - Grid sector - Masters or professional degree (jobs)   Sy education level - Grid sector - Masters or professional degree (jobs)   Sy education level - Grid sector - Masters or professional degree (jobs)   Sy education level - Grid sector - Masters or professional degree (jobs)   Sy education level - Grid sector - Masters or professional degree (jobs)   Sy education level - Grid sector - Masters or professional degree (jobs)   Sy education level - Grid sector - Masters or professional degree (jobs)   Sy education level - Grid sector - Masters or professional degree (jobs)   Sy education level - Grid sector - Masters or professional degree (jobs)   Sy education level - Grid sector - Masters or professional degree			27.8	380	378	217	322	491
School diploma or less (jobs)   By education level - CO2 sector - Masters   20,558   5,466   2,968   2,579   2,324   1,926   2,926   2,529   2,324   1,926   2,926   2,926   2,529   2,324   1,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926   2,926								
Syeducation level - CO2 sector - Masters or professional degree (pibs)			3,476	53,796	46,155	21,475	32,628	62,868
or professional degree (jobs) By education level - Coal sector -								
Py education level - Coal sector - Associates degree or some college (jobs)   Status   Stat			311	4,559	4,139	2,109	3,160	5,456
Associates degree or some college (lobs) by education level - Coal sector - Doctoral degree (jobs) by education level - Coal sector - Doctoral degree (jobs) by education level - Coal sector - Doctoral degree (jobs) by education level - Coal sector - High school diploma or less (jobs) by education level - Coal sector - High school diploma or less (jobs) by education level - Coal sector - High school diploma or less (jobs) by education level - Coal sector - Masters or professional degree (jobs) by education level - Goal sector - Masters or professional degree (jobs) by education level - Goal sector - High school diploma or less (jobs) by education level - Goal sector - Basel - Ba								
Syeducation level - Coal sector - Doctoral   13,402   3,303   1,688   1,517   1,413   1,203   1,203   1,688   1,517   1,413   1,203   1,203   1,688   1,517   1,413   1,203   1,203   1,688   1,517   1,413   1,203   1,203   1,688   1,517   1,413   1,203   1,688   1,517   1,413   1,203   1,203   1,688   1,517   1,413   1,203   1,203   1,688   1,517   1,413   1,203   1,203   1,688   1,517   1,413   1,203   1,203   1,688   1,517   1,413   1,203   1,688   1,517   1,413   1,203   1,203   1,203   1,688   1,517   1,413   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,688   1,517   1,413   1,203   1,203   1,203   1,203   1,203   1,688   1,517   1,413   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203   1,203	By education level - Coal sector -		20,558	5,466	2,968	2,579	2,324	1,926
Bachelors degree (jobs) Py education level - Coal sector - Doctoral degree (jobs) Py education level - Coal sector - High Sty education level - Coal sector - Masters or professional degree (jobs) Py education level - Coal sector - Masters or professional degree (jobs) Py education level - Coal sector - Masters or professional degree (jobs) Py education level - Coal sector - Masters or professional degree (jobs) Py education level - Chrid sector - Sacration (John Style Styl								
By education level - Coal sector - Doctoral degree (jobs)   By education level - Coal sector - High school diploma or less (jobs)   By education level - Coal sector - Masters   3,317   801   369   334   313   270   Sy education level - Coal sector - Masters   3,317   801   369   334   313   270   Sy education level - Coal sector - Masters   3,317   801   369   334   313   270   Sy education level - Coal sector - Masters   3,317   801   369   334   313   270   Sy education level - Coal sector - Masters   3,317   801   369   334   313   270   Sy education level - Grid sector - Masters   175,299   197,833   275,867   328,791   350,586   380,763   Associates degree or some college (jobs)   By education level - Grid sector - Doctoral   2,896   3,193   4,349   5,043   5,275   5,598   degree (jobs)   589 education level - Grid sector - High   224,161   254,252   356,322   426,807   457,367   499,201   Sy education level - Grid sector - Masters   25,278   28,252   39,023   46,075   48,677   52,388   By education level - Grid sector - Masters   25,278   28,252   39,023   46,075   48,677   52,388   By education level - Natural gas sector - Masters   186,211   163,836   146,374   143,998   121,468   101,198   Associates degree or some college (jobs)   189,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180,240   180	By education level - Coal sector -		13,402	3,303	1,688	1,517	1,413	1,203
degree (jobs)   28,741   8,731   5,749   4,896   4,322   3,507   school diploma or less (jobs)   3,317   801   369   334   313   270   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   370   3	Bachelors degree (jobs)							
By education level - Coal sector - High school ediploma or less (jobs)   By education level - Coal sector - Masters or professional degree (jobs)   By education level - Coal sector - Masters or professional degree (jobs)   By education level - Grain Sector - Section   175,299   197,833   275,867   328,791   350,586   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,7	By education level - Coal sector - Doctoral		496	118	51.4	47.9	46.1	40.8
School diploma or less (jobs)   Per ducation level - Cali sector - Masters   175,299   197,833   275,867   328,791   350,586   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763   380,763	degree (jobs)							
By education level - Coal sector - Masters or professional degree (jobs)   By education level - Grid sector -	By education level - Coal sector - High		28,741	8,731	5,749	4,896	4,322	3,507
By education level - Coal sector - Masters or professional degree (jobs)   By education level - Grid sector -	school diploma or less (jobs)							
or professional degree (jobs) By education level - Grid sector - Associates degree or some college (jobs) By education level - Grid sector - High Sy education level - Grid sector - Masters Or professional degree (jobs) By education level - Natural gas sector - By education level - Natural gas se			3,317	801	369	334	313	270
By education level - Grid sector - Associates degree or some college (jobs)   Sy education level - Grid sector - Bachelors degree (jobs)   Sy education level - Grid sector - Doctoral degree (jobs)   Sy education level - Grid sector - Doctoral degree (jobs)   Sy education level - Grid sector - Doctoral degree (jobs)   Sy education level - Grid sector - High school diploma or less (jobs)   Sy education level - Grid sector - High school diploma or less (jobs)   Sy education level - Grid sector - High school diploma or less (jobs)   Sy education level - Grid sector - High school diploma or less (jobs)   Sy education level - Grid sector - High school diploma or less (jobs)   Sy education level - Natural gas sector - Sy education level - Nuclear sector - Sy educ			-,-					
Associates degree or some college (jobs)			175.299	197.833	275.867	328.791	350.586	380.763
By education level - Grid sector - Bachelors degree (jobs)			,	,	,	0=0,		555,155
Bachelors degree (jobs)   By education level - Grid sector - Doctoral degree (jobs)   2.896   3,193   4,349   5,063   5,275   5,598			100 456	112 629	156 046	184 807	195 830	211 382
By education level - Grid sector - Doctoral degree (jobs)   By education level - Grid sector - High school diploma or less (jobs)   Sy education level - Grid sector - High school diploma or less (jobs)   Sy education level - Grid sector - Masters   Sy education level - Grid sector - Masters   Sy education level - Natural gas sector - Sasciates degree (jobs)   Sy education level - Natural gas sector - Sasciates degree or some college (jobs)   Sy education level - Natural gas sector - Sasciates degree or some college (jobs)   Sy education level - Natural gas sector - Sasciates degree (jobs)   Sy education level - Natural gas sector - Sasciates degree (jobs)   Sy education level - Natural gas sector - Sasciates degree (jobs)   Sy education level - Natural gas sector - Sasciates degree (jobs)   Sy education level - Natural gas sector - Sasciates degree (jobs)   Sy education level - Natural gas sector - Sasciates degree (jobs)   Sy education level - Natural gas sector - Sasciates degree (jobs)   Sy education level - Natural gas sector - Sasciates degree or some college (jobs)   Sy education level - Natural gas sector - Sasciates degree or some college (jobs)   Sy education level - Natural gas sector - Sasciates degree or some college (jobs)   Sy education level - Nuclear sector - Sasciates degree or some college (jobs)   Sy education level - Nuclear sector - Sasciates degree or some college (jobs)   Sy education level - Nuclear sector - Sasciates degree (jobs)   Sy education level - Nuclear sector - Sasciates degree (jobs)   Sy education level - Nuclear sector - Sasciates degree (jobs)   Sy education level - Nuclear sector - Sasciates degree (jobs)   Sy education level - Oil sector - Sasciates   Sy			100,400	112,027	100,040	10-1,001	170,000	211,002
By education level - Grid sector - High   224,161   254,252   356,322   426,807   457,367   499,201   school diploma or less [jobs]   Sy education level - Grid sector - Masters   25,278   28,252   39,023   46,075   48,677   52,388   or professional degree [jobs]   Sy education level - Natural gas sector - 186,211   163,836   146,374   143,998   121,468   101,198   Associates degree or some college [jobs]   Sy education level - Natural gas sector - 129,532   111,273   97,318   92,498   76,385   61,909   By education level - Natural gas sector - 129,532   111,273   97,318   92,498   76,385   61,909   By education level - Natural gas sector - 129,532   111,273   97,318   92,498   76,385   61,909   By education level - Natural gas sector - 122,7718   199,738   178,905   173,713   145,948   120,878   14gh school diploma or less [jobs]   By education level - Natural gas sector - 13,716   16,539   25,707   38,158   63,147   103,282   Associates degree or some college [jobs]   Sy education level - Nuclear sector - 13,716   16,539   25,707   38,158   63,147   103,282   Associates degree (jobs)   Sy education level - Nuclear sector - 14,826   17,835   27,656   40,956   67,621   110,347   Aschelors degree [jobs]   Sy education level - Nuclear sector - 14,826   17,835   27,656   40,956   67,621   110,347   48,930   47,400   79,201   129,855   36,001 diploma or less [jobs]   Sy education level - Nuclear sector - 4,013   4,819   7,460   11,030   18,180   29,620   48,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,940   49,			2 806	2 102	/, 3/,0	5.063	5 275	5 500
By education level - Grid sector - High school diploma or less (jobs)   Sty education level - Grid sector - Masters or professional degree (jobs)   Sty education level - Grid sector - Masters or professional degree (jobs)   Sty education level - Natural gas sector - Associates degree or some college (jobs)   Sty education level - Natural gas sector - Associates degree or some college (jobs)   Sty education level - Natural gas sector - Sachelors degree (jobs)   Sty education level - Natural gas sector - Sachelors degree (jobs)   Sty education level - Natural gas sector - Sachelors degree (jobs)   Sty education level - Natural gas sector - Sachelors degree (jobs)   Sty education level - Natural gas sector - Sachelors degree (jobs)   Sty education level - Natural gas sector - Sachelors degree (jobs)   Sty education level - Natural gas sector - Sachelors degree (jobs)   Sty education level - Nuclear sector - Sachelors degree (jobs)   Sty education level - Nuclear sector - Sachelors degree (jobs)   Sty education level - Nuclear sector - Sachelors degree (jobs)   Sty education level - Nuclear sector - Sachelors degree (jobs)   Sty education level - Nuclear sector - Sachelors degree (jobs)   Sty education level - Nuclear sector - Sachelors degree (jobs)   Sty education level - Nuclear sector - Sachelors degree (jobs)   Sty education level - Nuclear sector - Sachelors degree (jobs)   Sty education level - Nuclear sector - Sachelors degree (jobs)   Sty education level - Nuclear sector - Sachelors degree (jobs)   Sty education level - Sachelors deg			2,070	3,173	4,547	3,003	3,213	3,370
School diploma or less (jobs)   Sy education level - Grid sector - Masters or professional degree (jobs)   Sy education level - Natural gas sector - Associates degree or some college (jobs)   Sy education level - Natural gas sector - Associates degree (jobs)   Sy education level - Natural gas sector - Bachelors degree (jobs)   Sy education level - Natural gas sector - Bachelors degree (jobs)   Sy education level - Natural gas sector - Bachelors degree (jobs)   Sy education level - Natural gas sector - Coctoral degree (jobs)   Sy education level - Natural gas sector - Coctoral degree (jobs)   Sy education level - Natural gas sector - Coctoral degree (jobs)   Sy education level - Natural gas sector - Coctoral degree (jobs)   Sy education level - Natural gas sector - Coctoral degree (jobs)   Sy education level - Natural gas sector - Coctoral degree (jobs)   Sy education level - Natural gas sector - Coctoral degree (jobs)   Sy education level - Nuclear sector - Coctoral degree (jobs)   Sy education level - Nuclear sector - Coctoral degree (jobs)   Sy education level - Nuclear sector - Coctoral degree (jobs)   Sy education level - Nuclear sector - Coctoral degree (jobs)   Sy education level - Nuclear sector - Coctoral degree (jobs)   Sy education level - Nuclear sector - Coctoral degree (jobs)   Sy education level - Nuclear sector - Coctoral degree (jobs)   Sy education level - Nuclear sector - Coctoral degree (jobs)   Sy education level - Nuclear sector - Coctoral degree (jobs)   Sy education level - Sy explain level - Sy explai			007.171	057, 050	25/ 200	/.0/ 0.07	/E79/7	/.00.001
By education level - Grid sector - Masters or professional degree (jobs)			224,161	254,252	336,322	426,807	451,361	499,201
Or professional degree (jobs)   Sy education level - Natural gas sector - Associates degree or some college (jobs)   Sy education level - Natural gas sector - Bachelors degree (jobs)   Sy education level - Natural gas sector - Sy education level - Nuclear sector - Sy education level - Sy education			05.070	00.050	20.002	// 075	/ 0 /77	E0 000
By education level - Natural gas sector			25,278	28,252	39,023	46,075	48,677	52,388
Associates degree or some college (jobs) By education level - Natural gas sector - 129,532 111,273 97,318 92,498 76,385 61,909 Bachelors degree (jobs) By education level - Natural gas sector - 4,301 3,664 3,163 2,968 2,424 1,927 Doctoral degree (jobs) By education level - Natural gas sector - 227,718 199,738 178,905 173,713 145,948 120,878 High school diploma or less (jobs) By education level - Natural gas sector - 31,729 27,137 23,572 22,376 18,417 14,876 Masters or professional degree (jobs) By education level - Nuclear sector - 13,716 16,539 25,707 38,158 63,147 103,282 Associates degree or some college (jobs) By education level - Nuclear sector - 14,826 17,835 27,656 40,956 67,621 110,347 Bachelors degree (jobs) By education level - Nuclear sector - 650 777 1,197 1,763 2,893 4,693 Doctoral degree (jobs) By education level - Nuclear sector - 650 777 1,197 1,763 2,893 4,693 By education level - Nuclear sector - 4,013 4,819 7,460 11,030 18,180 29,620 Masters or professional degree (jobs) By education level - Nuclear sector - 4,013 4,819 7,460 11,030 18,180 29,620 Masters or professional degree (jobs) By education level - Oil sector - Bachelors 211,973 183,998 156,433 111,469 83,191 57,319 degree (jobs) By education level - Oil sector - Bachelors 211,973 183,998 156,433 111,469 83,191 57,319 degree (jobs) By education level - Oil sector - High 317,630 281,307 243,628 178,020 136,250 96,881 school diploma or less (jobs) By education level - Oil sector - Masters or professional degree (jobs) By education level - Oil sector - Masters or professional degree (jobs) By education level - Oil sector - High 317,630 281,307 243,628 178,020 136,250 96,881 school diploma or less (jobs) By education level - Oil sector - Masters or professional degree (jobs) By education level - Oil sector - Masters or professional degree (jobs) By education level - Oil sector - Masters or professional degree (jobs) By education level - Oil sector - Masters or professional degree (jobs) By education level - Oil sector - Masters or profession			40 ( 044	1(0.00)	44 ( 074	1/0.000	101 / / 0	404400
By education level - Natural gas sector -   129,532   111,273   97,318   92,498   76,385   61,909   Bachelors degree (jobs)   By education level - Natural gas sector -   4,301   3,664   3,163   2,968   2,424   1,927			186,211	163,836	146,374	143,998	121,468	101,198
Bachelors degree (jobs)   By education level - Natural gas sector - Doctoral degree (jobs)   By education level - Natural gas sector - Doctoral degree (jobs)   By education level - Natural gas sector - High school diploma or less (jobs)   By education level - Natural gas sector - High school diploma or less (jobs)   By education level - Natural gas sector - Masters or professional degree (jobs)   By education level - Nuclear sector - Masters or some college (jobs)   By education level - Nuclear sector - Masters or professional degree (jobs)   By education level - Nuclear sector - Masters or professional degree (jobs)   By education level - Nuclear sector - Masters or professional degree (jobs)   By education level - Nuclear sector - Masters or professional degree (jobs)   By education level - Nuclear sector - Masters or professional degree (jobs)   By education level - Nuclear sector - High school diploma or less (jobs)   By education level - Nuclear sector - High school diploma or less (jobs)   By education level - Oli sector - Associates degree or some college (jobs)   By education level - Oli sector - Associates degree or some college (jobs)   By education level - Oli sector - Bachelors   205,502   181,086   156,218   113,373   114,698   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114,699   114								
By education level - Natural gas sector -   4,301   3,664   3,163   2,968   2,424   1,927			129,532	111,273	97,318	92,498	76,385	61,909
Doctoral degree (jobs)   By education level - Natural gas sector -   13,712   173,713   145,948   120,878   178,905   173,713   145,948   120,878   178,905   173,713   145,948   120,878   178,905   173,713   145,948   120,878   178,905   173,713   145,948   120,878   178,905   173,713   145,948   120,878   178,905   173,713   145,948   120,878   178,905   173,713   145,948   120,878   178,905   173,713   145,948   120,878   178,905   173,713   145,948   120,878   178,905   173,713   145,948   120,878   146,878   178,905   173,713   145,948   120,878   174,876   173,713   173,713   145,948   120,878   174,876   173,713   173,713   145,948   120,878   174,876   173,713   173,713   145,948   120,878   174,876   173,713   173,713   145,948   120,878   174,876   173,713   145,948   120,878   174,876   173,713   145,948   120,878   174,876   173,713   145,948   120,878   174,876   173,713   145,948   120,878   174,976   184,477   144,876   184,477   144,876   184,477   144,876   184,477   144,876   184,477   144,876   184,477   144,876   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,478   146,47								
By education level - Natural gas sector - High school diploma or less (jobs)   By education level - Nuclear sector - Masters or professional degree (jobs)   By education level - Nuclear sector - Masters or professional degree (jobs)   By education level - Nuclear sector - 13,716   16,539   25,707   38,158   63,147   103,282   Associates degree or some college (jobs)   By education level - Nuclear sector - 14,826   17,835   27,656   40,956   67,621   110,347   Bachelors degree (jobs)   By education level - Nuclear sector - 650   777   1,197   1,763   2,893   4,693   Doctoral degree (jobs)   By education level - Nuclear sector - 650   777   1,197   1,763   2,893   4,693   Doctoral degree (jobs)   By education level - Nuclear sector - High school diploma or less (jobs)   By education level - Nuclear sector - 4,013   4,819   7,460   11,030   18,180   29,620   Masters or professional degree (jobs)   By education level - Oil sector - Associates degree or some college (jobs)   By education level - Oil sector - Bachelors degree (jobs)   By education level - Oil sector - Bachelors degree (jobs)   By education level - Oil sector - Bachelors degree (jobs)   By education level - Oil sector - High school diploma or less (jobs)   By education level - Oil sector - High school diploma or less (jobs)   By education level - Oil sector - High school diploma or less (jobs)   By education level - Oil sector - High school diploma or less (jobs)   By education level - Oil sector - High school diploma or less (jobs)   By education level - Oil sector - Masters or 48,075   41,558   35,208   24,944   18,510   12,658   Py education level - Oil sector - Masters or 48,075   41,558   35,208   24,944   18,510   12,658   Py education level - Oil sector - Masters or 50,000   142,267   149,092   155,875   160,624   222,683   By education level - Oil sector - Masters or 50,000   142,267   149,092   155,875   160,624   222,683   By education level - Solar PV sector - 88,302   83,195   87,771   92,558   96,333   134,924   18,924   18,924   18,924			4,301	3,664	3,163	2,968	2,424	1,927
High school diploma or less (jobs)   By education level - Natural gas sector -   31,729   27,137   23,572   22,376   18,417   14,876   Masters or professional degree (jobs)   By education level - Nuclear sector -   13,716   16,539   25,707   38,158   63,147   103,282   Associates degree or some college (jobs)   By education level - Nuclear sector -   14,826   17,835   27,656   40,956   67,621   110,347   Bachelors degree (jobs)   By education level - Nuclear sector -   650   777   1,197   1,763   2,893   4,693   Doctoral degree (jobs)   By education level - Nuclear sector - High school diploma or less (jobs)   By education level - Nuclear sector -   4,013   4,819   7,460   11,030   18,180   29,620   Masters or professional degree (jobs)   By education level - Oil sector - Associates degree or some college (jobs)   By education level - Oil sector - Bachelors degree (jobs)   By education level - Oil sector - Bachelors degree (jobs)   By education level - Oil sector - Doctoral degree (jobs)   By education level - Oil sector - Doctoral degree (jobs)   By education level - Oil sector - High school diploma or less (jobs)   By education level - Oil sector - High school diploma or less (jobs)   By education level - Oil sector - High school diploma or less (jobs)   By education level - Oil sector - Masters or professional degree (jobs)   By education level - Oil sector - Masters or professional degree (jobs)   By education level - Oil sector - High school diploma or less (jobs)   By education level - Oil sector - Masters or professional degree (jobs)   By education level - Oil sector - Masters or professional degree (jobs)   By education level - Oil sector - Masters or professional degree (jobs)   By education level - Oil sector - Masters or professional degree (jobs)   By education level - Oil sector - Masters or professional degree (jobs)   By education level - Oil sector - Masters or professional degree (jobs)   By education level - Oil sector - Masters or professional degree (jobs)   By education level - Oil secto								
By education level - Natural gas sector - Masters or professional degree (jobs)   By education level - Nuclear sector - 13,716   16,539   25,707   38,158   63,147   103,282   Associates degree or some college (jobs)   By education level - Nuclear sector - 14,826   17,835   27,656   40,956   67,621   110,347   8achelors degree (jobs)   By education level - Nuclear sector - 650   777   1,197   1,763   2,893   4,693   A,693   A			227,718	199,738	178,905	173,713	145,948	120,878
Masters or professional degree (jobs)         By education level - Nuclear sector - Associates degree or some college (jobs)         13,716         16,539         25,707         38,158         63,147         103,282           Associates degree or some college (jobs)         By education level - Nuclear sector - Bachelors degree (jobs)         14,826         17,835         27,656         40,956         67,621         110,347           By education level - Nuclear sector - By education level - Nuclear sector - High school diploma or less (jobs)         17,026         20,585         32,080         47,740         79,201         129,855           By education level - Nuclear sector - Masters or professional degree (jobs)         4,013         4,819         7,460         11,030         18,180         29,620           By education level - Oil sector - Associates degree or some college (jobs)         205,502         181,086         156,218         113,373         86,209         60,753           By education level - Oil sector - Bachelors degree (jobs)         211,973         183,998         156,433         111,469         83,191         57,319           By education level - Oil sector - Bachelors degree (jobs)         6,848         5,981         5,123         3,669         2,753         1,903           By education level - Oil sector - High school diploma or less (jobs)         317,630         281,307								
By education level - Nuclear sector - Associates degree or some college (jobs)   14,826   17,835   25,707   38,158   63,147   103,282	By education level - Natural gas sector -		31,729	27,137	23,572	22,376	18,417	14,876
Associates degree or some college (jobs)  By education level - Nuclear sector - Bachelors degree (jobs)  By education level - Nuclear sector - Doctoral degree (jobs)  By education level - Nuclear sector - Doctoral degree (jobs)  By education level - Nuclear sector - By education level - Oil sector - Associates By education level - Oil sector - Associates By education level - Oil sector - Bachelors By education level - Oil sector - Bachelors By education level - Oil sector - Doctoral By education level - Oil sector - High School diploma or less (jobs) By education level - Oil sector - High School diploma or less (jobs) By education level - Oil sector - Masters or By education level - Oil sector - Masters or By education level - Oil sector - Masters or By education level - Oil sector - Masters or By education level - Oil sector - Masters or By education level - Oil sector - Masters or By education level - Solar PV sector - By education level - Solar	Masters or professional degree (jobs)							
By education level - Nuclear sector - Bachelors degree (jobs)   By education level - Nuclear sector - G50   777   1,197   1,763   2,893   4,693   4,693   2,894   4,693   2,895   4,693   2,895   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   32,080   47,740   79,201   129,855   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580   41,580	By education level - Nuclear sector -		13,716	16,539	25,707	38,158	63,147	103,282
Bachelors degree (jobs)   By education level - Nuclear sector -   650   777   1,197   1,763   2,893   4,693	Associates degree or some college (jobs)							
Bachelors degree (jobs)   By education level - Nuclear sector -   650   777   1,197   1,763   2,893   4,693	By education level - Nuclear sector -		14,826	17,835	27,656	40,956	67,621	110,347
Doctoral degree (jobs)   By education level - Nuclear sector - High school diploma or less (jobs)   By education level - Nuclear sector - High school diploma or less (jobs)   By education level - Nuclear sector - High sector - A,013	Bachelors degree (jobs)							
By education level - Nuclear sector - High school diploma or less (jobs)   17,026   20,585   32,080   47,740   79,201   129,855   129,855   10,000   11,000   18,180   29,620   11,000   11,000   18,180   29,620   11,000   11,000   18,180   29,620   11,000   11,000   18,180   29,620   18,1000   19,600   11,000   18,180   29,620   18,1000   19,600   11,000   18,180   29,620   18,000   156,218   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373   113,373	By education level - Nuclear sector -		650	777	1,197	1,763	2,893	4,693
School diploma or less (jobs)   By education level - Nuclear sector -   4,013   4,819   7,460   11,030   18,180   29,620	Doctoral degree (jobs)							
School diploma or less (jobs)   By education level - Nuclear sector -   4,013   4,819   7,460   11,030   18,180   29,620	By education level - Nuclear sector - High		17,026	20,585	32,080	47,740	79,201	129,855
By education level - Nuclear sector - Masters or professional degree (jobs)   By education level - Oil sector - Associates degree or some college (jobs)   By education level - Oil sector - Bachelors degree (jobs)   By education level - Oil sector - Bachelors degree (jobs)   By education level - Oil sector - Doctoral degree (jobs)   By education level - Oil sector - High school diploma or less (jobs)   By education level - Oil sector - Masters or professional degree (jobs)   By education level - Oil sector - Masters or professional degree (jobs)   By education level - Solar PV sector - Associates degree or some college (jobs)   By education level - Solar PV sector - 88,302   83,195   87,771   92,558   96,333   134,924			,	-,	,	,	, -	,
Masters or professional degree (jobs)         205,502         181,086         156,218         113,373         86,209         60,753           By education level - Oil sector - Bachelors degree (jobs)         211,973         183,998         156,433         111,469         83,191         57,319           By education level - Oil sector - Bachelors degree (jobs)         6,848         5,981         5,123         3,669         2,753         1,903           By education level - Oil sector - High school diploma or less (jobs)         317,630         281,307         243,628         178,020         136,250         96,881           By education level - Oil sector - Masters or professional degree (jobs)         48,075         41,558         35,208         24,944         18,510         12,658           By education level - Solar PV sector - Associates degree or some college (jobs)         152,002         142,267         149,092         155,875         160,624         222,683           By education level - Solar PV sector -         88,302         83,195         87,771         92,558         96,333         134,924			4.013	4.819	7.460	11.030	18.180	29.620
By education level - Oil sector - Associates degree or some college (jobs)   205,502   181,086   156,218   113,373   86,209   60,753			., 6 . 6	.,6.7	.,	,000	.57.55	27,020
degree or some college (jobs)         211,973         183,998         156,433         111,469         83,191         57,319           degree (jobs)         By education level - Oil sector - Doctoral degree (jobs)         6,848         5,981         5,123         3,669         2,753         1,903           By education level - Oil sector - High school diploma or less (jobs)         317,630         281,307         243,628         178,020         136,250         96,881           By education level - Oil sector - Masters or professional degree (jobs)         48,075         41,558         35,208         24,944         18,510         12,658           By education level - Solar PV sector - Associates degree or some college (jobs)         152,002         142,267         149,092         155,875         160,624         222,683           By education level - Solar PV sector -         88,302         83,195         87,771         92,558         96,333         134,924			205 502	181 086	156 218	113 373	86 209	60.753
By education level - Oil sector - Bachelors degree (jobs)         211,973         183,998         156,433         111,469         83,191         57,319           By education level - Oil sector - Doctoral degree (jobs)         6,848         5,981         5,123         3,669         2,753         1,903           By education level - Oil sector - High school diploma or less (jobs)         317,630         281,307         243,628         178,020         136,250         96,881           By education level - Oil sector - Masters or professional degree (jobs)         48,075         41,558         35,208         24,944         18,510         12,658           By education level - Solar PV sector - Associates degree or some college (jobs)         152,002         142,267         149,092         155,875         160,624         222,683           By education level - Solar PV sector -         88,302         83,195         87,771         92,558         96,333         134,924	,		200,002	101,000	100,210	110,010	00,207	00,100
degree (jobs)         6,848         5,981         5,123         3,669         2,753         1,903           degree (jobs)         By education level - Oil sector - High school diploma or less (jobs)         317,630         281,307         243,628         178,020         136,250         96,881           By education level - Oil sector - Masters or professional degree (jobs)         48,075         41,558         35,208         24,944         18,510         12,658           By education level - Solar PV sector - Associates degree or some college (jobs)         152,002         142,267         149,092         155,875         160,624         222,683           By education level - Solar PV sector - Associates degree or some college (jobs)         88,302         83,195         87,771         92,558         96,333         134,924			211 973	183 998	156 / 33	111 / 60	83 101	57 310
By education level - Oil sector - Doctoral degree (jobs)         6,848         5,981         5,123         3,669         2,753         1,903           By education level - Oil sector - High school diploma or less (jobs)         317,630         281,307         243,628         178,020         136,250         96,881           By education level - Oil sector - Masters or professional degree (jobs)         48,075         41,558         35,208         24,944         18,510         12,658           By education level - Solar PV sector - Associates degree or some college (jobs)         152,002         142,267         149,092         155,875         160,624         222,683           By education level - Solar PV sector -         88,302         83,195         87,771         92,558         96,333         134,924			211,710	103,770	130,433	111,407	03,171	31,317
degree (jobs)         317,630         281,307         243,628         178,020         136,250         96,881           school diploma or less (jobs)         By education level - Oil sector - Masters or professional degree (jobs)         48,075         41,558         35,208         24,944         18,510         12,658           By education level - Solar PV sector - Associates degree or some college (jobs)         152,002         142,267         149,092         155,875         160,624         222,683           By education level - Solar PV sector -         88,302         83,195         87,771         92,558         96,333         134,924			4 0 /. 0	5 001	E 102	2 440	2.752	1002
By education level - Oil sector - High school diploma or less (jobs)       317,630       281,307       243,628       178,020       136,250       96,881         By education level - Oil sector - Masters or professional degree (jobs)       48,075       41,558       35,208       24,944       18,510       12,658         By education level - Solar PV sector - Associates degree or some college (jobs)       152,002       142,267       149,092       155,875       160,624       222,683         By education level - Solar PV sector -       88,302       83,195       87,771       92,558       96,333       134,924			0,040	5,961	5,125	3,009	2,155	1,903
school diploma or less (jobs)     48,075     41,558     35,208     24,944     18,510     12,658       professional degree (jobs)     By education level - Solar PV sector - Associates degree or some college (jobs)     152,002     142,267     149,092     155,875     160,624     222,683       By education level - Solar PV sector -     88,302     83,195     87,771     92,558     96,333     134,924			017 / 00	001 007	0/.0 /00	170 000	107.050	0/ 001
By education level - Oil sector - Masters or professional degree (jobs)       48,075       41,558       35,208       24,944       18,510       12,658         By education level - Solar PV sector - Associates degree or some college (jobs)       152,002       142,267       149,092       155,875       160,624       222,683         By education level - Solar PV sector -       88,302       83,195       87,771       92,558       96,333       134,924	= -		317,630	281,307	243,628	178,020	136,250	५७,४४।
professional degree (jobs)         152,002         142,267         149,092         155,875         160,624         222,683           Associates degree or some college (jobs)         By education level - Solar PV sector -         88,302         83,195         87,771         92,558         96,333         134,924					27.222		10.710	
By education level - Solar PV sector -       152,002       142,267       149,092       155,875       160,624       222,683         Associates degree or some college (jobs)       By education level - Solar PV sector -       88,302       83,195       87,771       92,558       96,333       134,924			48,075	41,558	35,208	24,944	18,510	12,658
Associates degree or some college (jobs)         88,302         83,195         87,771         92,558         96,333         134,924			450.000	4/05:=	4/2 2 = =	45555	4(5 : 5 :	
By education level - Solar PV sector -         88,302         83,195         87,771         92,558         96,333         134,924			152,002	142,267	149,092	155,875	160,624	222,683
Bachelors degree (jobs)			88,302	83,195	87,771	92,558	96,333	134,924
	Bachelors degree (jobs)							

Table 64: E+RE- scenario - IMPACTS - Jobs (continued)

Item	2020	2025	2030	2035	2040	2045	2050
By education level - Solar PV sector -		2,857	2,848	3,206	3,564	3,865	5,638
Doctoral degree (jobs)							
By education level - Solar PV sector - High		213,421	197,918	205,192	212,005	215,748	295,066
school diploma or less (jobs)							
By education level - Solar PV sector -		19,142	18,505	20,120	21,787	23,194	33,243
Masters or professional degree (jobs)			21.272	24.422	112.22	100.00=	
By education level - Wind sector -		81,062	91,053	96,609	118,336	120,925	118,151
Associates degree or some college (jobs)		F / 7/ /	(0.00/	(0.0//	0/ /57	00.000	00107
By education level - Wind sector -		54,764	63,004	68,046	84,657	89,089	89,196
Bachelors degree (jobs)  By education level - Wind sector -		0 101	2,738	3,088	3,943	4,554	4,821
Doctoral degree (jobs)		2,131	2,136	3,088	3,943	4,554	4,021
By education level - Wind sector - High		104,968	115,077	120,097	145,001	143,354	136,172
school diploma or less (jobs)		104,700	113,011	120,071	143,001	143,334	100,112
By education level - Wind sector - Masters		12,853	15,534	17,144	21,636	23,851	24,608
or professional degree (jobs)		12,000	10,004	11,144	21,000	20,001	24,000
By resource sector - Biomass (jobs)		82,054	103,170	159,818	159,067	157,610	200,816
By resource sector - CO2 (jobs)		8,025	122,978	106,414	50,282	76,142	143,768
By resource sector - Coal (jobs)		66,513	18,419	10,825	9,372	8,418	6,947
By resource sector - Grid (jobs)		528,090	596,159	831,606	991,543	1,057,735	1,149,332
By resource sector - Natural Gas (jobs)		579,492	505,649	449,332	435,553	364,642	300,788
By resource sector - Nuclear (jobs)		50,231	60,555	94,101	139,647	231,042	377,797
By resource sector - Oil (jobs)		790,028	693,931	596,610	431,475	326,913	229,514
By resource sector - Solar (jobs)		475,723	444,734	465,380	485,789	499,764	691,554
By resource sector - Wind (jobs)		255,779	287,406	304,985	373,573	381,772	372,947
Median wages - Annual - Biomass (\$2019		51,666	53,532	56,879	59,868	62,772	64,193
per job)		01,000	00,002	00,017	07,000	02,112	04,170
Median wages - Annual - CO2 (\$2019 per		62,403	62,811	64,256	66,235	67,173	66,956
job)		02, 100	02,011	0 .,200	00,200	3.,3	00,700
Median wages - Annual - Coal (\$2019 per		60,717	58,966	55,632	56,538	57,489	58,483
job)		,		,	,	, .	,
Median wages - Annual - Grid (\$2019 per		62,539	63,375	64,248	65,159	66,110	67,102
job)		,		•	•	,	•
Median wages - Annual - Natural Gas		66,236	67,055	67,908	68,519	69,331	70,036
(\$2019 per job)							
Median wages - Annual - Nuclear (\$2019		71,486	73,188	74,974	76,846	78,808	80,864
per job)							
Median wages - Annual - Oil (\$2019 per		65,834	66,720	67,650	68,456	69,271	69,967
job)							
Median wages - Annual - Solar (\$2019 per		55,458	56,359	57,373	58,436	59,544	60,749
job)							
Median wages - Annual - Wind (\$2019 per		58,266	59,962	61,252	62,475	64,619	66,554
job)							
On-Site or In-Plant Training - Biomass		8,269	10,558	17,339	17,726	18,126	23,389
sector - 1 to 4 years (jobs)							
On-Site or In-Plant Training - Biomass		2,558	3,232	5,758	6,103	6,468	8,510
sector - 4 to 10 years (jobs)							
On-Site or In-Plant Training - Biomass		13,221	17,052	27,270	27,875	28,306	36,043
sector - None (jobs)							
On-Site or In-Plant Training - Biomass		572	670	1,022	990	957	1,250
sector - Over 10 years (jobs)				122 / 22		100 ==0	101 10=
On-Site or In-Plant Training - Biomass		57,434	71,657	108,430	106,373	103,753	131,625
sector - Up to 1 year (jobs)		1 / 00	00.000	10 / 01	0407	10.010	07.700
On-Site or In-Plant Training - CO2 sector -		1,483	22,923	19,621	9,107	13,819	26,600
1 to 4 years (jobs)		704	44 / 40	0.777	/ 000	/ /04	40.471
On-Site or In-Plant Training - CO2 sector -		731	11,419	9,664	4,399	6,691	13,161
4 to 10 years (jobs)		1.000	10.7/.0	1/ 00/	7771	11 7/0	00.000
On-Site or In-Plant Training - CO2 sector -		1,228	18,743	16,306	7,771	11,762	22,020
None (jobs)		0/0	1050	11/5	F10	700	1
On-Site or In-Plant Training - CO2 sector -		86.9	1,358	1,145	518	788	1,555
Over 10 years (jobs)				1			

Table 64: E+RE- scenario - IMPACTS - Jobs (continued)

Table 64: E+RE- scenario - IMPACTS - Jobs	•	-					
Item	2020	2025	2030	2035	2040	2045	2050
On-Site or In-Plant Training - CO2 sector -		4,497	68,533	59,677	28,487	43,083	80,432
Up to 1 year (jobs)							
On-Site or In-Plant Training - Coal sector -		10,419	2,840	1,585	1,367	1,223	1,007
1 to 4 years (jobs)							
On-Site or In-Plant Training - Coal sector -		4,032	975	427	368	328	269
4 to 10 years (jobs)							
On-Site or In-Plant Training - Coal sector -		9,841	2,576	1,407	1,243	1,140	959
None (jobs)							
On-Site or In-Plant Training - Coal sector -		487	114	47	41.6	38.2	32.3
Over 10 years (jobs)							
On-Site or In-Plant Training - Coal sector -		41,734	11,915	7,358	6,353	5,689	4,680
Up to 1 year (jobs)							
On-Site or In-Plant Training - Grid sector -		91,211	103,099	143,993	171,889	183,573	199,689
1 to 4 years (jobs)							
On-Site or In-Plant Training - Grid sector -		40,059	45,270	63,211	75,438	80,546	87,593
4 to 10 years (jobs)		-,	-, -	,	-,		- ,
On-Site or In-Plant Training - Grid sector -		80,419	90,582	126,078	150,001	159,675	173,139
None (jobs)		33,	70,002	.20,0.0	.00,00.	10770.0	,,
On-Site or In-Plant Training - Grid sector -		5,193	5,865	8,184	9,761	10,416	11,320
Over 10 years (jobs)		3,173	3,003	0,104	2,101	10,410	11,320
On-Site or In-Plant Training - Grid sector -		311,208	351,344	490,140	584,453	623,527	677,591
Up to 1 year (jobs)		311,200	331,344	470,140	364,433	023,321	011,371
		07/0/	85,725	7/ 5/0	7/ 051	(0.000	F0 017
On-Site or In-Plant Training - Natural gas		97,694	85,725	76,562	74,851	62,980	52,317
sector - 1 to 4 years (jobs)		10.100	00.400	07.575	07.000	00.007	0/ 010
On-Site or In-Plant Training - Natural gas		43,400	38,428	34,575	34,233	29,007	24,312
sector - 4 to 10 years (jobs)					10.1.10		
On-Site or In-Plant Training - Natural gas		92,260	80,124	70,811	68,462	57,144	47,024
sector - None (jobs)							
On-Site or In-Plant Training - Natural gas		5,150	4,603	4,165	4,173	3,558	2,999
sector - Over 10 years (jobs)							
On-Site or In-Plant Training - Natural gas		340,988	296,769	263,218	253,834	211,953	174,136
sector - Up to 1 year (jobs)							
On-Site or In-Plant Training - Nuclear		7,412	8,946	13,919	20,679	34,252	56,071
sector - 1 to 4 years (jobs)							
On-Site or In-Plant Training - Nuclear		2,683	3,237	5,035	7,479	12,385	20,271
sector - 4 to 10 years (jobs)							
On-Site or In-Plant Training - Nuclear		8,991	10,828	16,811	24,924	41,197	67,304
sector - None (jobs)			.			,	,
On-Site or In-Plant Training - Nuclear		252	303	471	699	1,156	1,890
sector - Over 10 years (jobs)						1,100	.,
On-Site or In-Plant Training - Nuclear		30,893	37,240	57,866	85,866	142,052	232,261
sector - Up to 1 year (jobs)		00,070	0.,2.0	0.,000	33,333	,00_	
On-Site or In-Plant Training - Oil sector - 1		116,417	102,660	88,636	64,334	48,922	34,459
to 4 years (jobs)		110,411	102,000	00,000	04,004	40,722	04,407
On-Site or In-Plant Training - Oil sector -		41,049	36,459	31,686	23,186	17,772	12,638
4 to 10 years (jobs)		41,049	30,437	31,000	23,100	11,112	12,030
On-Site or In-Plant Training - Oil sector -		127,208	110,889	94,599	67,871	51,013	35,531
None (jobs)		121,200	110,009	94,399	01,011	51,015	30,031
On-Site or In-Plant Training - Oil sector -		4,546	4,112	3,638	2,706	2,107	1,519
9		4,546	4,112	3,036	2,706	2,107	1,519
Over 10 years (jobs)		500,000	/ 00 010	070.051	070 070	007.000	1/ 5 0/7
On-Site or In-Plant Training - Oil sector -		500,808	439,812	378,051	273,378	207,099	145,367
Up to 1 year (jobs)						22.11=	
On-Site or In-Plant Training - Solar PV		76,624	71,589	74,897	78,070	80,117	110,572
sector - 1 to 4 years (jobs)							
On-Site or In-Plant Training - Solar PV		27,856	26,568	28,545	30,343	31,547	44,146
sector - 4 to 10 years (jobs)							
On-Site or In-Plant Training - Solar PV		81,278	76,117	79,805	83,485	86,082	119,399
sector - None (jobs)							
On-Site or In-Plant Training - Solar PV		3,831	3,594	3,780	3,957	4,075	5,646
sector - Over 10 years (jobs)							
,							

Table 64: E+RE- scenario - IMPACTS - Jobs (continued)

to 4 years (jobs)  On-Site or In-Plant Training - Total jobs - 4 to 10 years (jobs)  On-Site or In-Plant Training - Total jobs - 4 None (jobs)  On-Site or In-Plant Training - Total jobs - 4 Very 10 years (jobs)  On-Site or In-Plant Training - Total jobs - 22,179  Over 10 years (jobs)  On-Site or In-Plant Training - Total jobs - 22,179  One-Site or In-Plant Training - Total jobs - 1,728,364  One-Site or In-Plant Training - Total jobs - 1,728,364  One-Site or In-Plant Training - Wind sector - 1 to 4 years (jobs)  One-Site or In-Plant Training - Wind sector - 1 to 4 years (jobs)	2050 411,791 562,542 236,051 567,435 29,367
sector - Up to 1 year (jobs)       449,799       453,679       484,557       496,638       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936	562,542 236,051 567,435
On-Site or In-Plant Training - Total jobs - 1 to 4 years (jobs)       449,799       453,679       484,557       496,638       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,936       502,937       502,937       502,937       502,937       502,937       502,937       502,937       502,937       502,937       502,937       502,937       502,	236,051
to 4 years (jobs)  On-Site or In-Plant Training - Total jobs - 4 to 10 years (jobs)  On-Site or In-Plant Training - Total jobs - 4 None (jobs)  On-Site or In-Plant Training - Total jobs - 4 Very 10 years (jobs)  On-Site or In-Plant Training - Total jobs - 22,179  Over 10 years (jobs)  On-Site or In-Plant Training - Total jobs - 22,179  One-Site or In-Plant Training - Total jobs - 1,728,364  One-Site or In-Plant Training - Total jobs - 1,728,364  One-Site or In-Plant Training - Wind sector - 1 to 4 years (jobs)  One-Site or In-Plant Training - Wind sector - 1 to 4 years (jobs)	236,051
On-Site or In-Plant Training - Total jobs - 4 to 10 years (jobs)       176,731       182,836       197,509       204,440       209,626         On-Site or In-Plant Training - Total jobs - None (jobs)       458,863       457,024       486,427       497,141       503,608         On-Site or In-Plant Training - Total jobs - Over 10 years (jobs)       22,179       22,977       24,963       25,925       26,295         On-Site or In-Plant Training - Total jobs - Up to 1 year (jobs)       1,728,364       1,716,485       1,825,613       1,852,158       1,861,573       2,40,269         On-Site or In-Plant Training - Wind sector - 1 to 4 years (jobs)       40,269       45,338       48,004       58,613       59,924	567,435
to 10 years (jobs)  On-Site or In-Plant Training - Total jobs - None (jobs)  On-Site or In-Plant Training - Total jobs - 22,179 22,977 24,963 25,925 26,295  Over 10 years (jobs)  On-Site or In-Plant Training - Total jobs - 1,728,364 1,716,485 1,825,613 1,852,158 1,861,573 2, Up to 1 year (jobs)  On-Site or In-Plant Training - Wind sector - 1 to 4 years (jobs)	567,435
On-Site or In-Plant Training - Total jobs - None (jobs)       458,863       457,024       486,427       497,141       503,608         On-Site or In-Plant Training - Total jobs - Over 10 years (jobs)       22,179       22,977       24,963       25,925       26,295         On-Site or In-Plant Training - Total jobs - Up to 1 year (jobs)       1,728,364       1,716,485       1,825,613       1,852,158       1,861,573       2,000         On-Site or In-Plant Training - Wind sector - 1 to 4 years (jobs)       40,269       45,338       48,004       58,613       59,924	
None (jobs)       22,179       22,977       24,963       25,925       26,295         Over 10 years (jobs)       1,728,364       1,716,485       1,825,613       1,852,158       1,861,573       2,         Up to 1 year (jobs)       0n-Site or In-Plant Training - Wind sector - 1 to 4 years (jobs)       40,269       45,338       48,004       58,613       59,924	
On-Site or In-Plant Training - Total jobs - Over 10 years (jobs)         22,179         22,977         24,963         25,925         26,295           On-Site or In-Plant Training - Total jobs - Up to 1 year (jobs)         1,728,364         1,716,485         1,825,613         1,852,158         1,861,573         2,000           On-Site or In-Plant Training - Wind sector - 1 to 4 years (jobs)         40,269         45,338         48,004         58,613         59,924	29,367
Over 10 years (jobs)         1,728,364         1,716,485         1,825,613         1,852,158         1,861,573         2, Up to 1 year (jobs)           On-Site or In-Plant Training - Wind sector - 1 to 4 years (jobs)         40,269         45,338         48,004         58,613         59,924	29,367
Over 10 years (jobs)         1,728,364         1,716,485         1,825,613         1,852,158         1,861,573         2, Up to 1 year (jobs)           On-Site or In-Plant Training - Wind sector - 1 to 4 years (jobs)         40,269         45,338         48,004         58,613         59,924	•
On-Site or In-Plant Training - Total jobs - Up to 1 year (jobs)       1,728,364       1,716,485       1,825,613       1,852,158       1,861,573       2,         On-Site or In-Plant Training - Wind sector - 1 to 4 years (jobs)       40,269       45,338       48,004       58,613       59,924	
Up to 1 year (jobs)       40,269       45,338       48,004       58,613       59,924         - 1 to 4 years (jobs)       -	,078,069
On-Site or In-Plant Training - Wind sector 40,269 45,338 48,004 58,613 59,924 - 1 to 4 years (jobs)	
- 1 to 4 years (jobs)	58,439
	00, 107
On-Site or In-Plant Training - Wind sector 14,363 17,249 18,609 22,892 24,883	25,149
- 4 to 10 years (jobs)	23,147
On-Site or In-Plant Training - Wind sector 44,417 50,112 53,339 65,509 67,290	66,017
	00,017
- None (jobs)	0.157
On-Site or In-Plant Training - Wind sector         2,062         2,357         2,511         3,078         3,200	3,156
- Over 10 years (jobs)	
-	220,186
- Up to 1 year (jobs)	
	726,654
years (jobs)	
On-the-Job Training - All sectors - 4 to 10 166,229 173,803 189,273 197,680 203,748 2	230,602
years (jobs)	
On-the-Job Training - All sectors - None 157,241 154,903 164,033 166,565 168,895	191,403
(jobs)	
On-the-Job Training - All sectors - Over 10 28,219 27,919 29,123 29,330 29,281	32,777
years (jobs)	•
	,292,028
year (jobs)	2,2,020
On-the-Job Training - Biomass sector - 1 9,019 11,632 19,857 20,755 21,679	28,149
to 4 years (jobs)	20,147
On-the-Job Training - Biomass sector - 4 2,062 2,704 4,989 5,335 5,720	7,539
to 10 years (jobs)	1,007
On-the-Job Training - Biomass sector - 5,063 6,073 9,513 9,580 9,548	12,238
	12,230
None (jobs)	1.00/
On-the-Job Training - Biomass sector -         586         690         1,086         1,071         1,057	1,386
Over 10 years (jobs)	
	151,505
to 1 year (jobs)	
On-the-Job Training - CO2 sector - 1 to 4         1,973         30,531         26,093         12,082         18,335	35,372
years (jobs)	
On-the-Job Training - CO2 sector - 4 to 10         736         11,550         9,721         4,383         6,676	13,273
years (jobs)	
On-the-Job Training - CO2 sector - None 376 5,694 5,014 2,434 3,680	6,766
(jobs)	
On-the-Job Training - CO2 sector - Over 80.3 1,238 1,072 505 768	1,466
10 years (jobs)	,
On-the-Job Training - CO2 sector - Up to 1 4,860 73,964 64,514 30,878 46,684	86,891
year (jobs)	00,071
On-the-Job Training - Coal sector - 1 to 4 13,265 3,547 1,899 1,641 1,470	1,214
	1,214
years (jobs)	
On the Joh Training Cool coston / to 10	259
On-the-Job Training - Coal sector - 4 to 10 3,950 962 419 359 318	
years (jobs)	
years (jobs) On-the-Job Training - Coal sector - None 3,285 870 503 442 403	337
years (jobs) On-the-Job Training - Coal sector - None (jobs)  870 503 442 403 (jobs)	
years (jobs) On-the-Job Training - Coal sector - None 3,285 870 503 442 403	337 49.7

Table 64: E+RE- scenario - IMPACTS - Jobs (continued)

Table 64: E+RE- scenario - IMPACTS - Jobs	•	-					
Item	2020	2025	2030	2035	2040	2045	2050
On-the-Job Training - Coal sector - Up to 1 year (jobs)		45,563	12,917	7,933	6,868	6,168	5,088
On-the-Job Training - Grid sector - 1 to 4		118,627	134,022	187,088	223,222	238,275	259,062
years (jobs)		110,021	134,022	107,000	223,222	236,215	259,062
On-the-Job Training - Grid sector - 4 to 10		40,317	45,590	63,698	76,067	81,267	88,432
years (jobs)		40,311	45,570	03,076	10,001	61,201	00,432
On-the-Job Training - Grid sector - None		25,845	29,136	40,589	48,334	51,500	55,896
(jobs)		23,043	29,130	40,367	40,334	31,300	33,670
On-the-Job Training - Grid sector - Over		4,232	4,787	6,689	7,991	8,540	9,296
10 years (jobs)		4,232	4,101	0,007	1,221	0,540	7,270
On-the-Job Training - Grid sector - Up to 1		339,069	382,625	533,541	635,929	678,155	736,646
year (jobs)		007,007	002,020	000,041	000,727	010,100	100,040
On-the-Job Training - Natural gas sector -		128,500	112,783	100,700	98,631	83,035	69,060
1 to 4 years (jobs)		120,000	112,100	100,100	70,001	33,000	07,000
On-the-Job Training - Natural gas sector -		41,324	36,725	33,119	33,043	28,098	23,679
4 to 10 years (jobs)		11,02	00,120	00,117	00,010	20,070	20,017
On-the-Job Training - Natural gas sector -		30,220	25,985	22,796	21,727	17,984	14,663
None (jobs)		00,220	20,700	,	,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,000
On-the-Job Training - Natural gas sector -		5,503	4,776	4,243	4,069	3,392	2,789
Over 10 years (jobs)		0,000	.,	1,2 10	1,007	0,072	2,.07
On-the-Job Training - Natural gas sector -		373,945	325,379	288,474	278,083	232,133	190,597
Up to 1 year (jobs)		0.072.0	020,0.7	200,	,	202,.00	., 0,0,.
On-the-Job Training - Nuclear sector - 1 to		9,725	11,736	18,257	27,122	44,918	73,522
4 years (jobs)		7,. 20	,. 00	.0,20.	,	,,	. 5,522
On-the-Job Training - Nuclear sector - 4		2,345	2,831	4,404	6,544	10,839	17,746
to 10 years (jobs)		_,-,-	_,	.,	5,5	,	,
On-the-Job Training - Nuclear sector -		3,374	4,065	6,315	9,367	15,492	25,322
None (jobs)		0,0	.,000	0,0.0	7,00.	.5, .72	_0,0
On-the-Job Training - Nuclear sector -		523	631	983	1,461	2,422	3,967
Over 10 years (jobs)					, -	,	-, -
On-the-Job Training - Nuclear sector - Up		34,264	41,292	64,142	95,153	157,371	257,240
to 1 year (jobs)		, ,	•	,	.,	,-	
On-the-Job Training - Oil sector - 1 to 4		143,995	126,810	109,358	79,262	60,197	42,346
years (jobs)		·					•
On-the-Job Training - Oil sector - 4 to 10		34,009	30,239	26,292	19,275	14,800	10,561
years (jobs)					•		,
On-the-Job Training - Oil sector - None		48,067	41,572	35,155	25,043	18,687	12,944
(jobs)							
On-the-Job Training - Oil sector - Over 10		7,713	6,796	5,864	4,255	3,235	2,281
years (jobs)							
On-the-Job Training - Oil sector - Up to 1		556,244	488,514	419,941	303,640	229,994	161,382
year (jobs)							
On-the-Job Training - Solar PV sector - 1		97,447	91,143	95,492	99,644	102,327	141,330
to 4 years (jobs)							
On-the-Job Training - Solar PV sector - 4		27,633	26,443	28,531	30,422	31,696	44,455
to 10 years (jobs)							
On-the-Job Training - Solar PV sector -		26,952	25,479	27,024	28,564	29,719	41,620
None (jobs)							
On-the-Job Training - Solar PV sector -		6,044	5,538	5,655	5,755	5,772	7,765
Over 10 years (jobs)							
On-the-Job Training - Solar PV sector - Up		317,648	296,131	308,678	321,405	330,249	456,384
to 1 year (jobs)							
On-the-Job Training - Wind sector - 1 to 4		51,759	58,606	62,191	76,037	78,220	76,599
years (jobs)				-	-		
On-the-Job Training - Wind sector - 4 to		13,853	16,760	18,099	22,254	24,333	24,657
10 years (jobs)				.			
On-the-Job Training - Wind sector - None		14,059	16,028	17,124	21,074	21,882	21,617
(jobs)		·	•		•	•	•
On-the-Job Training - Wind sector - Over		3,088	3,338	3,462	4,161	4,037	3,779
10 years (jobs)			•		*		•

Table 64: E+RE- scenario - IMPACTS - Jobs (continued)

Table 64: E+RE- scenario - IMPACTS - Jobs	•						
Item	2020	2025	2030	2035	2040	2045	2050
On-the-Job Training - Wind sector - Up to		173,019	192,674	204,109	250,048	253,300	246,295
1 year (jobs)			1.000.11.1	1 2 2 2 2 2 2		1101 000	1.000
Related work experience - All sectors - 1		1,032,181	1,028,146	1,093,272	1,113,061	1,124,392	1,255,295
to 4 years (jobs)							
Related work experience - All sectors - 4		658,043	658,041	699,755	715,684	725,442	811,304
to 10 years (jobs)							
Related work experience - All sectors -		401,506	405,041	433,875	442,516	445,997	499,667
None (jobs)							
Related work experience - All sectors -		182,370	179,985	189,873	192,939	194,433	216,579
Over 10 years (jobs)							
Related work experience - All sectors - Up		561,837	561,788	602,295	612,102	613,776	690,620
to 1 year (jobs)							
Related work experience - Biomass sector		24,432	31,802	51,686	53,347	54,747	69,875
- 1 to 4 years (jobs)							
Related work experience - Biomass sector		12,623	15,902	27,189	28,912	30,450	39,488
- 4 to 10 years (jobs)							
Related work experience - Biomass sector		13,956	17,458	25,959	24,936	23,845	30,064
- None (jobs)							
Related work experience - Biomass sector		3,473	4,247	7,104	7,467	7,776	10,138
- Over 10 years (jobs)							
Related work experience - Biomass sector		27,570	33,760	47,881	44,406	40,793	51,252
- Up to 1 year (jobs)							
Related work experience - CO2 sector - 1		2,869	43,804	38,025	18,068	27,328	51,225
to 4 years (jobs)							
Related work experience - CO2 sector - 4		1,986	30,448	26,294	12,390	18,757	35,478
to 10 years (jobs)							
Related work experience - CO2 sector -		1,242	19,156	16,427	7,651	11,598	22,218
None (jobs)							
Related work experience - CO2 sector -		488	7,386	6,473	3,122	4,715	8,696
Over 10 years (jobs)							
Related work experience - CO2 sector -		1,441	22,184	19,195	9,051	13,744	26,151
Up to 1 year (jobs)							
Related work experience - Coal sector - 1		25,218	7,000	4,140	3,577	3,205	2,638
to 4 years (jobs)							
Related work experience - Coal sector - 4		14,899	3,852	2,035	1,784	1,622	1,354
to 10 years (jobs)							
Related work experience - Coal sector -		9,056	2,422	1,346	1,166	1,047	864
None (jobs)							
Related work experience - Coal sector -		3,759	1,011	561	494	452	380
Over 10 years (jobs)		•					
Related work experience - Coal sector -		13,581	4,133	2,742	2,352	2,093	1,712
Up to 1 year (jobs)		-,	,	,	,	, -	,
Related work experience - Grid sector - 1		190,960	215,406	300,246	357,715	381,302	414,005
to 4 years (jobs)		., 0,, 00	2.0, .00	000,2.0	33.7	00.,002	,,,,,
Related work experience - Grid sector - 4		125,143	141,060	196,473	233,905	249,141	270,305
to 10 years (jobs)		120,110	111,000	170,110	200,700	2 17,1 11	2.0,000
Related work experience - Grid sector -		78,437	88,614	123,699	147,587	157,537	171,276
None (jobs)		10,401	00,014	120,077	141,501	101,001	111,210
Related work experience - Grid sector -		32,437	36,583	50,982	60,730	64,724	70,264
Over 10 years (jobs)		02,401	00,000	00,702	00,100	07,124	10,204
Related work experience - Grid sector -		101,114	114,496	160,205	191,606	205,031	223,482
Up to 1 year (jobs)		101,114	114,470	100,200	171,000	200,001	223,402
Related work experience - Natural gas		213,832	186,439	165,531	160,160	133,948	110,276
· · · · · · · · · · · · · · · · · · ·		213,632	100,439	100,031	100,100	133,748	110,276
sector - 1 to 4 years (jobs)		1/-0-000	107, 000	110 / / 0	107/1/	00.000	7/. 007
Related work experience - Natural gas		142,303	124,309	110,468	107,416	90,030	74,386
sector - 4 to 10 years (jobs)		00.007	70 / / 7	/E 770	41.007	E/. 100	J. J. 010
Related work experience - Natural gas		83,936	73,667	65,770	64,307	54,109	44,918
sector - None (jobs)		00 (1)	00.770	00.550	00.000	00.500	10.000
Related work experience - Natural gas		38,614	33,442	29,553	28,288	23,520	19,223
sector - Over 10 years (jobs)							

Table 64: E+RE- scenario - IMPACTS - Jobs (continued)

Tuble 64: ETTE Beetland ITH Note bobb	•	•					
Item	2020	2025	2030	2035	2040	2045	2050
Related work experience - Natural gas		100,806	87,791	78,010	75,381	63,035	51,984
sector - Up to 1 year (jobs)							
Related work experience - Nuclear sector		18,749	22,595	35,100	52,071	86,122	140,779
- 1 to 4 years (jobs)							
Related work experience - Nuclear sector		12,163	14,655	22,761	33,760	55,826	91,239
- 4 to 10 years (jobs)							
Related work experience - Nuclear sector		6,331	7,641	11,886	17,657	29,243	47,865
- None (jobs)							
Related work experience - Nuclear sector		3,744	4,514	7,016	10,413	17,231	28,179
- Over 10 years (jobs)							
Related work experience - Nuclear sector		9,244	11,150	17,338	25,745	42,621	69,734
- Up to 1 year (jobs)							
Related work experience - Oil sector - 1 to		301,062	264,533	227,572	164,527	124,608	87,357
4 years (jobs)							
Related work experience - Oil sector - 4 to		182,677	160,250	137,651	99,336	75,102	52,553
10 years (jobs)							
Related work experience - Oil sector -		106,461	93,826	80,890	58,777	44,741	31,613
None (jobs)							
Related work experience - Oil sector -		52,538	46,027	39,527	28,482	21,514	15,025
Over 10 years (jobs)							
Related work experience - Oil sector - Up		147,290	129,295	110,970	80,353	60,948	42,966
to 1 year (jobs)							
Related work experience - Solar PV sector		164,836	154,553	162,287	170,021	175,560	243,899
- 1 to 4 years (jobs)							
Related work experience - Solar PV sector		106,595	99,779	104,579	109,298	112,535	155,848
- 4 to 10 years (jobs)							
Related work experience - Solar PV sector		67,326	63,205	66,491	69,756	72,100	100,288
- None (jobs)							
Related work experience - Solar PV sector		30,190	27,879	28,713	29,563	30,069	41,092
- Over 10 years (jobs)							
Related work experience - Solar PV sector		106,777	99,317	103,309	107,150	109,500	150,428
- Up to 1 year (jobs)							
Related work experience - Wind sector - 1		90,223	102,014	108,686	133,575	137,572	135,240
to 4 years (jobs)							
Related work experience - Wind sector - 4		59,654	67,786	72,306	88,884	91,979	90,653
to 10 years (jobs)							
Related work experience - Wind sector -		34,760	39,050	41,406	50,677	51,776	50,561
None (jobs)							
Related work experience - Wind sector -		17,128	18,895	19,943	24,379	24,433	23,583
Over 10 years (jobs)							
Related work experience - Wind sector -		54,014	59,662	62,644	76,057	76,012	72,910
Up to 1 year (jobs)							
Wage income - Biomass (million \$2019)		4,239	5,523	9,090	9,523	9,894	12,891
Wage income - CO2 (million \$2019)		501	7,724	6,838	3,330	5,115	9,626
Wage income - Coal (million \$2019)		4,038	1,086	602	530	484	406
Wage income - Grid (million \$2019)		33,026	37,781	53,429	64,608	69,927	77,122
Wage income - Natural Gas (million \$2019)		38,383	33,906	30,513	29,843	25,281	21,066
Wage income - Nuclear (million \$2019)		3,591	4,432	7,055	10,731	18,208	30,550
Wage income - Oil (million \$2019)		52,011	46,299	40,361	29,537	22,646	16,058
Wage income - Solar (million \$2019)		26,383	25,065	26,700	28,387	29,758	42,011
Wage income - Wind (million \$2019)		14,903	17,233	18,681	23,339	24,670	24,821
-							

Table 65: E-B+ scenario - PILLAR 1: Efficiency/Electrification - Commercial

Item	2020	2025	2030	2035	2040	2045	2050
Commercial HVAC investment in 2020s -		1,046,837	1,158,815				
Cumulative 5-yr (million \$2018)							
Sales of cooking units - Electric	32.5	36.5	41.3	53.8	71.2	81.9	85.6
Resistance (%)							
Sales of cooking units - Gas (%)	67.5	63.5	58.7	46.2	28.8	18.1	14.4

Table / F. F. D. assessia	PILLAR 1: Efficiency/Electrification -	On managed (a subtinued)
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Item	2020	2025	2030	2035	2040	2045	2050
Sales of space heating units - Electric	2.95	11.9	15.9	27.6	48.1	65.9	74.2
Heat Pump (%)							
Sales of space heating units - Electric	7.91	8.18	8.72	10.5	13.8	16.4	17.6
Resistance (%)							
Sales of space heating units - Fossil (%)	3.94	3.79	3.71	2.91	1.53	0.589	0.302
Sales of space heating units - Gas Furnace	85.2	76.1	71.7	59	36.6	17.1	7.89
(%)							
Sales of water heating units - Electric	0.385	1.8	5.78	17.4	36.6	51.2	57.3
Heat Pump (%)							
Sales of water heating units - Electric	3.8	4.53	6.39	12	21.9	30.4	34.4
Resistance (%)							
Sales of water heating units - Gas Furnace	94.1	92	86.2	69	40.2	17.2	7.13
(%)							
Sales of water heating units - Other (%)	1.66	1.67	1.66	1.51	1.31	1.18	1.14

### Table 66: E-B+ scenario - PILLAR 1: Efficiency/Electrification - Electricity demand

Item	2020	2025	2030	2035	2040	2045	2050
Electricity distribution capital invested - Cumulative 5-yr (billion \$2018)		149	150	201	208	298	315

### Table 67: E-B+ scenario - PILLAR 1: Efficiency/Electrification - Overview

Item	2020	2025	2030	2035	2040	2045	2050
Final energy use - Commercial (PJ)	9,015	8,958	8,853	8,731	8,513	8,263	8,058
Final energy use - Industry (PJ)	25,084	26,117	26,456	26,354	26,498	26,178	25,748
Final energy use - Residential (PJ)	11,788	11,126	10,656	10,151	9,457	8,609	7,786
Final energy use - Transportation (PJ)	28,030	26,603	24,463	22,703	21,315	19,677	17,739

### Table 68: E-B+ scenario - PILLAR 1: Efficiency/Electrification - Residential

Item	2020	2025	2030	2035	2040	2045	2050
Residential HVAC investment in 2020s vs.		252	303				
REF - Cumulative 5-yr (billion \$2018)							
Sales of cooking units - Electric	61.2	62.2	65.8	75.1	88.1	96.2	99
Resistance (%)							
Sales of cooking units - Gas (%)	38.8	37.8	34.2	24.9	11.9	3.83	1.03
Sales of space heating units - Electric	14.6	21	25.3	37.6	58.4	75.1	82.4
Heat Pump (%)							
Sales of space heating units - Electric	20.3	24.4	23.2	19.9	14.3	10.3	8.67
Resistance (%)							
Sales of space heating units - Fossil (%)	9.95	14.5	13.8	11.4	7.66	5.01	4.02
Sales of space heating units - Gas (%)	55.2	40	37.7	31.1	19.6	9.59	4.95
Sales of water heating units - Electric	0	1.36	5.25	16.7	35.2	49.3	55.3
Heat Pump (%)							
Sales of water heating units - Electric	38.4	51.5	50.3	47	42.1	39.6	38.9
Resistance (%)							
Sales of water heating units - Gas Furnace	58	44.5	41.9	34	20.8	9.45	4.17
(%)							
Sales of water heating units - Other (%)	3.58	2.63	2.51	2.27	1.91	1.68	1.62

## Table 69: E-B+ scenario - PILLAR 1: Efficiency/Electrification - Transportation

Item	2020	2025	2030	2035	2040	2045	2050
Light-duty vehicle capital costs -		0	8,683	17,455	59,707	185,491	271,068
Cumulative 5-yr (million \$2018)							
Public EV charging plugs - DC Fast (1000	14.4		31.9		147		402
units)							
Public EV charging plugs - L2 (1000 units)	66.2		766		3,537		9,670
Vehicle sales - Heavy-duty - diesel (%)	97.4	96	91.3	79.8	58.2	32.1	13.7

Table 69: E-B+ scenario - PILLAR 1: Efficiency/Electrification - Transportation (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Vehicle sales - Heavy-duty - EV (%)	0.498	1.45	4.11	10.8	23.6	39.5	51
Vehicle sales - Heavy-duty - gasoline (%)	0.228	0.236	0.239	0.225	0.179	0.109	0.051
Vehicle sales - Heavy-duty - hybrid (%)	0.083	0.094	0.104	0.107	0.092	0.06	0.03
Vehicle sales - Heavy-duty - hydrogen FC	0.332	0.969	2.74	7.17	15.7	26.3	34
(%)							
Vehicle sales - Heavy-duty - other (%)	1.5	1.28	1.46	1.95	2.25	1.96	1.14
Vehicle sales - Light-duty - diesel (%)	1.39	1.82	2.03	1.61	1.02	0.519	0.223
Vehicle sales - Light-duty - EV (%)	4.05	6.4	12.6	27.1	49.7	72.9	87.9
Vehicle sales - Light-duty - gasoline (%)	89.4	85.5	78.4	65.1	44.7	23.9	10.6
Vehicle sales - Light-duty - hybrid (%)	4.99	5.79	6.54	5.88	4.34	2.52	1.21
Vehicle sales - Light-duty - hydrogen FC	0.11	0.371	0.317	0.239	0.168	0.092	0.043
(%)							
Vehicle sales - Light-duty - other (%)	0.095	0.098	0.09	0.078	0.056	0.03	0.014
Vehicle sales - Medium-duty - diesel (%)	64.8	62.2	57.7	49.4	35.6	19.6	8.37
Vehicle sales - Medium-duty - EV (%)	0.664	1.94	5.49	14.3	31.4	52.6	68
Vehicle sales - Medium-duty - gasoline (%)	33.8	34.7	34.7	31.9	24.4	14.2	6.33
Vehicle sales - Medium-duty - hybrid (%)	0.363	0.418	0.464	0.478	0.414	0.275	0.141
Vehicle sales - Medium-duty - hydrogen	0.166	0.485	1.37	3.58	7.86	13.2	17
FC (%)							
Vehicle sales - Medium-duty - other (%)	0.253	0.266	0.279	0.286	0.258	0.184	0.102

Table 70: E-B+ scenario - PILLAR 2: Clean Electricity - Generating capacity

Item	2020	2025	2030	2035	2040	2045	2050
Capital invested - Biomass power plant	0	0.001	0.009	0	0.004	0	0.001
(billion \$2018)							
Capital invested - Biomass w/ccu allam	0	0	0	0.472	0.167	0.105	0.397
power plant (billion \$2018)							
Capital invested - Biomass w/ccu power	0	0	66	88.9	162	87	36
plant (billion \$2018)							
Installed - Biomass (MW)	10,005	9,140	7,852	6,129	4,704	3,387	2,483
Installed - Biomass w cc (MW)	0	0	9,955	23,417	47,848	60,968	66,453
Installed - Ccgt & gas steam (MW)	334,478	316,742	319,849	311,404	252,180	173,113	145,943
Installed - Ccgt w cc (MW)	0	0	45.2	4,211	7,837	13,514	25,116
Installed - Coal (MW)	215,959	52,040	132	129	105	90.8	47.3
Installed - Ct (MW)	146,590	139,058	120,032	114,037	120,046	165,945	194,030
Installed - Geothermal (MW)	2,392	2,395	2,420	2,417	2,420	2,426	2,446
Installed - Grid battery storage (MW)		890	1,834	10,282	32,471	86,943	123,183
Installed - Hydro (MW)	78,608	78,608	78,608	78,608	78,608	78,608	78,608
Installed - Nuclear (MW)	98,481	95,135	90,008	76,069	68,456	56,274	56,682
Installed - Offshore wind (MW)	29.3	1,005	4,962	13,173	33,174	90,306	207,350
Installed - Onshore wind (MW)	97,778	194,426	370,380	515,269	613,437	779,748	1,020,520
Installed - Other (MW)	68,061	57,088	55,241	53,843	52,087	51,085	49,630
Installed - Pumped hydro storage (MW)		19,418	19,418	19,418	19,418	19,418	19,418
Installed - Rooftop PV (MW)	33,317	52,523	69,448	90,809	117,114	148,351	185,890
Installed - Utility-scale PV (MW)	35,714	125,684	295,566	446,736	575,331	752,836	1,053,909

Table 71: E-B+ scenario - PILLAR 2: Clean Electricity - Generation

Item	2020	2025	2030	2035	2040	2045	2050
Biomass (TWh)	18.1	21.4	39.6	23.5	15.6	6.71	0.45
Biomass power plant (GWh)	3,557	827	10,411	3,819	2,256	1,124	63.6
Biomass w cc (TWh)	0	0	74.1	174	356	454	493
Biomass w/ccu allam power plant (GWh)	0	0	0	394	483	569	955
Biomass w/ccu power plant (GWh)	0	0	74,108	173,715	355,539	453,084	491,647
Coal (TWh)	980	280	0.461	0.452	0.368	0.318	0.166
Gas (TWh)	1,492	1,655	1,062	582	369	195	94.1
Gas w cc (TWh)	0	0	0.221	26.2	35.4	50.5	83
Geothermal (TWh)	14.5	14.5	14.3	14.2	13.6	13.6	13.5
Hydro (TWh)	300	312	295	294	301	292	293

Table 71: E-B+ scenario - PILLAR 2: Clean Electricity - Generation (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Nuclear (TWh)	802	775	733	620	558	458	463
Offshore wind (TWh)	0.092	3.73	20.2	63.9	146	394	885
Onshore wind (TWh)	412	794	1,536	2,051	2,391	3,054	3,994
Rooftop PV (TWh)	50.1	79.4	101	127	167	212	256
Utility-scale PV (TWh)	90.4	305	681	1,014	1,286	1,690	2,290

#### Table 72: E-B+ scenario - PILLAR 3: Clean fuels - Bioenergy

Item	2020	2025	2030	2035	2040	2045	2050
Biomass input - BECCS-H2 (1000 tonnes)	0	0	0	161,322	336,108	552,980	641,173
Biomass input - Bio-FT w/ CC (1000	0	0	0	151	192	227	279
tonnes)							
Biomass input - Bio-SNG w/ CC (1000	0	0	38.5	22.5	15.4	14.5	11.9
tonnes)							
Biomass input - Biopower (1000 tonnes)	10,249	24,177	56,258	40,450	30,444	12,725	636
Biomass input - Biopower w/ cc (1000	0	0	44,765	105,109	214,980	273,940	297,408
tonnes)							
Biomass input - Ethanol (1000 tonnes)	129,506	129,506	129,537	125,006	67,634	10,261	905
Biomass input - FT diesel (1000 tonnes)	0	0	0	107	122	124	99.1
Biomass input - Pyrolysis liquids (1000	0	0	0	212	316	1,714	123,715
tonnes)							
Biomass input - Pyrolysis liquids w/ cc	0	0	0	158	219	299	56,876
(1000 tonnes)							
Biomass input - SNG (1000 tonnes)	0	9.94	18.5	8.41	8.23	7.31	3.45
Number of facilities - Allam power w ccu	0	0	0	14	24	33	42
(quantity)							
Number of facilities - Beccs hydrogen	0	0	0	217	453	742	858
(quantity)							
Number of facilities - Diesel (quantity)	0	0	0	14	16	18	20
Number of facilities - Diesel ccu (quantity)	0	0	0	14	24	35	39
Number of facilities - Power (quantity)	0	12	16	16	17	17	17
Number of facilities - Power ccu	0	0	67	148	296	379	413
(quantity)							
Number of facilities - Pyrolysis (quantity)	0	0	0	14	16	19	178
Number of facilities - Pyrolysis ccu	0	0	0	14	24	35	119
(quantity)							
Number of facilities - Sng (quantity)	0	14	15	15	15	16	17
Number of facilities - Sng ccu (quantity)	0	0	14	14	14	16	19

### Table 73: E-B+ scenario - PILLAR 4: CCUS - CO2 pipelines

Item	2020	2025	2030	2035	2040	2045	2050
All (km)		708	20,162	46,849	70,569	94,360	111,162
Cumulative investment - All (million		3,706	73,928	133,899	180,805	209,109	224,560
\$2018)							
Cumulative investment - Spur (million		0	5,264	24,259	46,256	73,186	88,637
\$2018)							
Cumulative investment - Trunk (million		3,706	68,664	109,640	134,549	135,923	135,923
\$2018)							
Spur (km)		0	5,992	25,136	45,143	68,934	85,735
Trunk (km)		708	14,170	21,713	25,426	25,426	25,426

### Table 74: E-B+ scenario - PILLAR 4: CCUS - CO2 storage

Item	2020	2025	2030	2035	2040	2045	2050
CO2 storage (MMT)	0	1.77	98.8	477	941	1,281	1,361
Injection wells (wells)		0	124	553	966	1,582	1,993
Resource characterization, appraisal, permitting costs (million \$2020)		1,500	12,421	19,310	19,310	19,310	19,310
Wells and facilities construction costs (million \$2020)		0	3,766	16,623	29,044	47,564	59,759

Table 75: E-B+ scenario - PILLAR 6: Land sinks - Agriculture

Item	2020	2025	2030	2035	2040	2045	2050
Carbon sink potential - Aggressive							-38,876
deployment - Corn-ethanol to energy							
grasses (1000 tC02e/y)							100.007
Carbon sink potential - Aggressive							-188,807
deployment - Cropland measures (1000 tCO2e/y)							
Carbon sink potential - Aggressive							0
deployment - Cropland to woody energy crops (1000 tCO2e/y)							
Carbon sink potential - Aggressive							0
deployment - Pasture to energy crops (1000 tCO2e/y)							
Carbon sink potential - Aggressive							-6,794
deployment - Permanent conservation							
cover (1000 tC02e/y)							
Carbon sink potential - Aggressive							-234,477
deployment - Total (1000 tCO2e/y)							
Carbon sink potential - Moderate							-38,876
deployment - Corn-ethanol to energy							
grasses (1000 tC02e/y)  Carbon sink potential - Moderate							-98,674
deployment - Cropland measures (1000							-98,674
tCO2e/y)							
Carbon sink potential - Moderate							0
deployment - Cropland to woody energy							ŭ
crops (1000 tC02e/y)							
Carbon sink potential - Moderate							0
deployment - Pasture to energy crops							
(1000 tC02e/y)							
Carbon sink potential - Moderate							-3,397
deployment - Permanent conservation							
cover (1000 tCO2e/y)							1/00/7
Carbon sink potential - Moderate							-140,947
deployment - Total (1000 tC02e/y)  Land impacted for carbon sink -							01 100
Aggressive deployment - Corn-ethanol to							21,138
energy grasses (1000 hectares)							
Land impacted for carbon sink -							313,710
Aggressive deployment - Cropland							0.07.10
measures (1000 hectares)							
Land impacted for carbon sink -							4,087
Aggressive deployment - Cropland to							
woody energy crops (1000 hectares)							
Land impacted for carbon sink -							14,777
Aggressive deployment - Pasture to							
energy crops (1000 hectares)  Land impacted for carbon sink -							11,710
Aggressive deployment - Permanent							11,710
conservation cover (1000 hectares)							
Land impacted for carbon sink -							365,421
Aggressive deployment - Total (1000							000,121
hectares)							
Land impacted for carbon sink - Moderate							21,138
deployment - Corn-ethanol to energy							
grasses (1000 hectares)							
Land impacted for carbon sink - Moderate							66,454
deployment - Cropland measures (1000							
hectares)							
Land impacted for carbon sink - Moderate							4,087
deployment - Cropland to woody energy							
crops (1000 hectares)							

Table 75: E-B+ scenario - PILLAR 6: Land sinks - Agriculture (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Land impacted for carbon sink - Moderate							14,777
deployment - Pasture to energy crops							
(1000 hectares)							
Land impacted for carbon sink - Moderate							5,855
deployment - Permanent conservation							
cover (1000 hectares)							
Land impacted for carbon sink - Moderate							112,310
deployment - Total (1000 hectares)							

Table 76: E-B+ scenario - PILLAR 6: Land s Item	2020	2025	2030	2035	2040	2045	2050
Carbon sink potential - High - Accelerate							-48,900
regeneration (1000 tCO2e/y)							_,
Carbon sink potential - High - All (not							-
counting overlap) (1000 tCO2e/y)							1,535,900
Carbon sink potential - High - Avoid							-84,000
deforestation (1000 tCO2e/y)							
Carbon sink potential - High - Extend							-302,000
rotation length (1000 tCO2e/y)							
Carbon sink potential - High - Improve							-57,000
plantations (1000 tCO2e/y)							
Carbon sink potential - High - Increase							-
retention of HWP (1000 tCO2e/y)							300,000
Carbon sink potential - High - Increase							-60,000
trees outside forests (1000 tCO2e/y)							
Carbon sink potential - High - Reforest							-242,000
cropland (1000 tCO2e/y)							
Carbon sink potential - High - Reforest							-
pasture (1000 tCO2e/y)							264,000
Carbon sink potential - High - Restore							-178,000
productivity (1000 tCO2e/y)							
Carbon sink potential - Low - Accelerate							-24,500
regeneration (1000 tCO2e/y)							
Carbon sink potential - Low - All (not							
counting overlap) (1000 tCO2e/y)							505,500
Carbon sink potential - Low - Avoid							-14,000
deforestation (1000 tC02e/y)							
Carbon sink potential - Low - Extend							-116,000
rotation length (1000 tC02e/y)							00.000
Carbon sink potential - Low - Improve							-29,000
plantations (1000 tCO2e/y)							100.000
Carbon sink potential - Low - Increase							-100,000
retention of HWP (1000 tC02e/y)							01.000
Carbon sink potential - Low - Increase							-21,000
trees outside forests (1000 tC02e/y)							101.000
Carbon sink potential - Low - Reforest							-121,000
cropland (1000 tCO2e/y)							00.000
Carbon sink potential - Low - Reforest							-20,000
pasture (1000 tC02e/y)							-60,000
Carbon sink potential - Low - Restore productivity (1000 tCO2e/y)							-60,000
Carbon sink potential - Mid - Accelerate							-36,700
regeneration (1000 tCO2e/y)							-36,700
Carbon sink potential - Mid - All (not							
counting overlap) (1000 tCO2e/y)							1,020,200
Carbon sink potential - Mid - Avoid							-49,000
deforestation (1000 tCO2e/y)							-47,000
Carbon sink potential - Mid - Extend					+		-209,000
rotation length (1000 tC02e/y)							-207,000

Table 76: E-B+ scenario - PILLAR 6: Land sinks - Forests (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Carbon sink potential - Mid - Improve							-42,500
plantations (1000 tCO2e/y)							
Carbon sink potential - Mid - Increase							-
retention of HWP (1000 tCO2e/y)							200,000
Carbon sink potential - Mid - Increase							-40,500
trees outside forests (1000 tCO2e/y)							
Carbon sink potential - Mid - Reforest							-181,500
cropland (1000 tCO2e/y)							
Carbon sink potential - Mid - Reforest							-142,000
pasture (1000 tCO2e/y)							
Carbon sink potential - Mid - Restore							-119,000
productivity (1000 tCO2e/y)							
Land impacted for carbon sink potential -							8,000
High - Accelerate regeneration (1000							
hectares)							
Land impacted for carbon sink potential -							11,373
High - Avoid deforestation (over 30 years)							
(1000 hectares)							
Land impacted for carbon sink potential -							154,000
High - Extend rotation length (1000							
hectares)							
Land impacted for carbon sink potential -							21,000
High - Improve plantations (1000							
hectares)							
Land impacted for carbon sink potential -							0
High - Increase retention of HWP (1000							
hectares)							
Land impacted for carbon sink potential -							5,700
High - Increase trees outside forests							,
(1000 hectares)							
Land impacted for carbon sink potential -							16,000
High - Reforest cropland (1000 hectares)							,
Land impacted for carbon sink potential -							7,500
High - Reforest pasture (1000 hectares)							1,000
Land impacted for carbon sink potential -							59,000
High - Restore productivity (1000							07,000
hectares)							
Land impacted for carbon sink potential -				+			282,573
High - Total impacted (over 30 years)							202,010
(1000 hectares)							
Land impacted for carbon sink potential -							4,000
Low - Accelerate regeneration (1000							4,000
hectares)							
Land impacted for carbon sink potential -							10 /77
							10,677
Low - Avoid deforestation (over 30 years)							
(1000 hectares)							50.000
Land impacted for carbon sink potential -							59,000
Low - Extend rotation length (1000							
hectares)							
Land impacted for carbon sink potential -							10,500
Low - Improve plantations (1000							
hectares)							
Land impacted for carbon sink potential -							0
Low - Increase retention of HWP (1000							
hectares)							
Land impacted for carbon sink potential -							3,000
Low - Increase trees outside forests							
(1000 hectares)							
Land impacted for carbon sink potential -							8,000

Table 76: E-B+ scenario - PILLAR 6: Land sinks - Forests (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Land impacted for carbon sink potential -							1,300
Low - Reforest pasture (1000 hectares)							
Land impacted for carbon sink potential -							35,700
Low - Restore productivity (1000							
hectares)							
Land impacted for carbon sink potential -							132,177
Low - Total impacted (over 30 years)							
(1000 hectares)							
Land impacted for carbon sink potential -							6,000
Mid - Accelerate regeneration (1000							
hectares)							
Land impacted for carbon sink potential -							11,025
Mid - Avoid deforestation (over 30 years)							
(1000 hectares)							
Land impacted for carbon sink potential -							106,500
Mid - Extend rotation length (1000							
hectares)							
Land impacted for carbon sink potential -							15,800
Mid - Improve plantations (1000 hectares)							
Land impacted for carbon sink potential -							0
Mid - Increase retention of HWP (1000							
hectares)							
Land impacted for carbon sink potential -							4,350
Mid - Increase trees outside forests (1000							
hectares)							
Land impacted for carbon sink potential -							12,000
Mid - Reforest cropland (1000 hectares)							
Land impacted for carbon sink potential -							9,400
Mid - Reforest pasture (1000 hectares)							
Land impacted for carbon sink potential -							71,900
Mid - Restore productivity (1000							
hectares)							
Land impacted for carbon sink potential -							236,975
Mid - Total impacted (over 30 years) (1000							
hectares)							

## Table 77: E-B+ scenario - PILLAR 6: Land sinks - Total assumed land sink

Item	2020	2025	2030	2035	2040	2045	2050
Total assumed land sink (Gt CO2e/y)	-0.7	-0.73	-0.75	-0.78	-0.8	-0.83	-0.85

### Table 78: E-B+ scenario - IMPACTS - Fossil fuel industries

Item	2020	2025	2030	2035	2040	2045	2050
Natural gas consumption - Annual (tcf)		22,870	18,067	14,168	11,671	9,024	6,935
Natural gas consumption - Cumulative							468,505
(tcf)							
Natural gas production - Annual (tcf)		35,855	32,336	26,667	22,472	19,164	16,450
Natural gas production - Cumulative (tcf)							830,136
Oil consumption - Annual (million bbls)		5,987	5,545	5,112	4,688	3,810	2,612
Oil consumption - Cumulative (million							152,170
bbls)							
Oil production - Annual (million bbls)		5,198	5,216	5,209	5,074	4,856	3,195
Oil production - Cumulative (million bbls)							151,760

### Table 79: E-B+ scenario - IMPACTS - Health

Item	2020	2025	2030	2035	2040	2045	2050
Monetary damages from air pollution -		22,661	29.5	28.3	24.2	16.6	1.24
Coal (million 2019\$)							

Table 79: E-B+ scenario - IMPACTS - Health (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Monetary damages from air pollution -		12,872	7,230	4,270	3,134	1,787	737
Natural Gas (million 2019\$)							
Monetary damages from air pollution -		104,258	107,043	105,711	96,553	77,882	54,050
Transportation (million 2019\$)							
Premature deaths from air pollution -		2,559	3.33	3.2	2.73	1.88	0.14
Coal (deaths)							
Premature deaths from air pollution -		1,453	816	482	354	202	83.2
Natural Gas (deaths)							
Premature deaths from air pollution -		11,726	12,039	11,890	10,859	8,759	6,079
Transportation (deaths)							

Table 80: E-B+ scenario - IMPACTS - Jobs

Table 80: E-B+ scenario - IMPACTS - Jobs							
Item	2020	2025	2030	2035	2040	2045	2050
By economic sector - Agriculture (jobs)		32,174	42,288	59,071	62,967	64,464	78,944
By economic sector - Construction (jobs)		581,252	743,826	811,795	829,966	994,703	1,303,457
By economic sector - Manufacturing		645,629	844,956	761,043	623,121	736,461	965,790
(jobs)							
By economic sector - Mining (jobs)		457,822	349,136	269,459	206,374	156,952	92,010
By economic sector - Other (jobs)		56,622	81,960	98,073	110,779	143,437	220,993
By economic sector - Pipeline (jobs)		46,238	52,377	44,732	34,806	32,366	31,958
By economic sector - Professional (jobs)		330,225	397,849	470,432	536,936	663,638	863,741
By economic sector - Trade (jobs)		298,942	314,042	335,172	352,941	407,909	513,328
By economic sector - Utilities (jobs)		468,318	554,761	621,122	646,604	823,091	1,082,332
By education level - All sectors -		877,870	1,035,603	1,065,286	1,046,053	1,250,728	1,623,219
Associates degree or some college (jobs)							
By education level - All sectors -		644,751	720,709	732,434	720,161	841,870	1,058,087
Bachelors degree (jobs)							
By education level - All sectors - Doctoral		21,373	23,773	25,558	26,898	31,776	40,088
degree (jobs)							
By education level - All sectors - High		1,221,443	1,432,217	1,472,040	1,434,199	1,689,837	2,167,284
school diploma or less (jobs)							
By education level - All sectors - Masters		151,786	168,894	175,582	177,183	208,810	263,874
or professional degree (jobs)							
By education level - Biomass sector -		16,090	19,588	35,004	52,412	68,012	86,972
Associates degree or some college (jobs)							
By education level - Biomass sector -		14,783	17,693	32,769	53,142	71,318	90,755
Bachelors degree (jobs)							
By education level - Biomass sector -		726	921	1,873	3,279	4,550	5,818
Doctoral degree (jobs)							
By education level - Biomass sector - High		48,466	59,456	90,901	114,020	132,819	166,652
school diploma or less (jobs)							
By education level - Biomass sector -		4,070	5,008	9,386	15,369	20,750	26,476
Masters or professional degree (jobs)							
By education level - CO2 sector -		2,575	39,321	33,632	15,862	23,943	45,506
Associates degree or some college (jobs)							
By education level - CO2 sector -		1,286	18,604	16,689	8,614	12,834	22,147
Bachelors degree (jobs)							
By education level - CO2 sector - Doctoral		26	337	337	205	301	437
degree (jobs)		2.121					
By education level - CO2 sector - High		3,181	48,591	41,726	19,777	29,903	56,834
school diploma or less (jobs)				2 = 12			
By education level - CO2 sector - Masters		287	4,086	3,719	1,970	2,924	4,900
or professional degree (jobs)		21 ( ( 2	F 044	0.007	0 (1 (	0.050	0.070
By education level - Coal sector -		21,668	5,811	2,994	2,616	2,352	2,073
Associates degree or some college (jobs)			2 = 1 =				1000
By education level - Coal sector -		14,117	3,542	1,704	1,540	1,431	1,302
Bachelors degree (jobs)			400				/ =
By education level - Coal sector - Doctoral		517	128	51.8	48.5	46.6	43.7
degree (jobs)							

Table 80: E-B+ scenario - IMPACTS - Jobs (continued)

Table 80: E-B+ scenario - IMPACTS - Jobs	•	•					
Item	2020	2025	2030	2035	2040	2045	2050
By education level - Coal sector - High		30,641	9,079	5,799	4,970	4,379	3,778
school diploma or less (jobs)							
By education level - Coal sector - Masters		3,469	866	372	338	317	290
or professional degree (jobs)							
By education level - Grid sector -		174,294	229,691	295,982	334,579	458,099	617,313
Associates degree or some college (jobs)							
By education level - Grid sector -		99,880	130,767	167,424	188,060	255,884	342,705
Bachelors degree (jobs)							
By education level - Grid sector - Doctoral		2,880	3,707	4,666	5,153	6,893	9,076
degree (jobs)							
By education level - Grid sector - High		222,876	295,197	382,304	434,320	597,625	809,331
school diploma or less (jobs)							
By education level - Grid sector - Masters		25,133	32,802	41,868	46,886	63,605	84,934
or professional degree (jobs)							
By education level - Natural gas sector -		176,526	133,696	100,826	88,327	70,666	53,110
Associates degree or some college (jobs)							
By education level - Natural gas sector -		122,977	91,161	66,596	55,978	43,583	31,999
Bachelors degree (jobs)							
By education level - Natural gas sector -		4,086	2,999	2,155	1,778	1,363	982
Doctoral degree (jobs)							
By education level - Natural gas sector -		216,010	163,684	122,940	106,082	84,259	63,187
High school diploma or less (jobs)							
By education level - Natural gas sector -		30,123	22,202	16,129	13,537	10,512	7,683
Masters or professional degree (jobs)							
By education level - Nuclear sector -		13,672	13,246	13,299	10,140	9,242	12,046
Associates degree or some college (jobs)							
By education level - Nuclear sector -		14,779	14,284	14,307	10,884	9,897	12,870
Bachelors degree (jobs)							
By education level - Nuclear sector -		648	622	619	468	423	547
Doctoral degree (jobs)							
By education level - Nuclear sector - High		16,972	16,487	16,595	12,686	11,592	15,145
school diploma or less (jobs)							
By education level - Nuclear sector -		4,000	3,860	3,859	2,931	2,661	3,455
Masters or professional degree (jobs)							
By education level - Oil sector - Associates		206,247	184,787	166,011	147,370	125,808	78,548
degree or some college (jobs)		,	- , -	, .	, -	-,	-,-
By education level - Oil sector - Bachelors		212,707	187,569	165,669	144,398	121,155	74,021
degree (jobs)		, -	. ,		,	,	,-
By education level - Oil sector - Doctoral		6,871	6,092	5,410	4,741	4,004	2,456
degree (jobs)		-,-:	-,	2,	.,	.,	_,
By education level - Oil sector - High		318,839	287,355	259,740	232,096	199,165	125,368
school diploma or less (jobs)		0.0,007	20.,000	2077. 10	202,070	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0,000
By education level - Oil sector - Masters or		48,235	42,333	37,202	32,247	26,927	16,337
professional degree (jobs)		40,200	42,000	01,202	02,241	20,721	10,001
By education level - Solar PV sector -		169,748	242,412	231,753	219,532	266,559	420,666
Associates degree or some college (jobs)		107,140	242,412	201,100	217,002	200,007	420,000
By education level - Solar PV sector -		98,823	142,974	137,113	130,627	160,501	256,096
Bachelors degree (jobs)		70,020	142,714	131,113	130,021	100,501	230,070
By education level - Solar PV sector -		3,138	4,497	4,741	4,899	6,051	9,716
Doctoral degree (jobs)		3,130	4,471	4,141	4,077	0,031	2,110
By education level - Solar PV sector - High		238,365	337,753	319,518	298,959	359,451	561,710
		238,363	331,133	319,516	296,939	339,431	361,710
school diploma or less (jobs)  By education level - Solar PV sector -		21,281	30,826	30,763	30,417	37,639	60,506
		21,201	30,826	30,763	30,417	31,039	60,506
Masters or professional degree (jobs)		07.050	1/7.051	105.707	175 010	00/.0//	00/005
By education level - Wind sector -		97,050	167,051	185,786	175,213	226,046	306,985
Associates degree or some college (jobs)		/F 000	11 1 11	1001/0	107.010	1/50/7	007 101
By education level - Wind sector -		65,399	114,114	130,163	126,918	165,267	226,191
Bachelors degree (jobs)		0.7.01		F 700	/ 007	0.4.4	44 040
By education level - Wind sector -		2,481	4,470	5,703	6,327	8,146	11,013
Doctoral degree (jobs)							

Table 80: E-B+ scenario - IMPACTS - Jobs (continued)

Table 80: E-B+ scenario - IMPACTS - Jobs (	continued	•					
Item	2020	2025	2030	2035	2040	2045	2050
By education level - Wind sector - High		126,093	214,615	232,517	211,290	270,645	365,280
school diploma or less (jobs)							
By education level - Wind sector - Masters		15,188	26,911	32,282	33,487	43,476	59,293
or professional degree (jobs)							
By resource sector - Biomass (jobs)		84,135	102,666	169,933	238,222	297,448	376,673
By resource sector - CO2 (jobs)		7,356	110,939	96,104	46,428	69,905	129,825
By resource sector - Coal (jobs)		70,411	19,426	10,921	9,514	8,525	7,486
By resource sector - Grid (jobs)		525,062	692,164	892,244	1,008,997	1,382,106	1,863,359
By resource sector - Natural Gas (jobs)		549,721	413,742	308,646	265,702	210,383	156,961
By resource sector - Nuclear (jobs)		50,072	48,499	48,680	37,109	33,816	44,064
By resource sector - Oil (jobs)		792,899	708,136	634,032	560,853	477,059	296,731
By resource sector - Solar (jobs)		531,355	758,462	723,888	684,434	830,201	1,308,693
By resource sector - Wind (jobs)		306,212	527,160	586,451	553,235	713,579	968,761
Median wages - Annual - Biomass (\$2019		51,941	53,608	57,044	60,729	63,277	64,544
per job)		- ,	,	, ,		,	, ,
Median wages - Annual - CO2 (\$2019 per		62,479	62,742	64,197	66,395	67,287	66,879
job)		- ,	•	,	,-	, -	,-
Median wages - Annual - Coal (\$2019 per		60,506	59,389	55,630	56,524	57,468	58,461
job)		00,000			,	.,	
Median wages - Annual - Grid (\$2019 per		62,539	63,375	64,248	65,159	66,110	67,102
job)		02,007	00,010	0 1,2 10	00,107	30,110	01,102
Median wages - Annual - Natural Gas		66,255	67,115	67,811	68,308	69,006	69,777
(\$2019 per job)		00,200	01,110	01,011	00,000	07,000	07,111
Median wages - Annual - Nuclear (\$2019		71,486	73,188	74,974	76,846	78,808	80,864
per job)		11,400	13,100	14,714	10,040	10,000	00,004
Median wages - Annual - Oil (\$2019 per		65,828	66,678	67,513	68,322	69,194	69,924
job)		03,020	00,010	01,515	00,322	07,174	09,924
Median wages - Annual - Solar (\$2019 per		55,404	56,085	57,168	58,323	59,248	60,236
job)		33,404	30,063	31,100	30,323	37,240	00,230
Median wages - Annual - Wind (\$2019 per		58,080	59,100	60,914	63,241	64,158	65,104
		56,060	59,100	60,914	63,241	64,136	65,104
job)		0.700	10 500	10 / 07	07.700	0/ 00/	/ 0 / 00
On-Site or In-Plant Training - Biomass		8,490	10,509	18,437	26,783	34,224	43,693
sector - 1 to 4 years (jobs)		0.777	0.007	/ 11 /	0.707	10 / / 0	1/ 000
On-Site or In-Plant Training - Biomass		2,644	3,234	6,114	9,424	12,463	16,088
sector - 4 to 10 years (jobs)		10 (00	1/0/1	00107	/ 0 445	F0 077	(7,170
On-Site or In-Plant Training - Biomass		13,603	16,961	29,104	42,115	53,377	67,470
sector - None (jobs)		507	/74	1.075	1.00	10/0	0 / 00
On-Site or In-Plant Training - Biomass		586	671	1,075	1,486	1,863	2,403
sector - Over 10 years (jobs)		50.010	74.004	115.007	450 /4/	405 504	0.7.010
On-Site or In-Plant Training - Biomass		58,813	71,291	115,204	158,414	195,521	247,019
sector - Up to 1 year (jobs)							
On-Site or In-Plant Training - CO2 sector -		1,357	20,707	17,740	8,386	12,664	24,047
1 to 4 years (jobs)							
On-Site or In-Plant Training - CO2 sector -		668	10,330	8,747	4,038	6,119	11,913
4 to 10 years (jobs)							
On-Site or In-Plant Training - CO2 sector -		1,126	16,898	14,719	7,184	10,807	19,874
None (jobs)							
On-Site or In-Plant Training - CO2 sector -		79.4	1,229	1,037	475	720	1,408
Over 10 years (jobs)							
On-Site or In-Plant Training - CO2 sector -		4,125	61,774	53,861	26,345	39,594	72,583
Up to 1 year (jobs)							
On-Site or In-Plant Training - Coal sector -		10,991	3,009	1,599	1,387	1,238	1,082
1 to 4 years (jobs)							
On-Site or In-Plant Training - Coal sector -		4,217	1,054	430	373	332	289
4 to 10 years (jobs)							
On-Site or In-Plant Training - Coal sector -		10,380	2,741	1,420	1,262	1,154	1,034
None (jobs)							
On-Site or In-Plant Training - Coal sector -		508	124	47.4	42.2	38.6	34.7
Over 10 years (jobs)							
On-Site or In-Plant Training - Coal sector -		44,315	12,498	7,424	6,450	5,763	5,046
Up to 1 year (jobs)		, 5.0	,	,	-,		-,,,,,,
- p (1-40)						<u> </u>	

Table 80: E-B+ scenario - IMPACTS - Jobs (continued)

Table 80: E-B+ scenario - IMPACTS - Jobs (							
Item	2020	2025	2030	2035	2040	2045	2050
On-Site or In-Plant Training - Grid sector -		90,688	119,702	154,493	174,915	239,868	323,746
1 to 4 years (jobs)							
On-Site or In-Plant Training - Grid sector -		39,829	52,560	67,820	76,766	105,246	142,011
4 to 10 years (jobs)							
On-Site or In-Plant Training - Grid sector -		79,958	105,169	135,271	152,642	208,641	280,703
None (jobs)		·	,	,			
On-Site or In-Plant Training - Grid sector -		5,163	6,809	8,781	9,933	13,610	18,352
Over 10 years (jobs)		37.33	0,007	3,.3.	7,700	.5,5.5	.5,552
On-Site or In-Plant Training - Grid sector -		309,424	407,925	525,879	594,741	814,741	1,098,547
Up to 1 year (jobs)		007,121	101,720	020,017	0, 1,1 11	0.1,1.11	1,070,011
On-Site or In-Plant Training - Natural gas		92,637	70,073	52,690	45,840	36,543	27,423
sector - 1 to 4 years (jobs)		72,001	10,010	02,070	40,040	00,040	21,420
On-Site or In-Plant Training - Natural gas		41,127	31,357	23,855	21,069	16,949	12,811
sector - 4 to 10 years (jobs)		41,121	31,331	25,055	21,007	10,747	12,011
On-Site or In-Plant Training - Natural gas		87,524	65,527	48,636	41,762	32,988	24,543
sector - None (jobs)		61,524	03,321	40,030	41,102	32,700	24,545
On-Site or In-Plant Training - Natural gas		4,878	3,747	2,877	2,572	2,083	1,580
sector - Over 10 years (jobs)		4,010	3,141	2,011	2,512	2,063	1,560
		323,555	0/ 0 000	100 500	157 750	101 000	90,603
On-Site or In-Plant Training - Natural gas		323,555	243,038	180,589	154,459	121,820	90,603
sector - Up to 1 year (jobs)		7,000	71/5	7000	F / OF	F 010	( 5 ( 0
On-Site or In-Plant Training - Nuclear		7,389	7,165	7,200	5,495	5,013	6,540
sector - 1 to 4 years (jobs)		0 (7)	0.500	0.405	1.007	1.010	0.077
On-Site or In-Plant Training - Nuclear		2,674	2,593	2,605	1,987	1,813	2,364
sector - 4 to 10 years (jobs)		0.070	0 (70	0.407		, , , , ,	7.050
On-Site or In-Plant Training - Nuclear		8,963	8,673	8,697	6,623	6,030	7,850
sector - None (jobs)							
On-Site or In-Plant Training - Nuclear		251	243	244	186	169	220
sector - Over 10 years (jobs)							
On-Site or In-Plant Training - Nuclear		30,796	29,826	29,935	22,818	20,791	27,089
sector - Up to 1 year (jobs)							
On-Site or In-Plant Training - Oil sector - 1		116,834	104,736	94,131	83,578	71,372	44,546
to 4 years (jobs)							
On-Site or In-Plant Training - Oil sector -		41,199	37,215	33,709	30,174	25,955	16,347
4 to 10 years (jobs)							
On-Site or In-Plant Training - Oil sector -		127,669	113,154	100,523	88,217	74,442	45,938
None (jobs)							
On-Site or In-Plant Training - Oil sector -		4,563	4,197	3,868	3,520	3,075	1,964
Over 10 years (jobs)							
On-Site or In-Plant Training - Oil sector -		502,634	448,835	401,801	355,364	302,214	187,936
Up to 1 year (jobs)							
On-Site or In-Plant Training - Solar PV		85,449	121,254	115,992	109,769	132,480	207,850
sector - 1 to 4 years (jobs)							
On-Site or In-Plant Training - Solar PV		30,692	42,579	42,649	41,929	50,048	77,768
sector - 4 to 10 years (jobs)							
On-Site or In-Plant Training - Solar PV		90,794	129,859	124,146	117,619	142,962	225,796
sector - None (jobs)							
On-Site or In-Plant Training - Solar PV		4,264	6,037	5,821	5,548	6,693	10,498
sector - Over 10 years (jobs)		·				,	,
On-Site or In-Plant Training - Solar PV		320,155	458,733	435,280	409,568	498,019	786,781
sector - Up to 1 year (jobs)					,	.,.	
On-Site or In-Plant Training - Total jobs - 1		461,970	539,816	554,403	543,290	645,189	829,946
to 4 years (jobs)		101,710	007,010	001,100	0 10,270	0 10,107	027,710
On-Site or In-Plant Training - Total jobs - 4		179,918	210,123	220,728	221,617	264,025	339,327
to 10 years (jobs)		117,710	2.0,.20	220,120	221,011	20 1,020	007,021
On-Site or In-Plant Training - Total jobs -		473,170	550,697	564,986	554,651	656,003	843,945
None (jobs)		713,110	000,071	304,700	554,051	000,000	040,740
On-Site or In-Plant Training - Total jobs -		22,749	27,290	28,542	28,393	34,180	44,452
Over 10 years (jobs)		22,147	21,270	20,342	20,373	34,100	44,432
On-Site or In-Plant Training - Total jobs -		1,779,416	2,053,268	2,102,239	2,056,543	2,423,624	3,094,883
		1,117,410	2,000,208	2,102,239	2,000,043	2,423,024	3,074,883
Up to 1 year (jobs)							

Table 80: E-B+ scenario - IMPACTS - Jobs (continued)

Table 80: E-B+ scenario - IMPACTS - Jobs (		•					
Item	2020	2025	2030	2035	2040	2045	2050
On-Site or In-Plant Training - Wind sector		48,136	82,662	92,122	87,136	111,787	151,018
- 1 to 4 years (jobs)							
On-Site or In-Plant Training - Wind sector		16,866	29,202	34,798	35,857	45,100	59,736
- 4 to 10 years (jobs)		50.450	04.745	400 / 74	07.007	105 (00	470 700
On-Site or In-Plant Training - Wind sector		53,152	91,715	102,471	97,226	125,603	170,738
- None (jobs)		0.457	, , , , , ,	, 700		5.000	7000
On-Site or In-Plant Training - Wind sector		2,457	4,233	4,792	4,631	5,928	7,992
- Over 10 years (jobs)		405 (00	010.01.0	050010	000 005	1054/4	
On-Site or In-Plant Training - Wind sector		185,600	319,348	352,268	328,385	425,161	579,277
- Up to 1 year (jobs)		500 / 00	(00 (10	7000/5	/ OF 701	0077/0	10///50
On-the-Job Training - All sectors - 1 to 4		589,423	689,612	708,945	695,721	827,749	1,066,650
years (jobs) On-the-Job Training - All sectors - 4 to 10		1/0.0/1	000 000	010 101	01/ 0/0	057107	000 57 0
		169,241	200,282	212,181	214,269	257,137	333,548
years (jobs)		1/1 05/	10/ 0/1	100 /10	107 7 7 0	010 007	000 000
On-the-Job Training - All sectors - None		161,856	184,861	189,418	186,460	219,037	280,333
(jobs) On-the-Job Training - All sectors - Over 10		00 221	34,763	2/. / / 0	32,822	38,443	49,510
=		29,331	34,763	34,648	32,822	36,443	49,510
years (jobs) On-the-Job Training - All sectors - Up to 1		1,967,372	2,271,676	0.005.707	0.075.000	0 / 00 / 5/	3,422,512
		1,961,312	2,211,010	2,325,707	2,275,223	2,680,656	3,422,312
year (jobs) On-the-Job Training - Biomass sector - 1		9,286	11,590	21,134	31,640	41,117	52,685
to 4 years (jobs)		9,200	11,590	21,134	31,040	41,117	52,005
On-the-Job Training - Biomass sector - 4		2,125	2,696	5,302	8,200	10,872	14,064
to 10 years (jobs)		2,125	2,090	5,302	0,200	10,612	14,064
On-the-Job Training - Biomass sector -		5,236	6,088	10,105	14,671	18,626	23,562
None (jobs)		5,230	0,000	10,103	14,071	10,020	23,302
On-the-Job Training - Biomass sector -		600	692	1,143	1,614	2,049	2,648
Over 10 years (jobs)		800	092	1,143	1,014	2,049	2,040
On-the-Job Training - Biomass sector - Up		66,889	81,601	132,250	182,098	224,785	283,714
to 1 year (jobs)		00,007	01,001	132,230	102,070	224,103	203,114
On-the-Job Training - CO2 sector - 1 to 4		1,805	27,584	23,594	11,121	16,798	31,982
years (jobs)		1,003	21,304	23,374	11,121	10,1 70	31,902
On-the-Job Training - CO2 sector - 4 to 10		672	10,456	8,805	4,017	6,099	12,021
years (jobs)		012	10,400	0,000	4,011	0,077	12,021
On-the-Job Training - CO2 sector - None		346	5,127	4,521	2,256	3,387	6,100
(jobs)		040	0,121	7,021	2,200	0,001	0,100
On-the-Job Training - CO2 sector - Over		73.6	1,117	968	466	705	1,324
10 years (jobs)		10.0	.,	700			.,62 .
On-the-Job Training - CO2 sector - Up to 1		4,460	66,655	58,216	28,568	42,915	78,399
year (jobs)		1, 100	00,000	00,210	20,000	12,710	10,077
On-the-Job Training - Coal sector - 1 to 4		13,959	3,773	1,915	1,664	1,488	1,303
years (jobs)		,.	,,,,,		,,,,,,	,,,,,,	,,,,,
On-the-Job Training - Coal sector - 4 to 10		4,129	1,040	423	364	321	278
years (jobs)		.,	,,,,,,			-	
On-the-Job Training - Coal sector - None		3,482	920	508	449	409	364
(jobs)		-, -					
On-the-Job Training - Coal sector - Over		473	131	70.7	63.5	58.8	53.4
10 years (jobs)							
On-the-Job Training - Coal sector - Up to 1		48,368	13,561	8,004	6,974	6,249	5,487
year (jobs)		·	,			,	·
On-the-Job Training - Grid sector - 1 to 4		117,947	155,605	200,730	227,151	311,345	420,005
years (jobs)		•	,		,	,	,
On-the-Job Training - Grid sector - 4 to 10		40,085	52,932	68,343	77,406	106,189	143,370
years (jobs)						, -	,
On-the-Job Training - Grid sector - None		25,697	33,828	43,548	49,185	67,293	90,622
(jobs)		-,	,		.,		-,
On-the-Job Training - Grid sector - Over		4,208	5,558	7,177	8,131	11,159	15,072
10 years (jobs)		,==3					-,
On-the-Job Training - Grid sector - Up to 1		337,124	444,243	572,445	647,124	886,121	1,194,291
year (jobs)			',= ',				, .,,
, U)				1		l .	

Table 80: E-B+ scenario - IMPACTS - Jobs (continued)

Table 80: E-B+ scenario - IMPACTS - Jobs	•	-					
Item	2020	2025	2030	2035	2040	2045	2050
On-the-Job Training - Natural gas sector -		121,834	92,143	69,337	60,467	48,262	36,243
1 to 4 years (jobs)							
On-the-Job Training - Natural gas sector -		39,144	29,923	22,892	20,410	16,507	12,526
4 to 10 years (jobs)							
On-the-Job Training - Natural gas sector -		28,684	21,298	15,625	13,203	10,325	7,627
None (jobs)							
On-the-Job Training - Natural gas sector -		5,223	3,920	2,912	2,479	1,953	1,456
Over 10 years (jobs)							
On-the-Job Training - Natural gas sector -		354,836	266,458	197,880	169,143	133,336	99,109
Up to 1 year (jobs)							
On-the-Job Training - Nuclear sector - 1 to		9,694	9,400	9,445	7,207	6,574	8,575
4 years (jobs)						-	-
On-the-Job Training - Nuclear sector - 4		2,338	2,267	2,278	1,739	1,586	2,070
to 10 years (jobs)		,	, -	, -	, -	,	,
On-the-Job Training - Nuclear sector -		3,363	3,256	3,267	2,489	2,267	2,953
None (jobs)		0,000	0,200	0,20.	2,107	2,20.	2,700
On-the-Job Training - Nuclear sector -		521	506	508	388	354	463
Over 10 years (jobs)		321	300	300	000	004	700
On-the-Job Training - Nuclear sector - Up		34,156	33,071	33,182	25,286	23,033	30,003
to 1 year (jobs)		34,130	33,011	33,102	23,200	23,033	30,003
On-the-Job Training - Oil sector - 1 to 4		144,508	129,357	116,100	102,947	87,812	54,740
		144,506	129,331	110,100	102,941	01,012	54,140
years (jobs)		07.107	00.001	00.017	05 107	01 / 07	10.770
On-the-Job Training - Oil sector - 4 to 10		34,136	30,881	28,017	25,127	21,637	13,669
years (jobs)		10011	10117	07.400	00 (11	07.000	1/7/5
On-the-Job Training - Oil sector - None		48,246	42,447	37,430	32,611	27,298	16,745
(jobs)						. ====	
On-the-Job Training - Oil sector - Over 10		7,740	6,934	6,229	5,530	4,722	2,949
years (jobs)							
On-the-Job Training - Oil sector - Up to 1		558,269	498,517	446,256	394,637	335,590	208,628
year (jobs)							
On-the-Job Training - Solar PV sector - 1		108,601	153,926	147,599	139,966	168,816	264,706
to 4 years (jobs)							
On-the-Job Training - Solar PV sector - 4		30,386	42,000	42,390	41,928	49,971	77,550
to 10 years (jobs)							
On-the-Job Training - Solar PV sector -		30,022	42,886	41,648	40,051	48,782	77,239
None (jobs)							
On-the-Job Training - Solar PV sector -		6,771	9,591	8,900	8,163	9,762	15,163
Over 10 years (jobs)							
On-the-Job Training - Solar PV sector - Up		355,575	510,059	483,351	454,325	552,869	874,034
to 1 year (jobs)							
On-the-Job Training - Wind sector - 1 to 4		61,790	106,235	119,093	113,557	145,537	196,411
years (jobs)							
On-the-Job Training - Wind sector - 4 to		16,225	28,087	33,731	35,078	43,954	57,999
10 years (jobs)							
On-the-Job Training - Wind sector - None		16,781	29,012	32,766	31,544	40,650	55,122
(jobs)					-		-
On-the-Job Training - Wind sector - Over		3,721	6,314	6,739	5,986	7,681	10,383
10 years (jobs)		-,			,	,	
On-the-Job Training - Wind sector - Up to		207,695	357,511	394,123	367,069	475,758	648,847
1 year (jobs)						,	
Related work experience - All sectors - 1		1,060,057	1,218,725	1,250,089	1,228,283	1,448,962	1,846,594
to 4 years (jobs)		1,000,001	1,210,120	1,200,007	1,220,200	1,110,702	1,010,071
Related work experience - All sectors - 4		675,711	780,852	800,254	786,233	930,754	1,190,427
to 10 years (jobs)		010,111	100,002	000,204	100,200	700,104	1,170,421
Related work experience - All sectors -		412,411	480,978	496,642	488,883	578,837	743,989
None (jobs)		<b>→</b> 1∠, <b>4</b> 11	400,710	470,042	400,003	510,631	140,707
Related work experience - All sectors -		187,857	216,469	218,450	211,126	249,017	317,722
Over 10 years (jobs)		101,001	£10,407	210,430	211,120	247,011	311,122
Related work experience - All sectors - Up		E01107	407.170	705775	4000/0	015 / 50	1,053,820
		581,186	684,172	705,465	689,969	815,452	1,U33,82U 
to 1 year (jobs)							<u></u>

Table 80: E-B+ scenario - IMPACTS - Jobs (continued)

Table 80: E-B+ scenario - IMPACTS - Jobs	•						
Item	2020	2025	2030	2035	2040	2045	2050
Related work experience - Biomass sector		25,157	31,622	55,215	80,869	103,220	130,658
- 1 to 4 years (jobs)							
Related work experience - Biomass sector		13,109	15,926	29,001	44,841	59,014	75,329
- 4 to 10 years (jobs)							
Related work experience - Biomass sector		14,242	17,332	27,557	36,705	44,377	55,834
- None (jobs)							
Related work experience - Biomass sector		3,603	4,264	7,554	11,581	15,231	19,534
- Over 10 years (jobs)		22.22/	22.722	(0)			
Related work experience - Biomass sector		28,024	33,522	50,606	64,227	75,606	95,317
- Up to 1 year (jobs)		0.704	00.407	01.000	47,700	05.405	
Related work experience - CO2 sector - 1		2,631	39,497	34,328	16,699	25,105	46,239
to 4 years (jobs)		1.000	07.170	007/0	11 / 0 /	17.017	
Related work experience - CO2 sector - 4		1,820	27,472	23,749	11,436	17,216	32,042
to 10 years (jobs)		1 107	17.000	1/ 0/ 0	7.050	10 (00	00.001
Related work experience - CO2 sector -		1,137	17,299	14,848	7,050	10,633	20,081
None (jobs)		/ / 0	( (50	F 000	0.000	/ 000	70/0
Related work experience - CO2 sector -		448	6,652	5,838	2,892	4,338	7,842
Over 10 years (jobs)		1.000	00.010	17,000	0.051	10 (10	00 (00
Related work experience - CO2 sector -		1,320	20,019	17,339	8,351	12,612	23,622
Up to 1 year (jobs)		07710	7.077	/ 177	0.701	2011	0.07.0
Related work experience - Coal sector - 1		26,712	7,377	4,177	3,631	3,246	2,843
to 4 years (jobs)		15 /05	/ 100	0.050	1 010	1//0	1//0
Related work experience - Coal sector - 4		15,695	4,109	2,053	1,810	1,642	1,460
to 10 years (jobs)		0.577	0.570	1.050	1100	10/0	001
Related work experience - Coal sector -		9,564	2,569	1,358	1,183	1,060	931
None (jobs)		2.0/0	1.07/	E//	F01	1.57	409
Related work experience - Coal sector -		3,962	1,074	566	501	457	409
Over 10 years (jobs)		1/, /,70	4,297	0.7/7	0.000	0.100	1,844
Related work experience - Coal sector -		14,478	4,291	2,767	2,388	2,120	1,644
Up to 1 year (jobs)  Related work experience - Grid sector - 1		100 0/F	250 005	200 120	277.010	/.00.00/	/71.000
		189,865	250,095	322,139	364,012	498,234	671,208
to 4 years (jobs)  Related work experience - Grid sector - 4		124,425	163,776	210,799	238,022	325,544	438,233
to 10 years (jobs)		124,425	103,110	210,199	230,022	325,544	430,233
Related work experience - Grid sector -		77,987	102,885	132,719	150,185	205,848	277,682
None (jobs)		11,701	102,000	132,119	150,165	205,646	211,002
Related work experience - Grid sector -		32,251	42,474	54,700	61,799	84,572	113,915
Over 10 years (jobs)		32,231	42,414	34,700	01,177	04,512	113,713
Related work experience - Grid sector -	+	100,534	132,934	171,886	194,979	267,907	362,321
Up to 1 year (jobs)		100,554	132,734	171,000	174,717	201,701	302,321
Related work experience - Natural gas		202,869	152,582	113,636	97,575	77,128	57,447
sector - 1 to 4 years (jobs)		202,809	102,002	113,030	71,313	11,120	31,441
Related work experience - Natural gas		134,972	101,628	75,927	65,604	52,043	38,861
sector - 4 to 10 years (jobs)		134,712	101,020	13,721	05,004	32,043	30,001
Related work experience - Natural gas		79,594	60,206	45,249	39,353	31,361	23,517
sector - None (jobs)		17,574	00,200	45,247	37,333	31,301	23,311
Related work experience - Natural gas		36,650	27,418	20,251	17,172	13,470	9,977
sector - Over 10 years (jobs)		30,030	21,410	20,231	11,112	13,410	2,211
Related work experience - Natural gas		95,636	71,908	53,583	45,998	36,381	27,158
sector - Up to 1 year (jobs)		75,050	11,700	33,303	43,770	30,301	21,130
Related work experience - Nuclear sector		18,689	18,096	18,158	13,837	12,605	16,420
- 1 to 4 years (jobs)		10,007	10,070	10,130	10,001	12,000	10,420
Related work experience - Nuclear sector		12,125	11,737	11,775	8,971	8,171	10,642
- 4 to 10 years (jobs)		12,120	11,101	11,110	0,711	5,111	10,042
Related work experience - Nuclear sector		6,311	6,120	6,149	4,692	4,280	5,583
- None (jobs)		0,011	0,120	0,147	7,072	4,200	0,000
Related work experience - Nuclear sector		3,732	3,616	3,630	2,767	2,522	3,287
- Over 10 years (jobs)		0,102	0,010	0,000	۷,۱۰۱	2,022	0,201
Related work experience - Nuclear sector		9,215	8,931	8,969	6,841	6,238	8,133
- Up to 1 year (jobs)		7,210	5,751	0,707	0,041	0,200	5,100
op to i your tjobbj							

Table 80: E-B+ scenario - IMPACTS - Jobs (continued)

	(00						
Item	2020	2025	2030	2035	2040	2045	2050
Related work experience - Oil sector - 1 to		302,142	269,872	241,615	213,657	181,735	112,904
4 years (jobs)							
Related work experience - Oil sector - 4 to		183,328	163,462	146,092	128,961	109,518	67,918
10 years (jobs)							
Related work experience - Oil sector -		106,860	95,809	86,142	76,551	65,362	40,896
None (jobs)							
Related work experience - Oil sector -		52,719	46,922	41,873	36,913	31,344	19,408
Over 10 years (jobs)							
Related work experience - Oil sector - Up		147,849	132,071	118,310	104,771	89,100	55,605
to 1 year (jobs)							
Related work experience - Solar PV sector		184,079	263,287	252,193	239,405	291,159	460,181
- 1 to 4 years (jobs)		•			,		,
Related work experience - Solar PV sector		118,988	169,691	162,361	153,845	186,516	293,875
- 4 to 10 years (jobs)							
Related work experience - Solar PV sector		75,112	107,194	103,020	98,080	119,161	188,200
- None (jobs)							
Related work experience - Solar PV sector		33,887	48,648	45,388	42,000	50,978	80,348
- Over 10 years (jobs)		-	·		•		-
Related work experience - Solar PV sector		119,290	169,643	160,927	151,104	182,387	286,090
- Up to 1 year (jobs)							
Related work experience - Wind sector - 1		107,913	186,297	208,628	198,598	256,530	348,695
to 4 years (jobs)							
Related work experience - Wind sector - 4		71,249	123,049	138,497	132,743	171,090	232,069
to 10 years (jobs)							
Related work experience - Wind sector -		41,605	71,565	79,599	75,084	96,755	131,265
None (jobs)							
Related work experience - Wind sector -		20,605	35,402	38,651	35,500	46,104	63,003
Over 10 years (jobs)							
Related work experience - Wind sector -		64,840	110,847	121,077	111,310	143,100	193,730
Up to 1 year (jobs)							
Wage income - Biomass (million \$2019)		4,370	5,504	9,694	14,467	18,822	24,312
Wage income - CO2 (million \$2019)		460	6,961	6,170	3,083	4,704	8,683
Wage income - Coal (million \$2019)		4,260	1,154	608	538	490	438
Wage income - Grid (million \$2019)		32,837	43,866	57,324	65,745	91,371	125,035
Wage income - Natural Gas (million \$2019)		36,422	27,768	20,930	18,149	14,518	10,952
Wage income - Nuclear (million \$2019)		3,579	3,550	3,650	2,852	2,665	3,563
Wage income - Oil (million \$2019)		52,195	47,217	42,805	38,319	33,009	20,749
Wage income - Solar (million \$2019)		29,439	42,538	41,384	39,918	49,188	78,830
Wage income - Wind (million \$2019)		17,785	31,155	35,723	34,987	45,782	63,070
11232 23 11 (1 +2017)		,. 50	5.,.50	55,. 20	5 .,, 5 .	.5,.52	55,5.0

Table 81: REF scenario - PILLAR 1: Efficiency/Electrification - Commercial

Item	2020	2025	2030	2035	2040	2045	2050
Commercial HVAC investment in 2020s -		1,033,244	1,071,458				
Cumulative 5-yr (million \$2018)							
Sales of cooking units - Electric	32.5	34.7	34.8	34.8	34.8	34.9	34.9
Resistance (%)							
Sales of cooking units - Gas (%)	67.5	65.3	65.2	65.2	65.2	65.1	65.1
Sales of space heating units - Electric	2.95	20.2	53	69	71.2	71.5	71.4
Heat Pump (%)							
Sales of space heating units - Electric	7.91	9.57	15.3	22	26.9	27.7	27.7
Resistance (%)							
Sales of space heating units - Fossil (%)	3.94	3.64	2.67	1.11	0.16	0.012	0
Sales of space heating units - Gas Furnace	85.2	66.6	29.1	7.95	1.72	0.875	0.814
(%)							
Sales of water heating units - Electric	0.385	0.401	0.397	0.398	0.398	0.397	0.397
Heat Pump (%)							
Sales of water heating units - Electric	3.8	3.86	3.84	3.85	3.86	3.85	3.86
Resistance (%)							
Sales of water heating units - Gas Furnace	94.1	94.1	94	94	94	94	94
(%)							

# Table 81: REF scenario - PILLAR 1: Efficiency/Electrification - Commercial (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Sales of water heating units - Other (%)	1.66	1.69	1.73	1.71	1.73	1.74	1.73

# Table 82: REF scenario - PILLAR 1: Efficiency/Electrification - Electricity demand

Item	2020	2025	2030	2035	2040	2045	2050
Electricity distribution capital invested -		174	178	262	276	263	274
Cumulative 5-yr (billion \$2018)							

### Table 83: REF scenario - PILLAR 1: Efficiency/Electrification - Overview

Item	2020	2025	2030	2035	2040	2045	2050
Final energy use - Commercial (PJ)	9,013	9,089	9,161	9,159	9,215	9,479	9,955
Final energy use - Industry (PJ)	25,111	26,559	27,315	27,857	28,763	29,709	30,835
Final energy use - Residential (PJ)	11,787	11,149	10,849	10,682	10,653	10,714	10,787
Final energy use - Transportation (PJ)	28,007	26,732	24,918	23,878	24,004	24,746	25,679

#### Table 84: REF scenario - PILLAR 1: Efficiency/Electrification - Residential

Item	2020	2025	2030	2035	2040	2045	2050
Residential HVAC investment in 2020s vs.		244	252				
REF - Cumulative 5-yr (billion \$2018)							
Sales of cooking units - Electric	60.9	60.9	60.9	60.9	60.9	60.9	60.9
Resistance (%)							
Sales of cooking units - Gas (%)	39.1	39.1	39.1	39.1	39.1	39.1	39.1
Sales of space heating units - Electric	13	31.3	32.2	33.6	35.1	36.7	38.4
Heat Pump (%)							
Sales of space heating units - Electric	20.8	20.7	20.5	20.1	19.6	18.5	16.6
Resistance (%)							
Sales of space heating units - Fossil (%)	10.1	11.9	8.72	6.7	6.35	6.23	6.31
Sales of space heating units - Gas (%)	56.2	36.1	38.6	39.6	39	38.5	38.6
Sales of water heating units - Electric	0	0	0	0	0	0	0
Heat Pump (%)							
Sales of water heating units - Electric	38.4	51.9	52	52.3	52.2	52.3	52.3
Resistance (%)							
Sales of water heating units - Gas Furnace	58	45.4	45.4	45.1	45.2	45.1	45.1
(%)							
Sales of water heating units - Other (%)	3.58	2.66	2.63	2.62	2.62	2.6	2.59

# Table 85: REF scenario - PILLAR 1: Efficiency/Electrification - Transportation

Item	2020	2025	2030	2035	2040	2045	2050
Vehicle sales - Heavy-duty - diesel (%)	98.1	98.2	97.9	97	95.6	93.5	91.6
Vehicle sales - Heavy-duty - EV (%)	0	0	0	0	0	0	0
Vehicle sales - Heavy-duty - gasoline (%)	0.229	0.242	0.257	0.274	0.294	0.317	0.343
Vehicle sales - Heavy-duty - hybrid (%)	0.083	0.096	0.112	0.13	0.15	0.174	0.202
Vehicle sales - Heavy-duty - hydrogen FC	0.119	0.138	0.16	0.186	0.216	0.25	0.29
(%)							
Vehicle sales - Heavy-duty - other (%)	1.51	1.31	1.57	2.37	3.69	5.71	7.57
Vehicle sales - Light-duty - diesel (%)	1.4	1.84	2.16	2.01	1.81	1.68	1.6
Vehicle sales - Light-duty - EV (%)	4.05	6.24	7.05	8.71	10.6	12.1	13.3
Vehicle sales - Light-duty - gasoline (%)	89.4	85.7	83.4	81.3	79.2	77.3	75.7
Vehicle sales - Light-duty - hybrid (%)	4.93	5.75	7	7.55	8.08	8.59	8.95
Vehicle sales - Light-duty - hydrogen FC	0.11	0.371	0.337	0.298	0.293	0.293	0.303
(%)							
Vehicle sales - Light-duty - other (%)	0.095	0.099	0.095	0.096	0.095	0.094	0.096
Vehicle sales - Medium-duty - diesel (%)	65.2	63.5	61.6	59.6	58	56.5	55.2
Vehicle sales - Medium-duty - EV (%)	0.027	0.105	0.329	0.671	0.895	0.973	0.993
Vehicle sales - Medium-duty - gasoline (%)	34	35.5	37	38.5	39.7	40.8	41.7
Vehicle sales - Medium-duty - hybrid (%)	0.365	0.427	0.496	0.577	0.674	0.793	0.929

# Table 85: REF scenario - PILLAR 1: Efficiency/Electrification - Transportation (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Vehicle sales - Medium-duty - hydrogen FC (%)	0.175	0.208	0.242	0.285	0.339	0.409	0.487
Vehicle sales - Medium-duty - other (%)	0.255	0.271	0.298	0.345	0.42	0.528	0.671

# Table 86: REF scenario - PILLAR 2: Clean Electricity - Generating capacity

Item	2020	2025	2030	2035	2040	2045	2050
Capital invested - Biomass power plant	0	0	0.002	0.002	0.002	0.002	0.014
(billion \$2018)							
Capital invested - Biomass w/ccu allam	0	0	0	0	0	0	0
power plant (billion \$2018)							
Capital invested - Biomass w/ccu power	0	0	0.187	0.051	0.04	0.043	0.037
plant (billion \$2018)							
Installed - Biomass (MW)	10,004	9,138	7,833	6,120	4,703	3,396	2,509
Installed - Biomass w cc (MW)	0	0	28.2	35.9	41.9	48.4	53.9
Installed - Ccgt & gas steam (MW)	335,091	336,429	372,171	418,875	420,609	411,216	402,211
Installed - Ccgt w cc (MW)	0	0	75.1	123	155	183	198
Installed - Coal (MW)	215,803	136,252	87,021	67,927	65,539	63,529	58,003
Installed - Ct (MW)	147,318	141,836	138,659	133,493	148,035	248,004	303,871
Installed - Geothermal (MW)	2,394	2,396	2,400	2,405	2,409	2,415	2,421
Installed - Grid battery storage (MW)		1,001	1,423	2,713	3,240	4,835	5,590
Installed - Hydro (MW)	78,608	78,608	78,608	78,608	78,608	78,608	78,608
Installed - Nuclear (MW)	98,458	95,132	90,001	76,069	68,465	56,021	48,338
Installed - Offshore wind (MW)	29.3	997	2,991	5,028	7,082	9,651	38,635
Installed - Onshore wind (MW)	97,749	99,521	121,386	144,651	220,515	277,590	307,422
Installed - Other (MW)	67,926	57,451	55,131	53,826	51,918	50,896	49,542
Installed - Pumped hydro storage (MW)		19,418	19,418	19,418	19,418	19,418	19,418
Installed - Rooftop PV (MW)	33,317	52,523	69,448	90,809	117,114	148,351	185,890
Installed - Utility-scale PV (MW)	18,371	20,175	28,189	51,008	69,172	75,363	101,359

# Table 87: REF scenario - PILLAR 2: Clean Electricity - Generation

Item	2020	2025	2030	2035	2040	2045	2050
Biomass (TWh)	16.8	20.1	14	8.93	3.82	4.42	5.62
Biomass power plant (GWh)	3,585	4,154	1,171	1,248	847	681	301
Biomass w cc (TWh)	0	0	0.088	0.099	0.108	0.12	0.13
Biomass w/ccu allam power plant (GWh)	0	0	0	0	0	0	0
Biomass w/ccu power plant (GWh)	0	0	88.1	99	108	120	130
Coal (TWh)	965	844	534	394	366	342	310
Gas (TWh)	1,547	1,791	2,184	2,446	2,263	2,338	2,245
Gas w cc (TWh)	0	0	0.252	0.351	0.376	0.416	0.441
Geothermal (TWh)	14.6	14.5	14.6	14.6	14.2	14.2	13.9
Hydro (TWh)	300	312	295	296	304	294	295
Nuclear (TWh)	802	775	733	620	558	456	394
Offshore wind (TWh)	0.096	3.67	11.1	23.4	28.7	38.7	173
Onshore wind (TWh)	411	413	510	613	942	1,177	1,300
Rooftop PV (TWh)	50.1	79.5	102	130	174	221	268
Utility-scale PV (TWh)	49.1	54.5	72.9	131	182	199	257

# Table 88: REF scenario - PILLAR 3: Clean fuels - Bioenergy

Item	2020	2025	2030	2035	2040	2045	2050
Biomass input - BECCS-H2 (1000 tonnes)	0	0	0	0	0	0	0
Biomass input - Bio-FT w/ CC (1000	0	0	0	0	0	0	0
tonnes)							
Biomass input - Bio-SNG w/ CC (1000	0	0	5.9	6.22	5.52	5.33	5.34
tonnes)							
Biomass input - Biopower (1000 tonnes)	7,104	16,068	14,149	12,723	6,554	8,191	11,637
Biomass input - Biopower w/ cc (1000	0	0	53.2	59.8	65.2	72.5	78.2
tonnes)							

Table 88: REF scenario - PILLAR 3: Clean fuels - Bioenergy (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Biomass input - Ethanol (1000 tonnes)	129,536	129,536	129,529	129,529	129,536	129,536	129,536
Biomass input - FT diesel (1000 tonnes)	0	0	0	0	0	0	0
Biomass input - Pyrolysis liquids (1000 tonnes)	0	0	0	0	0	0	0
Biomass input - Pyrolysis liquids w/ cc (1000 tonnes)	0	0	0	0	0	0	0
Biomass input - SNG (1000 tonnes)	0	0	0	0	0	0	0

# Table 89: REF scenario - PILLAR 4: CCUS - CO2 storage

Item	2020	2025	2030	2035	2040	2045	2050
CO2 storage (MMT)	0	0	0.18	0.23	0.25	0.28	0.29

# Table 90: REF scenario - PILLAR 6: Land sinks - Forests

Item	2020	2025	2030	2035	2040	2045	2050
Carbon sink potential - High - Accelerate							-48,900
regeneration (1000 tC02e/y)							
Carbon sink potential - High - All (not							<b></b> _
counting overlap) (1000 tCO2e/y)							1,535,900
Carbon sink potential - High - Avoid							-84,000
deforestation (1000 tCO2e/y)							
Carbon sink potential - High - Extend							-302,000
rotation length (1000 tCO2e/y)							
Carbon sink potential - High - Improve							-57,000
plantations (1000 tC02e/y)							
Carbon sink potential - High - Increase							-
retention of HWP (1000 tCO2e/y)							300,000
Carbon sink potential - High - Increase							-60,000
trees outside forests (1000 tC02e/y)							
Carbon sink potential - High - Reforest							-242,000
cropland (1000 tCO2e/y)							
Carbon sink potential - High - Reforest							-
pasture (1000 tCO2e/y)							264,000
Carbon sink potential - High - Restore							-178,000
productivity (1000 tCO2e/y)							
Carbon sink potential - Low - Accelerate							-24,500
regeneration (1000 tC02e/y)							
Carbon sink potential - Low - All (not							-
counting overlap) (1000 tCO2e/y)							505,500
Carbon sink potential - Low - Avoid							-14,000
deforestation (1000 tCO2e/y)							
Carbon sink potential - Low - Extend							-116,000
rotation length (1000 tCO2e/y)							
Carbon sink potential - Low - Improve							-29,000
plantations (1000 tCO2e/y)							
Carbon sink potential - Low - Increase							-100,000
retention of HWP (1000 tCO2e/y)							
Carbon sink potential - Low - Increase							-21,000
trees outside forests (1000 tCO2e/y)							
Carbon sink potential - Low - Reforest							-121,000
cropland (1000 tCO2e/y)							
Carbon sink potential - Low - Reforest							-20,000
pasture (1000 tCO2e/y)							
Carbon sink potential - Low - Restore							-60,000
productivity (1000 tCO2e/y)							
Carbon sink potential - Mid - Accelerate							-36,700
regeneration (1000 tCO2e/y)							
Carbon sink potential - Mid - All (not							-
counting overlap) (1000 tCO2e/y)							1,020,200

Table 90: REF scenario - PILLAR 6: Land sinks - Forests (continued)

Item Caphan sink potential, Mid. Avoid	2020	2025	2030	2035	2040	2045	2050 -49,000
Carbon sink potential - Mid - Avoid							-49,000
deforestation (1000 tC02e/y)							000.000
Carbon sink potential - Mid - Extend							-209,000
rotation length (1000 tC02e/y)							/0.500
Carbon sink potential - Mid - Improve							-42,500
plantations (1000 tCO2e/y)							
Carbon sink potential - Mid - Increase							-
retention of HWP (1000 tCO2e/y)							200,000
Carbon sink potential - Mid - Increase							-40,500
trees outside forests (1000 tCO2e/y)							
Carbon sink potential - Mid - Reforest							-181,500
cropland (1000 tCO2e/y)							
Carbon sink potential - Mid - Reforest							-142,000
pasture (1000 tCO2e/y)							
Carbon sink potential - Mid - Restore							-119,000
productivity (1000 tCO2e/y)							•
Land impacted for carbon sink potential -							8,000
High - Accelerate regeneration (1000							3,000
hectares)							
Land impacted for carbon sink potential -							11,373
High - Avoid deforestation (over 30 years)							11,515
(1000 hectares)							
Land impacted for carbon sink potential -							154,000
							154,000
High - Extend rotation length (1000							
hectares)							01 000
Land impacted for carbon sink potential -							21,000
High - Improve plantations (1000							
hectares)							
Land impacted for carbon sink potential -							0
High - Increase retention of HWP (1000							
hectares)							
Land impacted for carbon sink potential -							5,700
High - Increase trees outside forests							
(1000 hectares)							
Land impacted for carbon sink potential -							16,000
High - Reforest cropland (1000 hectares)							
Land impacted for carbon sink potential -							7,500
High - Reforest pasture (1000 hectares)							
Land impacted for carbon sink potential -							59,000
High - Restore productivity (1000							•
hectares)							
Land impacted for carbon sink potential -							282,573
High - Total impacted (over 30 years)							- ,
(1000 hectares)							
Land impacted for carbon sink potential -							4,000
Low - Accelerate regeneration (1000							4,000
hectares)							
Land impacted for carbon sink potential -							10,677
Low - Avoid deforestation (over 30 years)							10,011
(1000 hectares)							
							F0 000
Land impacted for carbon sink potential -							59,000
Low - Extend rotation length (1000							
hectares)							10.500
Land impacted for carbon sink potential -							10,500
Low - Improve plantations (1000							
hectares)							
Land impacted for carbon sink potential -							0
Low - Increase retention of HWP (1000							
hectares)							

Table 90: REF scenario - PILLAR 6: Land sinks - Forests (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Land impacted for carbon sink potential -							3,000
Low - Increase trees outside forests							
(1000 hectares)							
Land impacted for carbon sink potential -							8,000
Low - Reforest cropland (1000 hectares)							
Land impacted for carbon sink potential -							1,300
Low - Reforest pasture (1000 hectares)							
Land impacted for carbon sink potential -							35,700
Low - Restore productivity (1000							
hectares)							
Land impacted for carbon sink potential -							132,177
Low - Total impacted (over 30 years)							
(1000 hectares)							
Land impacted for carbon sink potential -							6,000
Mid - Accelerate regeneration (1000							
hectares)							
Land impacted for carbon sink potential -							11,025
Mid - Avoid deforestation (over 30 years)							
(1000 hectares)							
Land impacted for carbon sink potential -							106,500
Mid - Extend rotation length (1000							
hectares)							
Land impacted for carbon sink potential -							15,800
Mid - Improve plantations (1000 hectares)							
Land impacted for carbon sink potential -							0
Mid - Increase retention of HWP (1000							
hectares)							
Land impacted for carbon sink potential -							4,350
Mid - Increase trees outside forests (1000							
hectares)							
Land impacted for carbon sink potential -							12,000
Mid - Reforest cropland (1000 hectares)							
Land impacted for carbon sink potential -							9,400
Mid - Reforest pasture (1000 hectares)							
Land impacted for carbon sink potential -							71,900
Mid - Restore productivity (1000							
hectares)							
Land impacted for carbon sink potential -							236,975
Mid - Total impacted (over 30 years) (1000							•
hectares)							

#### Table 91: REF scenario - PILLAR 6: Land sinks - Forests - REF only

Item	2020	2025	2030	2035	2040	2045	2050
Business-as-usual carbon sink - Natural uptake (Mt CO2e/y)	-575		-367				-325
Business-as-usual carbon sink - Retained in Hardwood Products (Mt CO2e/y)	-81.6		-139				-146
Business-as-usual carbon sink - Total (Mt CO2e/y)	-657		-507				-472

### Table 92: REF scenario - PILLAR 6: Land sinks - Total assumed land sink

Item	2020	2025	2030	2035	2040	2045	2050
Total assumed land sink (Gt CO2e/y)	-0.7	-0.73	-0.75	-0.78	-0.8	-0.83	-0.85

### Table 93: REF scenario - IMPACTS - Fossil fuel industries

Item	2020	2025	2030	2035	2040	2045	2050
Natural gas consumption - Annual (tcf)		23,809	26,243	27,450	25,560	25,988	25,610

Table 93: REF scenario - IMPACTS - Fossil fuel industries (continued)

Item	2020	2025	2030	2035	2040	2045	2050
Natural gas consumption - Cumulative							792,006
(tcf)							
Natural gas production - Annual (tcf)		36,910	41,028	42,444	40,854	41,386	41,138
Natural gas production - Cumulative (tcf)							1,236,087
Oil consumption - Annual (million bbls)		6,043	5,699	5,491	5,512	5,642	5,820
Oil consumption - Cumulative (million							178,024
bbls)							
Oil production - Annual (million bbls)		5,198	5,216	5,209	5,074	4,957	4,365
Oil production - Cumulative (million bbls)							155,778

# Table 94: REF scenario - IMPACTS - Health

Item	2020	2025	2030	2035	2040	2045	2050
Monetary damages from air pollution -		71,041	43,563	34,738	31,383	29,937	28,118
Coal (million 2019\$)							
Monetary damages from air pollution -		11,837	11,639	13,941	13,774	13,915	13,437
Natural Gas (million 2019\$)							
Monetary damages from air pollution -		104,043	108,301	112,532	117,351	122,191	127,101
Transportation (million 2019\$)							
Premature deaths from air pollution -		8,024	4,920	3,923	3,545	3,381	3,176
Coal (deaths)							
Premature deaths from air pollution -		1,336	1,314	1,574	1,555	1,571	1,517
Natural Gas (deaths)							
Premature deaths from air pollution -		11,702	12,181	12,657	13,199	13,743	14,295
Transportation (deaths)							

# Table 95: REF scenario - IMPACTS - Jobs

2020	2025	2030	2035	2040	2045	2050
						30,778
		-	-			654,706
				· ·		428,603
	00.,0.0	000,0.0	.2.,.00	,,0	000,00.	.20,000
	481,485	400,603	333,553	269,133	224,097	177,285
	34,546	35,104	44,813	53,531	60,257	95,104
	46,537	48,395	49,114	46,834	47,106	45,678
	271,996	263,680	280,141	302,074	314,668	358,272
	277,149	253,538	251,171	253,853	255,559	283,423
	424,258	422,267	473,464	510,552	530,968	547,052
	691,975	675,530	721,855	745,571	741,637	816,287
	532,142	507,651	521,097	522,808	511,244	544,237
	18,196	17,228	17,499	17,734	17,716	19,186
	972,467	944,804	1,001,726	1,024,854	1,013,719	1,108,871
	127,793	121,496	124,406	125,391	123,794	132,320
	15,721	15,116	14,471	13,823	13,632	13,402
	14,337	13,667	12,869	12,186	12,012	11,712
	698	670	631	598	598	587
	47,731	46,172	44,960	43,255	42,721	42,422
	3,946	3,803	3,617	3,454	3,441	3,386
		0.287	0.366	0.393	0.435	0.463
	2020	31,901 442,887 331,815 481,485 34,546 46,537 271,996 277,149 424,258 691,975	31,901 31,368 442,887 446,175 331,815 365,578  481,485 400,603 34,546 35,104 46,537 48,395 271,996 263,680 277,149 253,538 424,258 422,267 691,975 675,530  532,142 507,651  18,196 17,228  972,467 944,804  127,793 121,496  15,721 15,116  14,337 13,667 698 670  47,731 46,172	31,901         31,368         31,313           442,887         446,175         501,228           331,815         365,578         421,785           481,485         400,603         333,553           34,546         35,104         44,813           46,537         48,395         49,114           271,996         263,680         280,141           277,149         253,538         251,171           424,258         422,267         473,464           691,975         675,530         721,855           532,142         507,651         521,097           18,196         17,228         17,499           972,467         944,804         1,001,726           127,793         121,496         124,406           15,721         15,116         14,471           14,337         13,667         12,869           698         670         631           47,731         46,172         44,960           3,946         3,803         3,617	31,901         31,368         31,313         30,472           442,887         446,175         501,228         540,788           331,815         365,578         421,785         429,120           481,485         400,603         333,553         269,133           34,546         35,104         44,813         53,531           46,537         48,395         49,114         46,834           271,996         263,680         280,141         302,074           277,149         253,538         251,171         253,853           424,258         422,267         473,464         510,552           691,975         675,530         721,855         745,571           532,142         507,651         521,097         522,808           18,196         17,228         17,499         17,734           972,467         944,804         1,001,726         1,024,854           127,793         121,496         124,406         125,391           15,721         15,116         14,471         13,823           14,337         13,667         12,869         12,186           698         670         631         598           47,731         46,172	31,901         31,368         31,313         30,472         30,467           442,887         446,175         501,228         540,788         564,183           331,815         365,578         421,785         429,120         380,807           481,485         400,603         333,553         269,133         224,097           34,546         35,104         44,813         53,531         60,257           46,537         48,395         49,114         46,834         47,106           271,996         263,680         280,141         302,074         314,668           277,149         253,538         251,171         253,853         255,559           424,258         422,267         473,464         510,552         530,968           691,975         675,530         721,855         745,571         741,637           532,142         507,651         521,097         522,808         511,244           18,196         17,228         17,499         17,734         17,716           972,467         944,804         1,001,726         1,024,854         1,013,719           127,793         121,496         124,406         125,391         123,794           15,721         <

Table 95: REF scenario - IMPACTS - Jobs (continued)

Table 95: REF scenario - IMPACTS - Jobs (co		0005	0000	2035	00/0	00/5	0050
Item By education level - CO2 sector -	2020	2025	2030 0.287		2040 0.393	2045 0.435	2050 0.464
Bachelors degree (jobs)			0.267	0.365	0.393	0.435	0.464
By education level - CO2 sector - Doctoral			0.012	0.015	0.016	0.018	0.019
degree (jobs)			0.012	0.013	0.016	0.016	0.019
By education level - CO2 sector - High			0.368	0.468	0.503	0.555	0.591
school diploma or less (jobs)			0.000	0.400	0.000	0.000	0.071
By education level - CO2 sector - Masters			0.074	0.094	0.101	0.112	0.119
or professional degree (jobs)			0.014	0.074	0.101	0.112	0.117
By education level - Coal sector -		34,993	21,604	15,196	12,828	11,588	10,214
Associates degree or some college (jobs)		04,770	21,004	10,170	12,020	11,000	10,214
By education level - Coal sector -		22,698	14,077	9,948	8,484	7,744	6,882
Bachelors degree (jobs)		22,070	14,011	7,740	0,404	1,1-7-7	0,002
By education level - Coal sector - Doctoral		760	478	338	289	268	242
degree (jobs)		100	710	000	207	200	2-72
By education level - Coal sector - High		53,521	32,643	22,951	19,159	16,860	14,468
school diploma or less (jobs)		00,021	02,040	22,701	17,107	10,000	14,400
By education level - Coal sector - Masters		5,292	3,300	2,326	1,983	1,825	1,635
or professional degree (jobs)		0,272	0,000	2,020	1,700	1,020	1,000
By education level - Grid sector -		143,570	150,908	186,088	208,415	220,469	243,651
Associates degree or some college (jobs)		143,310	130,700	100,000	200,413	220,409	243,031
By education level - Grid sector -		82,274	85,914	105,262	117,146	123,149	135,264
Bachelors degree (jobs)		02,214	65,714	103,202	111,140	123,147	133,204
By education level - Grid sector - Doctoral		2,372	2,435	2,933	3,210	3,317	3,582
degree (jobs)		2,312	2,435	2,933	3,210	3,311	3,362
By education level - Grid sector - High		183,588	193,946	240,360	270,545	287,619	319,440
•		103,300	173,740	240,360	210,545	201,019	319,440
school diploma or less (jobs)  By education level - Grid sector - Masters		00.700	01 551	07.000	00.007	20 (11	00 500
•		20,702	21,551	26,323	29,206	30,611	33,523
or professional degree (jobs)		100 107	101 / 01	100.007	100 500	170.000	1/7/7/
By education level - Natural gas sector -		183,106	181,431	182,804	180,503	179,358	167,676
Associates degree or some college (jobs)		107.570	100.007	101 511	117 / 00	110 101	100.000
By education level - Natural gas sector -		127,562	123,827	121,511	116,438	113,191	103,983
Bachelors degree (jobs)		/ 000	/ 055	0.007	0.707	0.570	0.007
By education level - Natural gas sector -		4,238	4,055	3,927	3,724	3,570	3,234
Doctoral degree (jobs)		007.110	000.007	007.570	010 5 / 0	017.000	007.720
By education level - Natural gas sector -		224,113	223,226	224,560	219,540	217,980	204,472
High school diploma or less (jobs)		01.07.0	00.007	00.051	00.07	07100	0/ 7//
By education level - Natural gas sector -		31,242	30,086	29,351	28,067	27,139	24,764
Masters or professional degree (jobs)		40.747	40.005	10.500	40.070		
By education level - Nuclear sector -		13,714	13,235	12,589	10,073	9,844	6,917
Associates degree or some college (jobs)		1, 00,	4/ 070	40.577	10.011	40.570	7.000
By education level - Nuclear sector -		14,824	14,272	13,544	10,811	10,542	7,390
Bachelors degree (jobs)							
By education level - Nuclear sector -		650	622	586	465	451	314
Doctoral degree (jobs)							
By education level - Nuclear sector - High		17,023	16,472	15,710	12,602	12,347	8,697
school diploma or less (jobs)							
By education level - Nuclear sector -		4,013	3,856	3,653	2,911	2,834	1,984
Masters or professional degree (jobs)							
By education level - Oil sector - Associates		206,894	186,432	169,741	154,947	143,556	125,658
degree or some college (jobs)							
By education level - Oil sector - Bachelors		213,345	189,156	169,188	151,377	137,271	117,201
degree (jobs)							
By education level - Oil sector - Doctoral		6,891	6,141	5,520	4,959	4,515	3,865
degree (jobs)							
By education level - Oil sector - High		319,890	290,042	265,879	244,649	228,550	202,090
school diploma or less (jobs)							
By education level - Oil sector - Masters or		48,374	42,677	37,962	33,746	30,392	25,735
professional degree (jobs)		, .				,	,
		65,241	62,569	83,946	88,241	92,303	168,703
By education level - Solar PV sector -	- 1	65.74I I	02.007	00.740	00.741	7210	[[[[]]]]]

Table 95: REF scenario - IMPACTS - Jobs (continued)

Backelors degree (jobs)   By education level - Solar PV sector -   1,480   1,436   1,912   2,138   2,339	2050 102,163 4,314 223,347 25,287 80,065 59,640 3,048 93,934 16,005 71,509 1.66 33,441 735,461 504,129 25,302 474,550 523,815 252,692 56,907
Bachelors degree (jobs)   By education level - Solar PV sector - Doctoral degree (jobs)   Sy education level - Solar PV sector - High school diploma or less (jobs)   Sy education level - Solar PV sector - High school diploma or less (jobs)   Sy education level - Solar PV sector - Rafe   Sy education level - Solar PV sector - Rafe   Sy education level - Solar PV sector - Rafe   Sy education level - Solar PV sector - Rafe   Sy education level - Solar PV sector - Rafe   Sy education level - Wind sector - Sasociates degree or some college (jobs)   Sy education level - Wind sector - Sasociates degree or some college (jobs)   Sy education level - Wind sector - Sasociates degree (jobs)   Sy education level - Wind sector - Sasociates degree (jobs)   Sy education level - Wind sector - Sasociates   Sy education level - Wind sector - High school diploma or less (jobs)   Sy education level - Wind sector - High school diploma or less (jobs)   Sy education level - Wind sector - High school diploma or less (jobs)   Sy essurce sector - Solar (jobs)   Sy resource sector - Solar (jobs)   Sy resource sector - Co2 (jobs)   Sy resource sector - Co2 (jobs)   Sy resource sector - Co2 (jobs)   Sy resource sector - Co3 (jobs)   Sy resource sector - Co3 (jobs)   Sy resource sector - Natural Gas (jobs)   Sy resource sector - Natural Gas (jobs)   Sy resource sector - Nuclear (jobs)   Sy resource sector - Nuclear (jobs)   Sy resource sector - Solar (jobs)   Sy resource sec	4,314 223,347 25,287 80,065 59,640 3,048 93,934 16,005 71,509 1.66 33,441 735,461 504,129 25,302 474,550 523,815 252,692
By education level - Solar PV sector -   1,480   1,436   1,912   2,138   2,339   Doctoral degree (jobs)   By education level - Solar PV sector - High   91,471   86,780   115,285   119,640   123,522   2 school diploma or less (jobs)   By education level - Solar PV sector -   8,682   8,500   11,555   12,603   13,605   Masters or professional degree (jobs)   By education level - Wind sector -   28,737   44,236   57,021   76,741   70,886   8	223,347 25,287 80,065 59,640 3,048 93,934 16,005 71,509 1.66 33,441 735,461 504,129 25,302 474,550 523,815 252,692
Doctoral degree (jobs)   By education level - Solar PV sector - High school diploma or less (jobs)   By education level - Solar PV sector - By education level - Wind sector - 28,737	223,347 25,287 80,065 59,640 3,048 93,934 16,005 71,509 1.66 33,441 735,461 504,129 25,302 474,550 523,815 252,692
By education level - Solar PV sector - High school diploma or less (jobs)   Sy education level - Solar PV sector - Masters or professional degree (jobs)   Sy education level - Wind sector - Solar PV sector - Solar PV sector - Solar	25,287 80,065 59,640 3,048 93,934 16,005 71,509 1.66 33,441 735,461 504,129 25,302 474,550 523,815 252,692
School diploma or less (jobs)   By education level - Solar PV sector - Masters or professional degree (jobs)   Sy education level - Wind sector - Associates degree or some college (jobs)   Sy education level - Wind sector - Associates degree or some college (jobs)   Sy education level - Wind sector - Bachelors degree (jobs)   Sy education level - Wind sector - Doctoral degree (jobs)   Sy education level - Wind sector - Doctoral degree (jobs)   Sy education level - Wind sector - High school diploma or less (jobs)   Sy education level - Wind sector - High school diploma or less (jobs)   Sy education level - Wind sector - Masters or professional degree (jobs)   Sy education level - Wind sector - Masters or professional degree (jobs)   Sy esource sector - Biomass (jobs)   Sy resource sector - Biomass (jobs)   Sy resource sector - CO2 (jobs)   Sy resource sector - CO2 (jobs)   Sy resource sector - CO3 (jobs)   Sy resource sector - CO3 (jobs)   Sy resource sector - Grid (jobs)   Sy resource sector - Natural Gas (jobs)   Sy resource sector - Natural Gas (jobs)   Sy resource sector - Natural Gas (jobs)   Sy resource sector - Nuclear (jobs)   Sy resource sector - Nuclear (jobs)   Sy resource sector - Solar	25,287 80,065 59,640 3,048 93,934 16,005 71,509 1.66 33,441 735,461 504,129 25,302 474,550 523,815 252,692
By education level - Solar PV sector	80,065 59,640 3,048 93,934 16,005 71,509 1.66 33,441 735,461 504,129 25,302 474,550 523,815 252,692
Masters or professional degree (jobs)         By education level - Wind sector - Associates degree or some college (jobs)         28,737         44,236         57,021         76,741         70,886         8           Associates degree or some college (jobs)         By education level - Wind sector - 20,238         30,772         39,656         54,239         52,183           By education level - Wind sector - Doctoral degree (jobs)         By education level - Wind sector - High school diploma or less (jobs)         35,130         55,523         72,021         95,464         84,120           By education level - Wind sector - Masters or professional degree (jobs)         5,543         7,722         9,618         13,420         13,946           By resource sector - Biomass (jobs)         82,434         79,427         76,547         73,317         72,403           By resource sector - Co2 (jobs)         117,264         72,102         50,758         42,743         38,286           By resource sector - Co3 (jobs)         117,264         72,102         50,758         42,743         38,286           By resource sector - Ratural Gas (jobs)         550,266         454,755         560,766         628,522         665,166         78           By resource sector - Nuclear (jobs)         570,260         562,626         562,154         548,271         541,238	80,065 59,640 3,048 93,934 16,005 71,509 1.66 33,441 735,461 504,129 25,302 474,550 523,815 252,692
By education level - Wind sector - Associates degree or some college (jobs)   20,238   30,772   39,656   54,239   52,183   30,772   39,656   54,239   52,183   30,772   39,656   54,239   52,183   30,772   39,656   54,239   52,183   30,772   39,656   54,239   52,183   30,772   39,656   54,239   52,183   30,772   39,656   54,239   52,183   30,772   39,656   54,239   52,183   30,772   39,656   54,239   52,183   30,772   39,656   54,239   52,183   30,772   39,656   54,239   52,183   30,772   39,656   54,239   52,183   30,772   39,656   54,239   52,183   30,772   39,656   54,239   52,183   30,772   39,656   54,239   52,183   30,772   39,656   32,352   2,658   30,100   30,130   30,130   30,130   30,130   30,130   30,130   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,946   30,94	59,640 3,048 93,934 16,005 71,509 1.66 33,441 735,461 504,129 25,302 474,550 523,815 252,692
Associates degree or some college (jobs) By education level - Wind sector - Bachelors degree (jobs) By education level - Wind sector - Doctoral degree (jobs) By education level - Wind sector - Doctoral degree (jobs) By education level - Wind sector - High school diploma or less (jobs) By education level - Wind sector - High school diploma or less (jobs) By education level - Wind sector - Masters or professional degree (jobs) By resource sector - Biomass (jobs) By resource sector - Goz (jobs) By resource sector - Coal (jobs) By resource sector - Coal (jobs) By resource sector - Grid (jobs) By resource sector - Grid (jobs) By resource sector - Natural Gas (jobs) By resource sector - Nuclear (jobs) By resource sector - Nuclear (jobs) By resource sector - Solar (jobs) By resource sector - Wind (jobs) By resource sector - Wind (jobs) By resource sector - Solar (jobs) By resource sec	59,640 3,048 93,934 16,005 71,509 1.66 33,441 735,461 504,129 25,302 474,550 523,815 252,692
By education level - Wind sector - Bachelors degree (jobs)   By education level - Wind sector - Doctoral degree (jobs)   By education level - Wind sector - High school diploma or less (jobs)   By education level - Wind sector - High school diploma or less (jobs)   By education level - Wind sector - Masters or professional degree (jobs)   By resource sector - Biomass (jobs)   By resource sector - Biomass (jobs)   By resource sector - CO2 (jobs)   By resource sector - CO2 (jobs)   By resource sector - CO2 (jobs)   By resource sector - Goal (jobs)   By resource sector - Goal (jobs)   By resource sector - Natural Gas (jobs)   By resource sector - Natural Gas (jobs)   By resource sector - Nuclear (jobs)   Solution   Sol	3,048 93,934 16,005 71,509 1.66 33,441 735,461 504,129 25,302 474,550 523,815 252,692
Bachelors degree (jobs) By education level - Wind sector - Doctoral degree (jobs) By education level - Wind sector - High school diploma or less (jobs) By education level - Wind sector - Masters or professional degree (jobs) By esource sector - Biomass (jobs) By resource sector - Biomass (jobs) By resource sector - CO2 (jobs) By resource sector - CO2 (jobs) By resource sector - CO3 (jobs) By resource sector - Grid (jobs) By resource sector - Natural Gas (jobs) By resource sector - Natural Gas (jobs) By resource sector - Nuclear (jobs) By resource sector - Oil (jobs) By resource sector - Oil (jobs) By resource sector - Oil (jobs) By resource sector - Nuclear (jobs) By resource sector - Nuclear (jobs) By resource sector - Oil	3,048 93,934 16,005 71,509 1.66 33,441 735,461 504,129 25,302 474,550 523,815 252,692
By education level - Wind sector - Doctoral degree (jobs)   By education level - Wind sector - High school diploma or less (jobs)   By education level - Wind sector - Masters or professional degree (jobs)   By resource sector - Biomass (jobs)   By resource sector - Biomass (jobs)   By resource sector - CO2 (jobs)   1.03   1.31   1.41   1.55   By resource sector - CO2 (jobs)   117,264   72,102   50,758   42,743   38,286   By resource sector - Grid (jobs)   432,506   454,755   560,966   628,522   665,166   78   79,5394   714,448   648,289   589,677   544,285   48   49   549,677   544,285   49   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,678   549,	93,934 16,005 71,509 1.66 33,441 735,461 504,129 25,302 474,550 523,815 252,692
Doctoral degree (jobs)   By education level - Wind sector - High school diploma or less (jobs)   Specific equation level - Wind sector - Masters or professional degree (jobs)   By resource sector - Biomass (jobs)   Specific equation level - CO2 (jobs)   Specific equation level - Wind sector - Masters or professional degree (jobs)   Specific equation level - Wind sector - Masters or professional degree (jobs)   Specific equation level - Wind sector - Masters or professional degree (jobs)   Specific equation level - Wind sector - Biomass (jobs)   Specific equation level - Wind sector - CO2 (jobs)   Specific equation level - Wind sector - CO2 (jobs)   Specific equation level - Wind sector - CO2 (jobs)   Specific equation level - Wind sector - CO2 (jobs)   Specific equation level - Wind sector - CO2 (jobs)   Specific equation level - Wind sector - CO2 (jobs)   Specific equation level - Wind sector - CO2 (jobs)   Specific equation level - Wind sector - CO2 (jobs)   Specific equation level - Wind sector - CO2 (jobs)   Specific equation level - Wind sector - CO2 (jobs)   Specific equation level - Wind sector - CO2 (jobs)   Specific equation level - Wind sector - Specific equation level - Wind sector - Specific equation level - Wind sector - Specific equation level - Specific equation level - Wind sector - Specific equation level - Specific equ	93,934 16,005 71,509 1.66 33,441 735,461 504,129 25,302 474,550 523,815 252,692
By education level - Wind sector - High school diploma or less (jobs)  By education level - Wind sector - Masters or professional degree (jobs)  By resource sector - Biomass (jobs)  By resource sector - Co2 (jobs)  By resource sector - Co3 (jobs)  By resource sector - Co3 (jobs)  By resource sector - Grid (jobs)  By resource sector - Ratural Gas (jobs)  By resource sector - Natural Gas (jobs)  By resource sector - Natural Gas (jobs)  By resource sector - Natural Gas (jobs)  By resource sector - Old (jobs)  By resource sector - Natural Gas (jobs)  By resource sector - Solar (jobs)  By resource sector - Solar (jobs)  By resource sector - Solar (jobs)  By resource sector - Wind (jobs)  By resource sector - Wind (jobs)  Median wages - Annual - Biomass (\$2019 per job)  Median wages - Annual - Coal (\$2019 per job)  Median wages - Annual - Coal (\$2019 per job)  Median wages - Annual - Grid (\$2019 per job)  Median wages - Annual - Grid (\$2019 per job)	71,509 1.66 33,441 735,461 504,129 25,302 474,550 523,815 252,692
School diploma or less (jobs)   By education level - Wind sector - Masters or professional degree (jobs)   By resource sector - Biomass (jobs)   82,434   79,427   76,547   73,317   72,403   By resource sector - CO2 (jobs)   1.03   1.31   1.41   1.55   By resource sector - CO2 (jobs)   117,264   72,102   50,758   42,743   38,286   By resource sector - Grid (jobs)   432,506   454,755   560,966   628,522   665,166   78   78   79   79   79   79   79   79	71,509 1.66 33,441 735,461 504,129 25,302 474,550 523,815 252,692
By education level - Wind sector - Masters or professional degree (jobs)  By resource sector - Biomass (jobs)  By resource sector - CO2 (jobs)  By resource sector - CO2 (jobs)  By resource sector - CO2 (jobs)  By resource sector - Coal (jobs)  By resource sector - Grid (jobs)  By resource sector - Grid (jobs)  By resource sector - Spid (jobs)  By resource sector - Natural Gas (jobs)  By resource sector - Nuclear (jobs)  By resource sector - Oil (jobs)  By resource sector - Solar (jobs)  By resource sector - Solar (jobs)  By resource sector - Wind (jobs)  By resource sector - Solar (jobs)  By resource sector - Wind (jobs)  By resource sector - Solar (jobs)  By resource sector - Wind (jobs)  By resource sector - Solar (jobs)  By resource sector	71,509 1.66 33,441 735,461 504,129 25,302 474,550 523,815 252,692
or professional degree (jobs)  By resource sector - Biomass (jobs)  By resource sector - CO2 (jobs)  By resource sector - CO2 (jobs)  By resource sector - Coal (jobs)  By resource sector - Coal (jobs)  By resource sector - Coal (jobs)  By resource sector - Grid (jobs)  By resource sector - Grid (jobs)  By resource sector - Natural Gas (jobs)  By resource sector - Natural Gas (jobs)  By resource sector - Nuclear (jobs)  By resource sector - Nuclear (jobs)  By resource sector - Oil (jobs)  By resource sector - Oil (jobs)  By resource sector - Oil (jobs)  By resource sector - Solar (jobs)  By resource sector - Solar (jobs)  By resource sector - Wind (jobs)  By resource sector - Solar (jobs)  By resour	71,509 1.66 33,441 735,461 504,129 25,302 474,550 523,815 252,692
By resource sector - Biomass (jobs) By resource sector - CO2 (jobs) By resource sector - CO2 (jobs) By resource sector - CO2 (jobs) By resource sector - Coal (jobs) By resource sector - Coal (jobs) By resource sector - Grid (jobs) By resource sector - Grid (jobs) By resource sector - Natural Gas (jobs) By resource sector - Natural Gas (jobs) By resource sector - Nuclear (jobs) By resource sector - Nuclear (jobs) By resource sector - Oil (jobs) By resource sector - Solar (jobs) By resource sector - Solar (jobs) By resource sector - Wind (jobs) By resource sector - Solar (jobs) By resource sector - Vinde (jobs)	1.66 33,441 735,461 504,129 25,302 474,550 523,815 252,692
By resource sector - CO2 (jobs)   1.03   1.31   1.41   1.55	1.66 33,441 735,461 504,129 25,302 474,550 523,815 252,692
By resource sector - Coal (jobs)         117,264         72,102         50,758         42,743         38,286           By resource sector - Grid (jobs)         432,506         454,755         560,966         628,522         665,166         7           By resource sector - Natural Gas (jobs)         570,260         562,626         562,154         548,271         541,238         5           By resource sector - Nuclear (jobs)         50,224         48,457         46,083         36,862         36,018         36,018         36,018         36,018         36,862         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,	33,441 735,461 504,129 25,302 474,550 523,815 252,692
By resource sector - Grid (jobs)         432,506         454,755         560,966         628,522         665,166         7           By resource sector - Natural Gas (jobs)         570,260         562,626         562,154         548,271         541,238         5           By resource sector - Nuclear (jobs)         50,224         48,457         46,083         36,862         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         36,018         37,018         36,018         37,018         37,018         36,018         36,018         36,018         37,018         37,018         37,018         37,018         37,018         37,018         37,018         37,018         37,018         37,018         3	735,461 504,129 25,302 474,550 523,815 252,692
By resource sector - Natural Gas (jobs) 570,260 562,626 562,154 548,271 541,238 5 By resource sector - Nuclear (jobs) 50,224 48,457 46,083 36,862 36,018 By resource sector - Oil (jobs) 795,394 714,448 648,289 589,677 544,285 47 By resource sector - Solar (jobs) 203,737 195,250 261,817 274,748 286,921 5 By resource sector - Wind (jobs) 90,755 139,643 179,967 242,216 223,793 2 Median wages - Annual - Biomass (\$2019 per job) Median wages - Annual - CO2 (\$2019 per job) Median wages - Annual - Coal (\$2019 per job) Median wages - Annual - Grid (\$2019 per job) Median wages - Annual - Grid (\$2019 per job) Median wages - Annual - Grid (\$2019 per job)	504,129 25,302 474,550 523,815 252,692
By resource sector - Nuclear (jobs) 50,224 48,457 46,083 36,862 36,018 By resource sector - Oil (jobs) 795,394 714,448 648,289 589,677 544,285 4 By resource sector - Solar (jobs) 203,737 195,250 261,817 274,748 286,921 5 By resource sector - Wind (jobs) 90,755 139,643 179,967 242,216 223,793 2 Median wages - Annual - Biomass (\$2019 per job)  Median wages - Annual - CO2 (\$2019 per job)  Median wages - Annual - Coal (\$2019 per job)  Median wages - Annual - Coal (\$2019 per job)  Median wages - Annual - Coal (\$2019 per job)  Median wages - Annual - Coal (\$2019 per job)  Median wages - Annual - Grid (\$2019 per job)  Median wages - Annual - Grid (\$2019 per job)  Median wages - Annual - Grid (\$2019 per job)	25,302 474,550 523,815 252,692
By resource sector - Oil (jobs)         795,394         714,448         648,289         589,677         544,285         4           By resource sector - Solar (jobs)         203,737         195,250         261,817         274,748         286,921         5           By resource sector - Wind (jobs)         90,755         139,643         179,967         242,216         223,793         2           Median wages - Annual - Biomass (\$2019 per job)         51,794         52,681         53,506         54,475         55,717           Median wages - Annual - CO2 (\$2019 per job)         72,624         74,331         76,115         77,980           Median wages - Annual - Coal (\$2019 per job)         59,050         59,933         60,616         61,537         62,818           Median wages - Annual - Grid (\$2019 per job)         62,539         63,375         64,248         65,159         66,110           Median wages - Annual - Grid (\$2019 per job)         62,539         63,375         64,248         65,159         66,110	474,550 523,815 252,692
By resource sector - Solar (jobs) 203,737 195,250 261,817 274,748 286,921 5 By resource sector - Wind (jobs) 90,755 139,643 179,967 242,216 223,793 2 Median wages - Annual - Biomass (\$2019 51,794 52,681 53,506 54,475 55,717 per job) Median wages - Annual - CO2 (\$2019 per job) Median wages - Annual - Coal (\$2019 per job) Median wages - Annual - Coal (\$2019 per job) Median wages - Annual - Grid (\$2019 per job) Median wages - Annual - Grid (\$2019 per job)	523,815 252,692
By resource sector - Wind (jobs)         90,755         139,643         179,967         242,216         223,793         2           Median wages - Annual - Biomass (\$2019 per job)         51,794         52,681         53,506         54,475         55,717           Median wages - Annual - CO2 (\$2019 per job)         72,624         74,331         76,115         77,980 job           Median wages - Annual - Coal (\$2019 per job)         59,050         59,933         60,616         61,537         62,818 job           Median wages - Annual - Grid (\$2019 per job)         62,539         63,375         64,248         65,159         66,110 job)	252,692
Median wages - Annual - Biomass (\$2019 per job)       51,794       52,681       53,506       54,475       55,717         Median wages - Annual - CO2 (\$2019 per job)       72,624       74,331       76,115       77,980         Median wages - Annual - Coal (\$2019 per job)       59,050       59,933       60,616       61,537       62,818         Median wages - Annual - Grid (\$2019 per job)       62,539       63,375       64,248       65,159       66,110         job)	
per job)  Median wages - Annual - CO2 (\$2019 per job)  Median wages - Annual - Coal (\$2019 per job)  Median wages - Annual - Coal (\$2019 per job)  Median wages - Annual - Grid (\$2019 per job)  Median wages - Annual - Grid (\$2019 per job)  Median wages - Annual - Grid (\$2019 per job)	56,907
Median wages - Annual - CO2 (\$2019 per job)     72,624     74,331     76,115     77,980       Median wages - Annual - Coal (\$2019 per job)     59,050     59,933     60,616     61,537     62,818       Median wages - Annual - Grid (\$2019 per job)     62,539     63,375     64,248     65,159     66,110	33,701
job)     Median wages - Annual - Coal (\$2019 per job)     59,050     59,933     60,616     61,537     62,818       job)     Median wages - Annual - Grid (\$2019 per job)     62,539     63,375     64,248     65,159     66,110	
Median wages - Annual - Coal (\$2019 per job)       59,050       59,933       60,616       61,537       62,818         Median wages - Annual - Grid (\$2019 per job)       62,539       63,375       64,248       65,159       66,110	79,929
job)  Median wages - Annual - Grid (\$2019 per 62,539 63,375 64,248 65,159 66,110 job)	
Median wages - Annual - Grid (\$2019 per 62,539 63,375 64,248 65,159 66,110 job)	64,176
job)	
	67,102
Median wages - Annual - Natural Gas 66 256 67137 67918 68 605 69 423	
	70,327
(\$2019 per job)	
	80,864
per job)	
Median wages - Annual - Oil (\$2019 per         65,822         66,660         67,465         68,209         68,927	69,545
job)	
Median wages - Annual - Solar (\$2019 per         56,157         56,905         57,622         58,717         59,823         6	60,806
job)	
Median wages - Annual - Wind (\$2019 per         61,364         60,320         60,451         61,739         64,572	65,751
job)	
On-Site or In-Plant Training - Biomass         8,314         8,010         7,705         7,367         7,270	7,168
sector - 1 to 4 years (jobs)	
On-Site or In-Plant Training - Biomass         2,584         2,495         2,393         2,293         2,266	2,228
sector - 4 to 10 years (jobs)	
On-Site or In-Plant Training - Biomass         13,295         12,752         12,228         11,645         11,488	11,329
sector - None (jobs)	
On-Site or In-Plant Training - Biomass 576 564 550 536 533	529
sector - Over 10 years (jobs)	
	50,255
sector - Up to 1 year (jobs)	
On-Site or In-Plant Training - CO2 sector -         0.154         0.196         0.211         0.233	0.249
1 to 4 years (jobs)	
On-Site or In-Plant Training - CO2 sector -         0.057         0.073         0.078         0.086	0.092
4 to 10 years (jobs)	
On-Site or In-Plant Training - CO2 sector -         0.171         0.217         0.234         0.259	
None (jobs)	0.276

Table 95: REF scenario - IMPACTS - Jobs (continued)

Table 95: REF scenario - IMPACTS - Jobs (c							
Item	2020	2025	2030	2035	2040	2045	2050
On-Site or In-Plant Training - CO2 sector -			0.006	0.008	0.009	0.009	0.01
Over 10 years (jobs)							
On-Site or In-Plant Training - CO2 sector -			0.639	0.813	0.875	0.966	1.03
Up to 1 year (jobs)							
On-Site or In-Plant Training - Coal sector -		17,859	11,003	7,730	6,504	5,849	5,134
1 to 4 years (jobs)				-			
On-Site or In-Plant Training - Coal sector -		6,442	3,981	2,774	2,336	2,131	1,898
4 to 10 years (jobs)		-,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	_,	_,,	_,	,,,,,
On-Site or In-Plant Training - Coal sector -		16,850	10,437	7,376	6,265	5,686	5,029
None (jobs)		10,000	10, 101	1,010	0,200	0,000	0,027
On-Site or In-Plant Training - Coal sector -		761	475	333	283	262	236
Over 10 years (jobs)		101	413	333	200	202	230
On-Site or In-Plant Training - Coal sector -		75,351	46,205	32,545	27,355	24,357	21,143
Up to 1 year (jobs)		10,001	40,203	32,343	21,300	24,331	21,143
		7/ 700	70 // 5	07100	100.050	115 / /1	107701
On-Site or In-Plant Training - Grid sector -		74,702	78,645	97,132	108,958	115,441	127,781
1 to 4 years (jobs)		00.000	07.500	10.100	17.010	50 (50	E / 054
On-Site or In-Plant Training - Grid sector -		32,808	34,532	42,639	47,819	50,652	56,051
4 to 10 years (jobs)							
On-Site or In-Plant Training - Grid sector -		65,863	69,096	85,047	95,083	100,413	110,792
None (jobs)							
On-Site or In-Plant Training - Grid sector -		4,253	4,474	5,521	6,187	6,550	7,243
Over 10 years (jobs)							
On-Site or In-Plant Training - Grid sector -		254,880	268,008	330,627	370,475	392,110	433,592
Up to 1 year (jobs)							
On-Site or In-Plant Training - Natural gas		96,099	95,281	95,809	94,122	93,397	87,337
sector - 1 to 4 years (jobs)				-	-	-	
On-Site or In-Plant Training - Natural gas		42,664	42,609	43,259	42,963	42,940	40,366
sector - 4 to 10 years (jobs)		,	,007	.0,207	,, 00	,,	.0,000
On-Site or In-Plant Training - Natural gas		90,790	89,018	88,485	86,038	84,592	78,439
sector - None (jobs)		70,170	07,010	00,400	00,000	04,072	10,407
On-Site or In-Plant Training - Natural gas		5,060	5,079	5,198	5,218	5,244	4,946
sector - Over 10 years (jobs)		3,000	3,019	3,170	3,210	3,244	4,740
On-Site or In-Plant Training - Natural gas		225 ( / 0	220 (20	220 / 0/	210.020	215.077	293,042
		335,648	330,639	329,404	319,930	315,066	293,042
sector - Up to 1 year (jobs)		7 / 11	7450	( 01 (	F / FO	50/0	0.755
On-Site or In-Plant Training - Nuclear		7,411	7,159	6,816	5,459	5,340	3,755
sector - 1 to 4 years (jobs)							
On-Site or In-Plant Training - Nuclear		2,682	2,590	2,466	1,974	1,931	1,358
sector - 4 to 10 years (jobs)							
On-Site or In-Plant Training - Nuclear		8,990	8,665	8,233	6,579	6,422	4,508
sector - None (jobs)							
On-Site or In-Plant Training - Nuclear		252	243	231	184	180	127
sector - Over 10 years (jobs)							
On-Site or In-Plant Training - Nuclear		30,889	29,800	28,338	22,666	22,145	15,555
sector - Up to 1 year (jobs)							
On-Site or In-Plant Training - Oil sector - 1		117,197	105,658	96,224	87,832	81,356	71,167
to 4 years (jobs)			,	·		,	,
On-Site or In-Plant Training - Oil sector -		41,330	37,551	34,480	31,757	29,692	26,252
4 to 10 years (jobs)		11,000	01,001	0 1, 100	01,101	27,072	20,202
On-Site or In-Plant Training - Oil sector -		128,070	114,160	102,780	92,748	84,932	73,475
None (jobs)		120,010	114,100	102,100	72,140	04,702	10,410
On-Site or In-Plant Training - Oil sector -		4,577	4,235	3,956	3,702	3,512	3,145
_		4,511	4,233	3,950	3,102	3,312	3,145
Over 10 years (jobs)		E07, 000	/E0 0/ E	/10.0/0	070 / 00	27.7.700	200 510
On-Site or In-Plant Training - Oil sector -		504,220	452,845	410,849	373,639	344,793	300,510
Up to 1 year (jobs)			61.5==		, , , , , ,		
On-Site or In-Plant Training - Solar PV		33,478	31,858	42,362	44,381	46,194	83,815
sector - 1 to 4 years (jobs)							
On-Site or In-Plant Training - Solar PV		13,994	13,066	16,835	17,985	18,877	33,697
sector - 4 to 10 years (jobs)							
On-Site or In-Plant Training - Solar PV		34,753	33,394	44,893	47,221	49,433	90,445
sector - None (jobs)							
				1		1	

Table 95: REF scenario - IMPACTS - Jobs (continued)

Table 95: REF scenario - IMPACTS - Jobs (							
Item	2020	2025	2030	2035	2040	2045	2050
On-Site or In-Plant Training - Solar PV		1,711	1,625	2,152	2,265	2,365	4,285
sector - Over 10 years (jobs)							
On-Site or In-Plant Training - Solar PV sector - Up to 1 year (jobs)		119,801	115,306	155,575	162,897	170,053	311,573
On-Site or In-Plant Training - Total jobs - 1		369,708	359,698	381,970	392,484	389,968	425,641
to 4 years (jobs)		309,100	339,090	301,910	392,404	307,700	425,641
On-Site or In-Plant Training - Total jobs - 4 to 10 years (jobs)		149,227	145,474	155,110	161,149	163,029	178,083
On-Site or In-Plant Training - Total jobs -		374,482	361,893	380,448	387,964	382,406	418,639
None (jobs)		17000	17.0/0	10.007	00.040	00.500	00 (10
On-Site or In-Plant Training - Total jobs - Over 10 years (jobs)		17,983	17,849	19,396	20,342	20,520	22,619
On-Site or In-Plant Training - Total jobs -		1,431,174	1,381,795	1,449,660	1,474,419	1,452,188	1,575,918
Up to 1 year (jobs) On-Site or In-Plant Training - Wind sector		14,647	22,083	28,192	37,862	35,120	39,483
- 1 to 4 years (jobs)							
On-Site or In-Plant Training - Wind sector - 4 to 10 years (jobs)		6,722	8,649	10,264	14,021	14,541	16,232
On-Site or In-Plant Training - Wind sector		15,871	24,370	31,406	42,385	39,440	44,622
- None (jobs) On-Site or In-Plant Training - Wind sector		793	1,155	1,455	1,965	1,874	2,109
- Over 10 years (jobs)		175	1,100	1,433	1,703	1,014	
On-Site or In-Plant Training - Wind sector - Up to 1 year (jobs)		52,721	83,385	108,650	145,982	132,818	150,247
On-the-Job Training - All sectors - 1 to 4		471,733	459,268	488,315	502,574	500,124	546,086
years (jobs)		100 / 05	107.07.0	1////0	150 / 00	157,000	170.077
On-the-Job Training - All sectors - 4 to 10 years (jobs)		139,425	136,348	146,668	153,603	156,299	172,344
On-the-Job Training - All sectors - None		130,848	125,108	129,874	131,332	129,182	141,119
(jobs) On-the-Job Training - All sectors - Over 10		21,989	21,517	22,834	23,230	22,657	24,956
years (jobs)		21,707	21,317	22,034	23,230	22,001	24,950
On-the-Job Training - All sectors - Up to 1		1,578,579	1,524,468	1,598,893	1,625,620	1,599,850	1,736,396
year (jobs) On-the-Job Training - Biomass sector - 1		9,082	8,752	8,404	8,030	7,931	7,814
to 4 years (jobs)							
On-the-Job Training - Biomass sector - 4 to 10 years (jobs)		2,078	2,011	1,934	1,853	1,834	1,809
On-the-Job Training - Biomass sector -		5,115	4,898	4,671	4,461	4,387	4,302
None (jobs)		500	F70	5/0	F/0	F/F	F/ 0
On-the-Job Training - Biomass sector - Over 10 years (jobs)		590	578	562	548	545	540
On-the-Job Training - Biomass sector - Up		65,569	63,189	60,975	58,425	57,706	57,044
to 1 year (jobs) On-the-Job Training - CO2 sector - 1 to 4			0.199	0.253	0.273	0.301	0.321
years (jobs)			0.010	0.0/1	0.077	0.070	0.070
On-the-Job Training - CO2 sector - 4 to 10 years (jobs)			0.048	0.061	0.066	0.073	0.078
On-the-Job Training - CO2 sector - None			0.062	0.078	0.084	0.093	0.1
(jobs) On-the-Job Training - CO2 sector - Over			0.01	0.012	0.013	0.015	0.016
10 years (jobs)							
On-the-Job Training - CO2 sector - Up to 1 year (jobs)			0.709	0.902	0.97	1.07	1.14
On-the-Job Training - Coal sector - 1 to 4		22,287	13,762	9,662	8,139	7,352	6,483
years (jobs) On-the-Job Training - Coal sector - 4 to 10		6,269	3,873	2,694	2,263	2,063	1,837
years (jobs)							
On-the-Job Training - Coal sector - None (jobs)		5,855	3,604	2,545	2,156	1,940	1,701
(โดกจ)		<u> </u>				<u> </u>	

Table 95: REF scenario - IMPACTS - Jobs (continued)

Table 95: REF scenario - IMPACTS - Jobs (	continued)						
Item	2020	2025	2030	2035	2040	2045	2050
On-the-Job Training - Coal sector - Over		759	476	340	292	268	239
10 years (jobs)							
On-the-Job Training - Coal sector - Up to 1		82,094	50,386	35,517	29,893	26,663	23,181
year (jobs)							
On-the-Job Training - Grid sector - 1 to 4		97,156	102,233	126,202	141,496	149,841	165,774
years (jobs)							
On-the-Job Training - Grid sector - 4 to 10		33,019	34,776	42,968	48,218	51,105	56,588
years (jobs)							
On-the-Job Training - Grid sector - None		21,167	22,225	27,379	30,638	32,386	35,768
(jobs)							
On-the-Job Training - Grid sector - Over		3,466	3,651	4,512	5,065	5,370	5,949
10 years (jobs)							
On-the-Job Training - Grid sector - Up to 1		277,698	291,869	359,904	403,104	426,463	471,382
year (jobs)							
On-the-Job Training - Natural gas sector -		126,385	125,235	125,961	123,905	122,978	114,961
1 to 4 years (jobs)							
On-the-Job Training - Natural gas sector -		40,605	40,624	41,408	41,379	41,485	39,059
4 to 10 years (jobs)							
On-the-Job Training - Natural gas sector -		29,757	28,985	28,529	27,393	26,723	24,643
None (jobs)							
On-the-Job Training - Natural gas sector -		5,419	5,354	5,332	5,154	5,079	4,737
Over 10 years (jobs)							
On-the-Job Training - Natural gas sector -		368,095	362,428	360,924	350,441	344,973	320,729
Up to 1 year (jobs)							
On-the-Job Training - Nuclear sector - 1 to		9,723	9,391	8,941	7,159	7,002	4,924
4 years (jobs)							
On-the-Job Training - Nuclear sector - 4		2,345	2,265	2,157	1,727	1,690	1,188
to 10 years (jobs)							
On-the-Job Training - Nuclear sector -		3,373	3,253	3,093	2,473	2,415	1,696
None (jobs)							
On-the-Job Training - Nuclear sector -		523	505	481	386	378	266
Over 10 years (jobs)							
On-the-Job Training - Nuclear sector - Up		34,260	33,042	31,412	25,117	24,533	17,228
to 1 year (jobs)							
On-the-Job Training - Oil sector - 1 to 4		144,954	130,489	118,668	108,164	100,062	87,426
years (jobs)							
On-the-Job Training - Oil sector - 4 to 10		34,246	31,166	28,675	26,483	24,839	22,064
years (jobs)							
On-the-Job Training - Oil sector - None		48,401	42,836	38,296	34,340	31,258	26,919
(jobs)							
On-the-Job Training - Oil sector - Over 10		7,764	6,995	6,369	5,814	5,389	4,722
years (jobs)							
On-the-Job Training - Oil sector - Up to 1		560,028	502,962	456,281	414,875	382,737	333,419
year (jobs)							
On-the-Job Training - Solar PV sector - 1		42,913	40,790	54,138	56,781	59,127	107,173
to 4 years (jobs)							
On-the-Job Training - Solar PV sector - 4		14,173	13,199	16,932	18,142	19,068	33,968
to 10 years (jobs)							
On-the-Job Training - Solar PV sector -		11,945	11,477	15,374	16,348	17,253	31,593
None (jobs)							
On-the-Job Training - Solar PV sector -		2,491	2,357	3,135	3,200	3,257	5,860
Over 10 years (jobs)		,	,	.,	-,	-, -	-,
On-the-Job Training - Solar PV sector - Up		132,215	127,427	172,238	180,278	188,216	345,221
to 1 year (jobs)		,	, · <b>-</b> ·	_,	-,	,0	,
On-the-Job Training - Wind sector - 1 to 4		19,232	28,614	36,338	48,900	45,831	51,530
years (jobs)		17,202	20,017	30,000	,0,700	10,001	31,000
On-the-Job Training - Wind sector - 4 to		6,689	8,435	9,900	13,537	14,215	15,833
10 years (jobs)		0,007	0, <del>1</del> 00	7,700	10,001	17,210	.0,000
On-the-Job Training - Wind sector - None		5,236	7,830	9,986	13,522	12,819	14,498
(jobs)		0,200	1,000	2,700	10,022	12,017	1-1-70
(1000)							

Table 95: REF scenario - IMPACTS - Jobs (continued)

Table 95: REF scenario - IMPACTS - Jobs (c							
Item	2020	2025	2030	2035	2040	2045	2050
On-the-Job Training - Wind sector - Over		976	1,601	2,103	2,772	2,371	2,642
10 years (jobs)							
On-the-Job Training - Wind sector - Up to		58,622	93,163	121,640	163,485	148,558	168,190
1 year (jobs)							
Related work experience - All sectors - 1		861,171	830,675	870,754	886,691	876,022	948,768
to 4 years (jobs)							
Related work experience - All sectors - 4		544,572	527,263	554,940	567,124	561,354	608,672
to 10 years (jobs)							
Related work experience - All sectors -		331,642	322,363	341,441	350,311	348,001	380,402
None (jobs)							
Related work experience - All sectors -		148,813	144,302	151,477	153,599	150,486	162,318
Over 10 years (jobs)							
Related work experience - All sectors - Up		456,377	442,106	467,972	478,632	472,248	520,741
to 1 year (jobs)							
Related work experience - Biomass sector		24,570	23,497	22,459	21,305	20,969	20,627
- 1 to 4 years (jobs)							
Related work experience - Biomass sector		12,773	12,232	11,633	11,065	10,904	10,683
- 4 to 10 years (jobs)							
Related work experience - Biomass sector		13,981	13,454	12,993	12,440	12,256	12,113
- None (jobs)							•
Related work experience - Biomass sector		3,517	3,394	3,249	3,117	3,085	3,032
- Over 10 years (jobs)		-,-	-,-	-,	-,	-,	-,
Related work experience - Biomass sector		27,594	26,850	26,215	25,390	25,189	25,054
- Up to 1 year (jobs)		,07.	20,000	20,2.0	20,070	207.07	_5,55
Related work experience - CO2 sector - 1			0.391	0.497	0.535	0.591	0.629
to 4 years (jobs)			0.071	0.171	0.000	0.071	0.027
Related work experience - CO2 sector - 4			0.248	0.315	0.339	0.375	0.4
to 10 years (jobs)			0.240	0.010	0.007	0.010	0.4
Related work experience - CO2 sector -			0.136	0.173	0.186	0.205	0.218
None (jobs)			0.130	0.113	0.100	0.203	0.210
Related work experience - CO2 sector -			0.076	0.097	0.105	0.116	0.123
Over 10 years (jobs)			0.010	0.071	0.103	0.110	0.123
Related work experience - CO2 sector -			0.177	0.225	0.242	0.268	0.285
Up to 1 year (jobs)			0.177	0.225	0.242	0.200	0.265
Related work experience - Coal sector - 1		44,669	27,422	19,283	16,215	14,491	12,628
to 4 years (jobs)		44,009	21,422	19,203	10,213	14,471	12,020
Related work experience - Coal sector - 4		25,249	15,610	10,989	9,304	8,436	7,458
to 10 years (jobs)		25,249	13,610	10,767	9,304	0,430	1,450
		15,674	9,651	6,784	5,718	Г 1/7	4,519
Related work experience - Coal sector -		15,674	9,001	6,784	5,718	5,147	4,519
None (jobs)		/ 200	20/5	0.005	0.000	0.1/0	1,914
Related work experience - Coal sector -		6,389	3,965	2,805	2,382	2,162	1,914
Over 10 years (jobs)		05.000	45 / 55	10.007	0.105	0.050	( 000
Related work experience - Coal sector -		25,283	15,455	10,897	9,125	8,050	6,923
Up to 1 year (jobs)		15 ( 00 (	1// 01/	000 500	00/7/0	000705	0// 000
Related work experience - Grid sector - 1		156,396	164,314	202,533	226,749	239,785	264,923
to 4 years (jobs)		100 / 00	107 (00	100 -00	110010		170010
Related work experience - Grid sector - 4		102,492	107,602	132,532	148,268	156,675	172,969
to 10 years (jobs)							
Related work experience - Grid sector -		64,240	67,596	83,442	93,553	99,068	109,600
None (jobs)							
Related work experience - Grid sector -		26,566	27,906	34,391	38,496	40,702	44,962
Over 10 years (jobs)							
Related work experience - Grid sector -		82,812	87,338	108,067	121,456	128,936	143,007
Up to 1 year (jobs)							
Related work experience - Natural gas		210,446	207,459	207,046	201,646	198,838	185,049
sector - 1 to 4 years (jobs)							
Related work experience - Natural gas		140,009	138,076	138,085	135,005	133,351	124,173
sector - 4 to 10 years (jobs)							
Related work experience - Natural gas		82,567	81,821	82,254	80,821	80,174	74,939
sector - None (jobs)							
							L

Table 95: REF scenario - IMPACTS - Jobs (continued)

Table 95. REF Scellul to - IMPAG 15 - Jubs (	Continueuj						
Item	2020	2025	2030	2035	2040	2045	2050
Related work experience - Natural gas		38,021	37,332	37,008	35,713	35,028	32,487
sector - Over 10 years (jobs)							
Related work experience - Natural gas		99,217	97,937	97,761	95,087	93,846	87,481
sector - Up to 1 year (jobs)							
Related work experience - Nuclear sector		18,746	18,080	17,189	13,745	13,426	9,428
- 1 to 4 years (jobs)							
Related work experience - Nuclear sector		12,161	11,727	11,147	8,912	8,703	6,111
- 4 to 10 years (jobs)							
Related work experience - Nuclear sector		6,331	6,114	5,821	4,661	4,559	3,206
- None (jobs)							
Related work experience - Nuclear sector		3,744	3,613	3,436	2,749	2,686	1,887
- Over 10 years (jobs)							
Related work experience - Nuclear sector		9,242	8,923	8,491	6,796	6,644	4,670
- Up to 1 year (jobs)							
Related work experience - Oil sector - 1 to		303,081	272,244	246,965	224,455	206,940	180,054
4 years (jobs)		,	,	•	•	,	•
Related work experience - Oil sector - 4 to		183,894	164,890	149,308	135,444	124,649	108,255
10 years (jobs)		·	.	•		,	•
Related work experience - Oil sector -		107,206	96,690	88,143	80,619	74,855	65,744
None (jobs)		,	-,	,	,-	,	,
Related work experience - Oil sector -		52,877	47,319	42,767	38,712	35,557	30,796
Over 10 years (jobs)		0_,0::	,				
Related work experience - Oil sector - Up		148,335	133,305	121,106	110,446	102,284	89,701
to 1 year (jobs)		110,000	100,000	121,100	110, 110	102,201	07,101
Related work experience - Solar PV sector		70,756	68,003	91,408	96,299	100,947	184,802
- 1 to 4 years (jobs)		. 57. 55	33,333	7., .00	70,277	.00,7	.0 .,002
Related work experience - Solar PV sector		46,005	44,050	58,972	61,963	64,746	118,093
- 4 to 10 years (jobs)		.5,555	,000	33,7.1	0.,700	0 .,0	
Related work experience - Solar PV sector		29,264	28,056	37,586	39,654	41,591	76,034
- None (jobs)		27,20	20,000	3.7555	07,00	,67.	. 3,33
Related work experience - Solar PV sector		12,117	11,674	15,833	16,370	16,929	31,009
- Over 10 years (jobs)		,	,	10,000	10,010	10,727	01,007
Related work experience - Solar PV sector		45,596	43,466	58,018	60,462	62,708	113,878
- Up to 1 year (jobs)		.0,070	.5, .55	33,0.0	00, .02	02,.00	
Related work experience - Wind sector - 1		32,506	49,656	63,870	86,278	80,625	91,257
to 4 years (jobs)		02,000	47,000	00,010	00,210	00,020	71,201
Related work experience - Wind sector - 4		21,989	33,076	42,274	57,163	53,891	60,930
to 10 years (jobs)		2.,,,,,,	00,010	.2,2.	01,100	30,071	00,700
Related work experience - Wind sector -		12,381	18,980	24,418	32,844	30,350	34,247
None (jobs)		12,001	10,700	24,410	02,044	00,000	04,241
Related work experience - Wind sector -		5,582	9,099	11,988	16,060	14,336	16,231
Over 10 years (jobs)		0,002	7,077	11,700	10,000	14,000	10,201
Related work experience - Wind sector -		18,297	28,832	37,417	49,870	44,591	50,028
Up to 1 year (jobs)		10,271	20,002	31,411	47,010	77,071	30,020
Wage income - Biomass (million \$2019)		4,270	4,184	4,096	3,994	4,034	4,069
Wage income - CO2 (million \$2019)		4,210	0.075	0.097	0.107	0.121	0.132
Wage income - Coal (million \$2019)		6,924	4,321	3,077	2,630	2,405	2,146
Wage income - Grid (million \$2019)		27,049	28,820	36,041	40,954	43,974	49,351
Wage income - Natural Gas (million \$2019)		37,783	37,773	38,180	37,614	37,575	35,454
Wage income - Nuclear (million \$2019)		3,590	3,546	38,180	2,833	2,838	2,046
Wage income - Oil (million \$2019)				43,737			
		52,354	47,625		40,221	37,516	33,003
Wage income - Solar (million \$2019)		11,441	11,111	15,087	16,132	17,164	31,851
Wage income - Wind (million \$2019)		5,569	8,423	10,879	14,954	14,451	16,615