

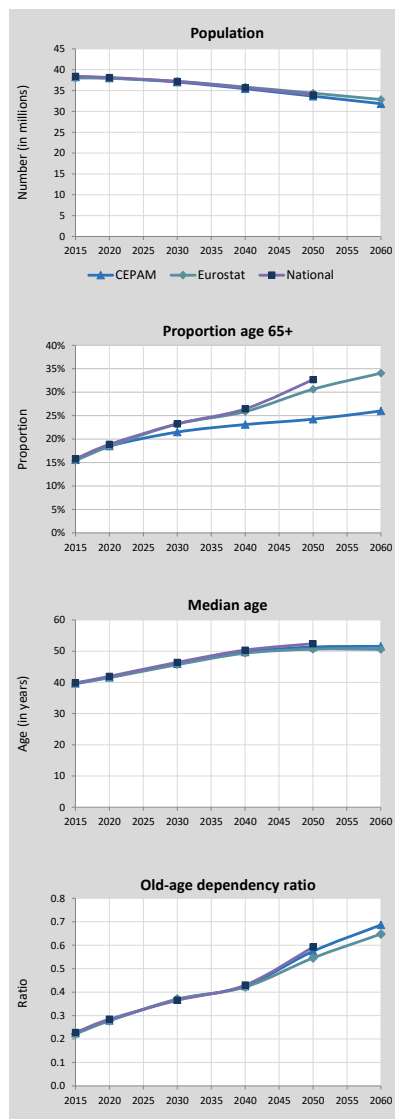
# Poland

## Detailed Human Capital projections to 2060

### Comparison of CEPAM projections with other sources

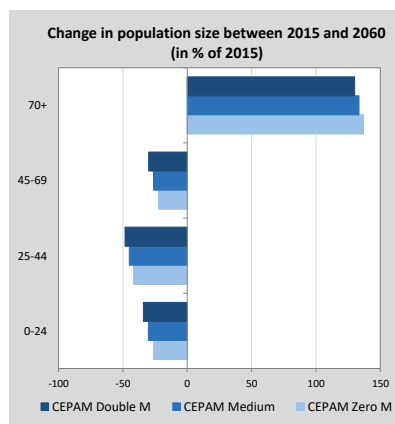
Demographic indicators - CEPAM Medium Scenario (SSP2), Eurostat and national projections							
		2015	2020	2030	2040	2050	2060
Population (in millions)	CEPAM	38.26	38.03	37.04	35.44	33.65	31.85
	Eurostat	38.01	37.93	37.21	35.84	34.37	32.85
	National	38.42	38.14	37.19	35.67	33.95	-
Proportion age 65+	CEPAM	15.6%	18.5%	21.5%	23.1%	24.2%	26.0%
	Eurostat	15.4%	18.4%	23.2%	25.9%	30.6%	34.1%
	National	15.8%	18.9%	23.3%	26.4%	32.7%	-
Proportion below age 20	CEPAM	20.2%	19.9%	19.2%	17.8%	17.6%	17.8%
	Eurostat	20.4%	19.9%	19.2%	17.7%	17.6%	18.0%
	National	20.1%	19.5%	18.1%	16.6%	16.3%	-
Median age	CEPAM	39.7	41.7	46.0	49.7	51.3	51.6
	Eurostat	39.6	41.5	45.7	49.3	50.6	50.6
	National	39.8	41.9	46.4	50.3	52.4	-
Old-age dependency ratio (65+/15-64)	CEPAM	0.22	0.28	0.37	0.43	0.57	0.69
	Eurostat	0.22	0.28	0.37	0.42	0.55	0.65
	National	0.23	0.28	0.37	0.43	0.59	-
Young-age dependency ratio (0-14/15-64)	CEPAM	0.21	0.23	0.23	0.21	0.24	0.26
	Eurostat	0.22	0.23	0.22	0.21	0.24	0.25
	National	0.22	0.22	0.21	0.20	0.22	-
Parent support ratio (85+/50-64)	CEPAM	0.08	0.11	0.12	0.20	0.32	0.45
	Eurostat	0.08	0.11	0.13	0.21	0.30	0.40
	National	0.09	0.11	0.12	0.20	0.30	-

Demographic assumptions underlying projections							
		2010-2015	2015-2020	2025-2030	2035-2040	2045-2050	2055-2060
Total fertility rate	CEPAM	1.44	1.50	1.56	1.66	1.70	1.71
	Eurostat	1.40	1.48	1.54	1.60	1.64	1.67
	National	1.27	1.35	1.41	1.47	1.51	-
Life expectancy at birth (in years)							
Male	CEPAM	73.9	75.0	76.1	78.3	80.4	82.6
	Eurostat	74.3	75.5	76.6	78.7	80.6	82.4
	National	74.2	75.6	77.1	79.7	82.3	-
Female	CEPAM	81.6	82.7	83.7	85.7	87.7	89.7
	Eurostat	81.9	82.8	83.6	85.2	86.7	88.0
	National	82.0	83.0	84.2	86.0	87.9	-
Five-year net migration flow (in thousands)	CEPAM	-148.0	-141.1	-134.0	-116.4	-98.0	-82.6
	Eurostat	0.1	-12.7	-35.2	104.4	143.2	90.0
	National	-42.9	-30.6	-18.4	0.0	0.0	-



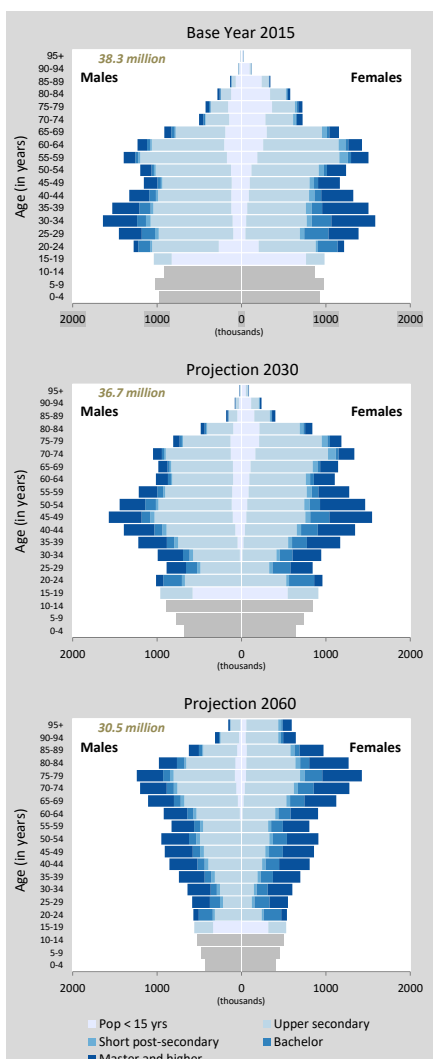
### Changes in population size and structure according to CEPAM scenarios (impact of migration)

Population size according to CEPAM projections to 2060							
		2015	2020	2030	2040	2050	2060
Population (in millions)	Zero M	38.26	38.18	37.53	36.28	34.81	33.31
	Medium	38.26	38.03	37.04	35.44	33.65	31.85
	Double M	38.26	37.87	36.54	34.62	32.53	30.46
Population 0-24 (in millions)	Zero M	10.21	9.62	9.25	8.46	7.86	7.55
	Medium	10.21	9.58	9.10	8.19	7.50	7.13
	Double M	10.21	9.53	8.94	7.92	7.15	6.74
Population 25-44 (in millions)	Zero M	11.76	11.53	9.05	7.64	7.54	6.87
	Medium	11.76	11.44	8.80	7.32	7.19	6.46
	Double M	11.76	11.35	8.56	7.02	6.85	6.07
Population 45-69 (in millions)	Zero M	12.39	12.45	12.77	13.21	11.49	9.64
	Medium	12.39	12.43	12.68	12.98	11.09	9.15
	Double M	12.39	12.41	12.60	12.75	10.70	8.67
Population 70+ (in millions)	Zero M	3.90	4.58	6.46	6.97	7.93	9.25
	Medium	3.90	4.58	6.46	6.95	7.88	9.11
	Double M	3.90	4.58	6.45	6.93	7.83	8.98



# Poland (Continued)

Pyramids by education, CEPAM Medium

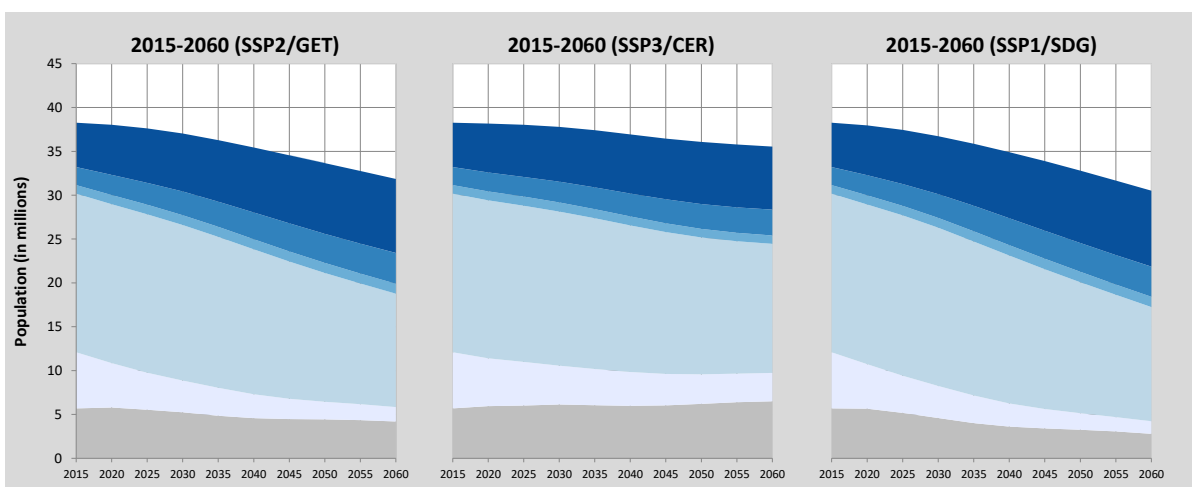


Detailed Human Capital projections to 2060

Human Capital indicators, CEPAM Medium (SSP2)

	2015	2020	2030	2040	2050	2060
<b>Population age 25+: highest educational attainment (columns sum to 100%)</b>						
E1-E4 - lower secondary and below	15.4%	12.8%	9.0%	6.4%	4.7%	3.7%
E5 - upper secondary	57.7%	57.7%	57.0%	54.9%	51.8%	48.8%
E6 - short post-secondary	3.3%	3.5%	3.7%	3.9%	4.0%	4.1%
E7 - bachelor	6.0%	6.6%	7.7%	9.0%	10.4%	11.7%
E8 - master and higher	17.6%	19.4%	22.6%	25.8%	29.0%	31.7%
Mean years of schooling (in years)	12.70	12.94	13.32	13.66	13.98	14.24
<b>Age gap: highest educational attainment (ratio 35-44/50-64)</b>						
E1-E4 - lower secondary and below	0.53	0.54	0.53	0.52	0.56	0.80
E5 - upper secondary	0.83	0.78	0.88	0.95	0.91	0.91
E6 - short post-secondary	0.87	0.93	1.13	1.14	1.14	1.10
E7 - bachelor	2.76	3.22	1.70	1.17	1.13	1.09
E8 - master and higher	2.14	1.94	1.24	1.11	1.14	1.10
Mean years of schooling (35-44 minus 50-64)	1.12	1.12	0.67	0.45	0.43	0.37
<b>Gender gap (population age 25+): highest educational attainment (% males - %females)</b>						
E1-E4 - lower secondary and below	-3.83	-2.53	-0.60	0.53	1.10	1.29
E5 - upper secondary	12.18	11.79	11.32	11.53	12.27	13.26
E6 - short post-secondary	-2.48	-2.34	-2.06	-1.64	-1.14	-0.70
E7 - bachelor	-1.06	-1.72	-2.83	-4.06	-5.38	-6.70
E8 - master and higher	-4.81	-5.20	-5.83	-6.35	-6.85	-7.15
Mean years of schooling (male minus female)	-0.20	-0.30	-0.40	-0.50	-0.60	-0.60
<b>Women age 20-39: highest educational attainment (columns sum to 100%)</b>						
E1-E4 - lower secondary and below	7%	5%	3%	3%	3%	3%
E5 - upper secondary	48%	47%	46%	42%	40%	38%
E6 - short post-secondary	4%	4%	4%	4%	4%	5%
E7 - bachelor	15%	18%	20%	22%	22%	23%
E8 - master and higher	26%	27%	27%	29%	31%	32%
Mean years of schooling (in years)	13.82	14.04	14.33	14.55	14.78	14.93
<b>Age gap among women: highest educational attainment (ratio 35-44/50-64)</b>						
E1-E4 - lower secondary and below	0.41	0.40	0.44	0.51	0.53	0.74
E5 - upper secondary	0.78	0.72	0.85	0.92	0.86	0.87
E6 - short post-secondary	0.80	0.75	0.84	1.04	1.14	1.10
E7 - bachelor	2.78	3.71	2.36	1.28	1.14	1.10
E8 - master and higher	2.30	1.94	1.12	1.06	1.14	1.10
Mean years of schooling (35-44 minus 50-64)	1.42	1.35	0.65	0.41	0.50	0.44

Population size by educational attainment according to three scenarios: SSP2/GET, SSP3/CER and SSP1/SDG



Colour legend as in pyramids above

## Education scenarios

SSP2/GET : Global Education Trend Scenario (Medium assumption)

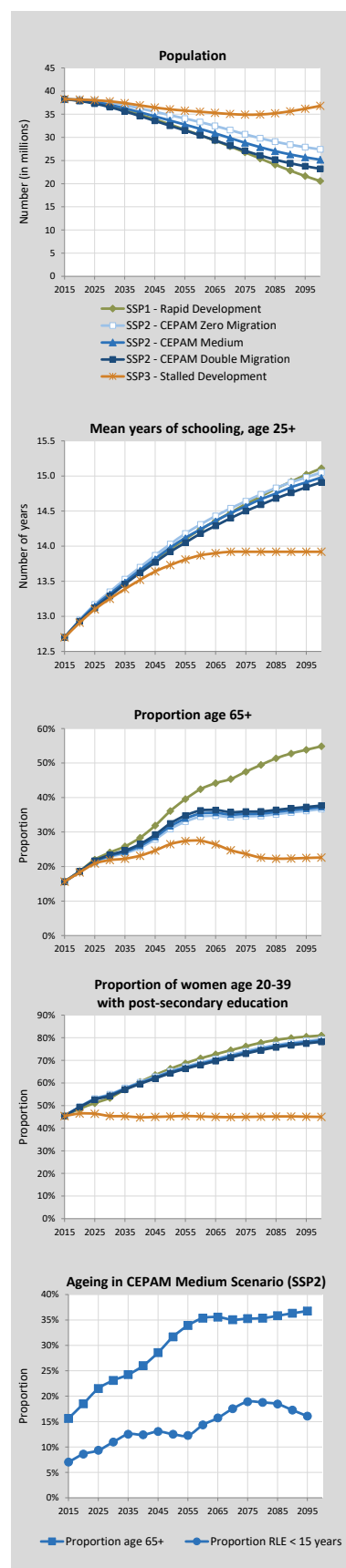
SSP3/CER : Constant Enrollment Rates Scenario (assumption of no future improvements)

SSP1/SDG : Sustainable Development Goal Scenario (universal primary and secondary education by 2030)

# Poland (Continued)

## Alternative scenarios to 2100

Projection results by scenario (SSP1-SSP3)							
	2015	2020	2030	2050	2060	2075	2100
<b>Population (in millions)</b>							
SSP1 - Rapid Development	38.26	37.96	36.73	32.80	30.51	26.77	20.58
SSP2 - CEPAM Zero Migration	38.26	38.19	37.53	34.81	33.31	30.68	27.42
SSP2 - CEPAM Medium	38.26	38.03	37.04	33.65	31.85	28.84	25.19
SSP2 - CEPAM Double Migration	38.26	37.87	36.54	32.53	30.46	27.13	23.23
SSP3 - Stalled Development	38.26	38.16	37.79	36.07	35.54	34.91	36.81
<b>Proportion age 65+</b>							
SSP1 - Rapid Development	15.6%	18.7%	24.1%	36.1%	42.4%	47.5%	54.9%
SSP2 - CEPAM Zero Migration	15.6%	18.4%	22.8%	30.9%	34.5%	34.5%	36.7%
SSP2 - CEPAM Medium	15.6%	18.5%	23.1%	31.7%	35.3%	35.3%	37.2%
SSP2 - CEPAM Double Migration	15.6%	18.6%	23.4%	32.5%	36.2%	35.9%	37.7%
SSP3 - Stalled Development	15.6%	18.3%	21.9%	26.5%	27.5%	23.7%	22.6%
<b>Proportion below age 20</b>							
SSP1 - Rapid Development	20.2%	19.6%	17.6%	13.5%	12.7%	10.8%	9.6%
SSP2 - CEPAM Zero Migration	20.2%	19.9%	19.3%	17.8%	18.0%	17.4%	17.1%
SSP2 - CEPAM Medium	20.2%	19.9%	19.2%	17.6%	17.8%	17.2%	16.9%
SSP2 - CEPAM Double Migration	20.2%	19.9%	19.1%	17.3%	17.6%	16.9%	16.8%
SSP3 - Stalled Development	20.2%	20.3%	21.2%	22.7%	24.1%	25.1%	25.6%
<b>Proportion of women age 20-39 with post-secondary education</b>							
SSP1 - Rapid Development	45.4%	48.6%	53.4%	66.3%	70.9%	76.2%	81.0%
SSP2 - CEPAM Zero Migration	45.4%	49.5%	55.0%	65.2%	69.0%	74.1%	79.3%
SSP2 - CEPAM Medium	45.4%	49.4%	54.7%	64.8%	68.5%	73.5%	78.8%
SSP2 - CEPAM Double Migration	45.4%	49.3%	54.3%	64.3%	68.0%	73.0%	78.2%
SSP3 - Stalled Development	45.4%	46.5%	45.4%	45.2%	45.2%	45.0%	45.0%
<b>Mean years of schooling, age 25+</b>							
SSP1 - Rapid Development	12.7	12.9	13.3	14.0	14.2	14.6	15.1
SSP2 - CEPAM Zero Migration	12.7	13.0	13.4	14.0	14.3	14.6	15.1
SSP2 - CEPAM Medium	12.7	12.9	13.3	14.0	14.2	14.6	15.0
SSP2 - CEPAM Double Migration	12.7	12.9	13.3	13.9	14.2	14.5	14.9
SSP3 - Stalled Development	12.7	12.9	13.3	13.7	13.9	13.9	13.9
<b>Demographic assumptions underlying SSPs</b>							
	2015-2020	2020-2025	2030-2035	2050-2055	2060-2065	2075-2080	2095-2100
<b>Total fertility rate</b>							
SSP1 - Rapid Development	1.33	1.30	1.27	1.28	1.28	1.28	1.29
SSP2 - CEPAM Zero Migration	1.44	1.50	1.62	1.71	1.71	1.71	1.72
SSP2 - CEPAM Medium	1.44	1.50	1.62	1.71	1.71	1.71	1.71
SSP2 - CEPAM Double Migration	1.44	1.50	1.62	1.71	1.71	1.71	1.71
SSP3 - Stalled Development	1.56	1.76	2.06	2.23	2.23	2.23	2.24
<b>Life expectancy at birth for females (in years)</b>							
SSP1 - Rapid Development	82.1	83.7	86.7	92.7	95.7	100.3	106.3
SSP2 - CEPAM Zero Migration	81.6	82.7	84.7	88.7	90.8	93.8	97.8
SSP2 - CEPAM Medium	81.6	82.7	84.7	88.7	90.7	93.8	97.8
SSP2 - CEPAM Double Migration	81.6	82.7	84.7	88.7	90.7	93.7	97.8
SSP3 - Stalled Development	81.1	81.6	82.7	84.7	85.7	87.2	89.2
<b>Migration – net flow over five years (in thousands)</b>							
SSP1 - Rapid Development	-148.3	-142.2	-128.2	-96.9	-83.2	-63.0	-42.6
SSP2 - CEPAM Zero Migration	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSP2 - CEPAM Medium	-148.0	-141.4	-125.7	-90.7	-76.0	-55.0	-40.7
SSP2 - CEPAM Double Migration	-296.0	-281.5	-246.8	-171.1	-139.0	-94.1	-63.4
SSP3 - Stalled Development	-98.5	-47.1	-0.1	-0.1	-0.1	-0.1	0.0
<b>Ageing indicators by scenario</b>							
	2015	2020	2030	2050	2060	2075	2095
<b>Median age</b>							
SSP1 - Rapid Development	39.7	41.8	46.8	55.7	58.5	63.1	68.4
SSP2 - CEPAM Zero Migration	39.7	41.6	45.7	50.7	50.9	52.0	52.4
SSP2 - CEPAM Medium	39.7	41.7	46.0	51.3	51.6	52.6	52.8
SSP2 - CEPAM Double Migration	39.7	41.7	46.3	52.0	52.2	53.2	53.2
SSP3 - Stalled Development	39.7	41.4	44.9	44.8	43.0	40.9	40.1
<b>Proportion with less than 15 years of remaining life expectancy (RLE)</b>							
SSP1 - Rapid Development	7.0%	8.6%	11.0%	12.5%	14.3%	18.9%	16.1%
SSP2 - CEPAM Zero Migration	7.5%	8.0%	12.0%	11.9%	14.9%	16.6%	13.1%
SSP2 - CEPAM Medium	7.5%	8.1%	12.1%	12.3%	15.5%	17.3%	13.4%
SSP2 - CEPAM Double Migration	7.5%	8.1%	12.3%	12.7%	16.0%	17.9%	13.7%
SSP3 - Stalled Development	8.0%	9.0%	13.5%	13.4%	15.4%	13.2%	10.2%



# Poland (Continued)

## Labour force projections to 2060

Labour force indicators	2015	2020	2030	2040	2050	2060
<b>Labour force size, by participation and migration scenario (in millions)</b>						
Constant (CEPAM Zero Migration)	18.45	18.14	17.33	16.14	14.46	13.21
Constant (CEPAM Medium)	18.45	18.03	17.01	15.63	13.79	12.45
Constant (CEPAM Double Migration)	18.45	17.92	16.70	15.13	13.15	11.72
Swedish (CEPAM Zero Migration)	18.45	18.60	18.58	18.22	17.05	15.99
Swedish (CEPAM Medium)	18.45	18.49	18.25	17.68	16.31	15.09
Swedish (CEPAM Double Migration)	18.45	18.38	17.93	17.14	15.58	14.24
Equalization (CEPAM Zero Migration)	18.45	18.35	17.85	17.00	15.59	14.41
Equalization (CEPAM Medium)	18.45	18.24	17.53	16.47	14.89	13.59
Equalization (CEPAM Double Migration)	18.45	18.13	17.21	15.96	14.21	12.80
Constant (CEPAM Medium-low fertility)	18.45	18.03	17.01	15.52	13.24	11.30
Swedish (CEPAM Medium-low fertility)	18.45	18.49	18.25	17.51	15.61	13.71
Equalization (CEPAM Medium-low fertility)	18.45	18.24	17.53	16.36	14.29	12.35

<b>Labour force participation rates, age 15+, by participation scenario (CEPAM Medium)</b>						
TOTAL (Constant)	56.6%	55.9%	53.6%	50.6%	47.3%	45.1%
TOTAL (Swedish)	56.6%	57.4%	57.5%	57.3%	55.9%	54.6%
TOTAL (Equalization)	56.6%	56.6%	55.2%	53.4%	51.0%	49.2%
MALE (Constant)	65.2%	64.2%	60.9%	58.0%	54.5%	51.6%
MALE (Swedish)	65.2%	65.2%	63.9%	63.2%	61.3%	59.4%
MALE (Equalization)	65.2%	64.2%	60.9%	58.0%	54.5%	51.6%
FEMALE (Constant)	48.8%	48.4%	46.9%	44.0%	40.7%	39.1%
FEMALE (Swedish)	48.8%	50.2%	51.6%	51.9%	50.9%	50.2%
FEMALE (Equalization)	48.8%	49.7%	50.0%	49.2%	47.9%	47.0%

### Labour force (15+) by highest level of educational attainment. Columns sum to 100%. (CEPAM Medium; Constant participation)

TOTAL E1-E4 - lower secondary and below	6.8%	5.3%	3.5%	2.4%	1.5%	1.0%
TOTAL E5 - upper secondary	58.6%	55.8%	50.8%	46.5%	42.8%	39.7%
TOTAL E6 - short post-secondary	3.5%	3.5%	3.7%	4.0%	4.3%	4.6%
TOTAL E7 - bachelor	8.2%	9.4%	11.7%	13.7%	14.8%	15.7%
TOTAL E8 - master and higher	22.9%	26.0%	30.3%	33.5%	36.6%	39.0%
MALE E1-E4 - lower secondary and below	8.4%	6.6%	4.6%	3.2%	2.0%	1.3%
MALE E5 - upper secondary	65.4%	63.3%	59.2%	55.5%	52.3%	49.8%
MALE E6 - short post-secondary	2.3%	2.6%	3.1%	3.7%	4.1%	4.4%
MALE E7 - bachelor	6.5%	7.2%	8.5%	9.4%	10.0%	10.6%
MALE E8 - master and higher	17.5%	20.3%	24.6%	28.3%	31.6%	33.9%
FEMALE E1-E4 - lower secondary and below	4.9%	3.7%	2.3%	1.5%	0.9%	0.7%
FEMALE E5 - upper secondary	50.4%	46.7%	40.8%	35.7%	31.1%	27.5%
FEMALE E6 - short post-secondary	5.0%	4.7%	4.4%	4.3%	4.6%	4.8%
FEMALE E7 - bachelor	10.2%	12.1%	15.4%	18.8%	20.7%	21.9%
FEMALE E8 - master and higher	29.5%	32.9%	37.1%	39.7%	42.7%	45.1%

### Labour force size by educational attainment according to three migration scenarios, 2015-2060 (Labour force participation = Constant scenario)

