A quick report for model "mdl"

October 11, 2016

1 Summary

There are 1 repositary, 14 commodity, 6 technology, 2 supply, 1 demand.

Contents

1	Summary	1
2	Commodity	1
	2.1 COAL	
	2.2 ELC	2
	2.3 WATER	3
	2.4 Commodity without information	3
3	Supply	3
	3.1 SupCOA	3
	Supply 3.1 SupCOA	4
4	Demand	5
	Demand I.1 DemELC	5
5	Technology	6
	technology 5.1 ECOA	6
	5.2 OPENmi	9
	5.3 TRAINtr	
	5.4 UNDERmi	
	6.5 WATERwa	
	66 WITHOUTwa	20

2 Commodity

2.1 COAL

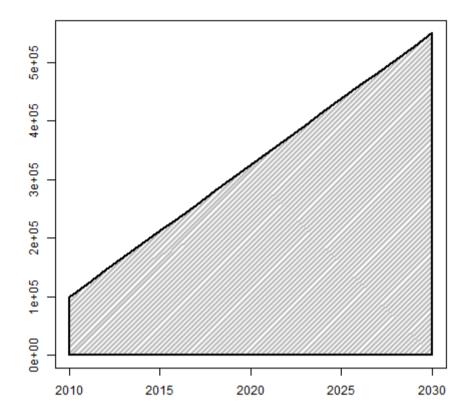


Figure 1: Supply commodity COAL, summary for all region and slice.

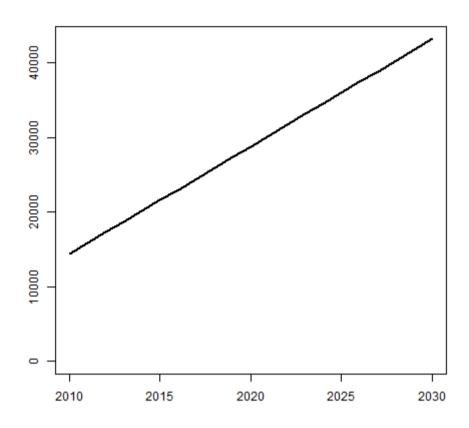


Figure 2: Demand commodity ELC, summary for all region and slice.

2.3 WATER

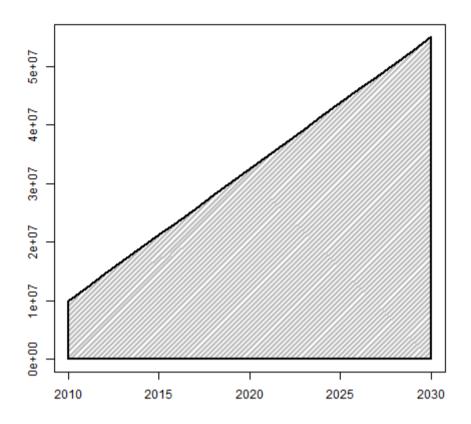


Figure 3: Supply commodity WATER, summary for all region and slice.

2.4 Commodity without information

CH4, CO2, DUMMYWASHEDCOAL, GANGUE, GANGUE1, MINEDCOAL, N2O, SEWAGE, TRANSCOAL, WASHEDCOAL, WASTEGANGUE.

3 Supply

3.1 SupCOA

commodity: "COAL" unit: "Mt"

Table 1: availability.

	region	year	slice	ava.lo	ava.up	ava.fx	\mathbf{cost}
1	-	2010	-	-	1e+05	-	1
2	-	2050	-	-	1e+06	-	1

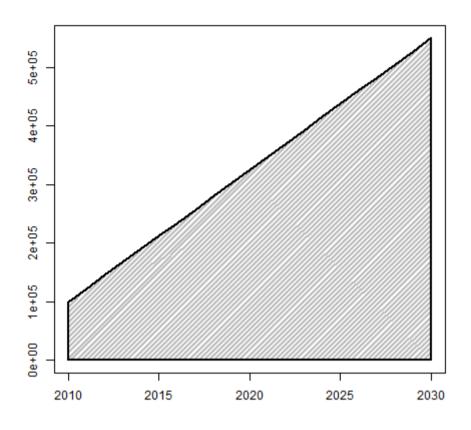


Figure 4: Supply commodity COAL, summary for all region and slice.

3.2 SupWAT

commodity: "WATER" unit: "Mt"

Table 3: availability.

	region	year	slice	ava.lo	ava.up	ava.fx	\mathbf{cost}
1	-	2010	-	-	1e+07	-	1
2	-	2050	-	-	1e+08	-	1

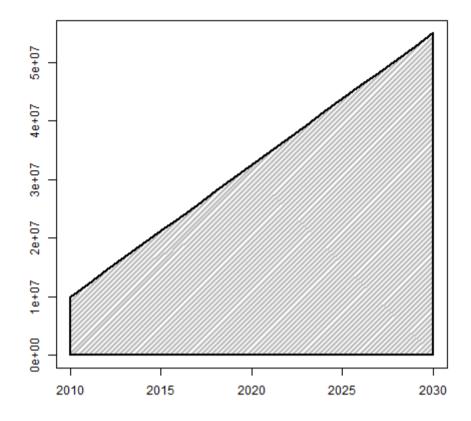


Figure 5: Supply commodity WATER, summary for all region and slice.

4 Demand

4.1 DemELC

commodity: "ELC"

Table 5: dem.

	region	year	slice	dem
1	-	2010	-	14400
2	-	2020	-	28800
3	-	2030	-	43200
4	-	2050	-	57600
5	-	2100	-	72000

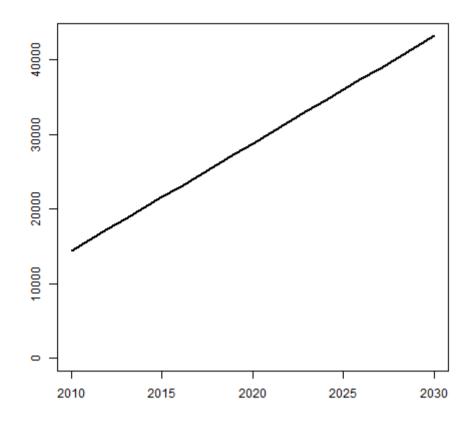


Figure 6: Demand commodity ELC, summary for all region and slice.

${\bf Technology}$ $\mathbf{5}$

5.1 ECOA

description: "Coal-fired power plant" cap2act: 31.536

Table 7: input.

	comm	unit	group	combustion
1	TRANSCOAL	Mt	-	1

Table 9: output.

	comm	unit	group
1	ELC	$_{\mathrm{PJ}}$	-

Table 11: aux.

	acomm	\mathbf{unit}
1	CO2	Mt
2	CH4	Mt
3	N2O	Mt

Table 13: units.

ſ		capacity	activity	varom	fixom	invcost
	1	GW	$_{\mathrm{PJ}}$	MRMB/PJ	MRMB/GW	MRMB/GW

Table 15: ceff.

	comm	cinp2use
1	TRANSCOAL	0.33

Table 17: aeff.

	acomm	act2aout
1	N2O	0.3
2	CO2	0.1
3	CH4	0.2

Table 19: afa.

	region	year	\mathbf{slice}	afa.lo	afa.up	afa.fx
1	-	2010	-	-	0.7	-
2	-	2015	-	-	0.65	-
3	-	2030	-	-	0.75	-

Table 21: fixom.

	region	year	fixom
1	-	-	50

Table 23: varom.

	region	year	slice	comm	varom	cvarom
1	-	2010	-	-	1	-
2	-	2020	-	-	1.5	-
3	-	2030	-	-	1.8	-

Table 25: invcost.

	region	year	invcost
1	-	-	3500

Table 27: end.

	region	\mathbf{end}
1	-	2020

Table 29: olife.

region	olife

	region	olife
1	-	30

Table 31: stock.

	region	year	stock
1	-	2010	100
2	-	2015	110
3	-	2020	90
4	-	2030	0

ECOA Coal-fired power plant

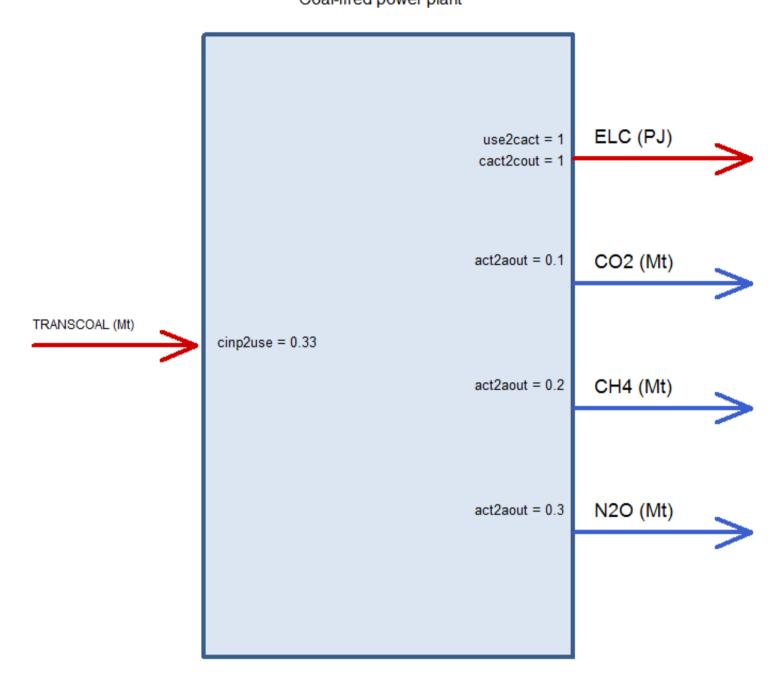


Figure 7: Technology scheme ECOA in year 2010, slice ANNUAL

5.2 OPENmi

description: "MINING COAL" $\,$

Table 33: input.

comm unit group combustion

	comm	unit	group	combustion
1	COAL	Mt	-	0
2	WATER	Mt	-	0

Table 35: output.

	comm	unit	group
1	MINEDCOAL	Mt	-

Table 37: aux.

	acomm	unit
1	GANGUE	Mt
2	CO2	Mt
3	CH4	Mt
4	N2O	Mt
5	SEWAGE	Mt

Table 39: units.

	capacity	activity	varom	fixom	invcost
1	Mt	Mt	MRMB/Mt	MRMB/Mt	MRMB/Mt

Table 41: ceff.

	comm	cinp2use
1	COAL	1
2	MINEDCOAL	-
3	WATER	1.2

Table 43: aeff.

	acomm	comm	cinp2aout	act2aout
1	GANGUE	COAL	0.6	-
2	SEWAGE	WATER	1.1	-
3	CO2	-	-	0.03
4	CH4	-	-	0.02
5	N2O	-	-	0.01

Table 45: afa.

	region	year	slice	afa.lo	afa.up	afa.fx
1	1	-	-	-	0.8	-

Table 47: fixom.

	region	year	fixom
1	A	2020	60

Table 49: varom.

	region	year	slice	comm	varom	cvarom
L	A	2020	-	-	10	-

Table 51: invcost.

	region	year	invcost
1	A	2020	3500

Table 53: olife.

	region	olife
1	-	20

OPENmi

MINING COAL

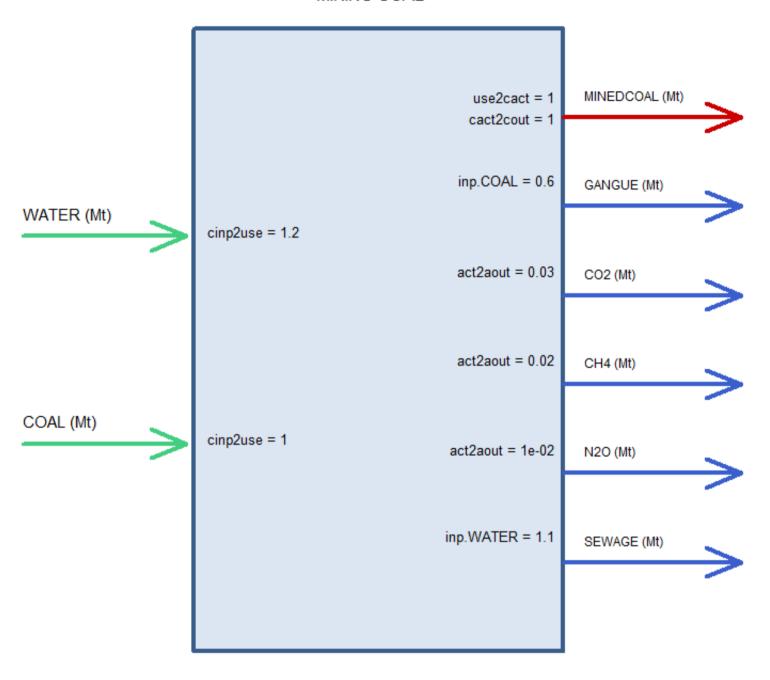


Figure 8: Technology scheme OPENmi in year 2010, slice ANNUAL

5.3 TRAINtr

 ${\it description: "Coal Transportation"}$

Table 55: input.

	comm	unit	group	combustion
1	WASHEDCOAL	Mt	-	1

Table 57: output.

	comm	\mathbf{unit}	group
1	TRANSCOAL	Mt	-

Table 59: aux.

	acomm	unit
1	CO2	Mt
2	CH4	Mt
3	N2O	Mt

Table 61: units.

		capacity	activity	varom	fixom	invcost
1	L	Mt	Mt	MRMB/Mt	MRMB/Mt	MRMB/Mt

Table 63: ceff.

	comm	cact2cout
1	WASHEDCOAL	-
2	TRANSCOAL	0.95

Table 65: aeff.

	acomm	act2aout
1	N2O	0.3
2	CO2	0.1
3	CH4	0.2

Table 67: fixom.

	region	year	fixom
1	A	2020	60

Table 69: varom.

	region	year	slice	comm	varom	cvarom
1	A	2020	-	_	10	_

Table 71: invcost.

	region	year	invcost
1	A	2020	3500

Table 73: olife.

	region	olife
1	-	20

TRAINtr

Coal Transportation

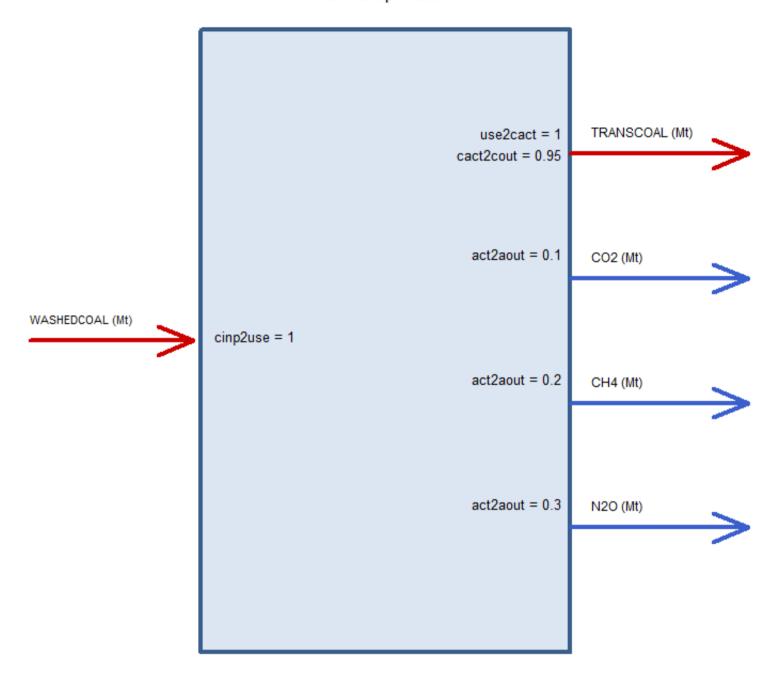


Figure 9: Technology scheme TRAINtr in year 2010, slice ANNUAL

5.4 UNDERmi

description: "MINING COAL" $\,$

Table 75: input.

comm unit group combustion

	comm	\mathbf{unit}	group	combustion
1	COAL	Mt	-	0
2	WATER	Mt	-	0

Table 77: output.

	comm	unit	group
1	MINEDCOAL	Mt	-

Table 79: aux.

	acomm	\mathbf{unit}
1	GANGUE	Mt
2	CO2	Mt
3	CH4	Mt
4	N2O	Mt
5	SEWAGE	Mt

Table 81: units.

	capacity	activity	varom	fixom	invcost
1	Mt	${ m Mt}$	MRMB/Mt	MRMB/Mt	MRMB/Mt

Table 83: ceff.

	comm	cinp2use	use2cact
1	COAL	1	-
2	MINEDCOAL	-	0.65
3	WATER	1.2	-

Table 85: aeff.

	acomm	comm	cinp2aout	act2aout
1	GANGUE	COAL	0.6	-
2	SEWAGE	WATER	1.1	-
3	CO2	-	-	0.03
4	CH4	-	-	0.02
5	N2O	-	-	0.01

Table 87: afa.

	region	year	slice	afa.lo	afa.up	afa.fx
1	1	-	-	-	0.8	-

Table 89: fixom.

	region	year	fixom
1	A	2020	60

Table 91: varom.

	region	year	slice	comm	varom	cvarom
1	A	2020	-	_	10	_

Table 93: invcost.

	region	year	invcost
1	A	2020	3500

Table 95: olife.

	region	olife
1	-	20

UNDERmi

MINING COAL

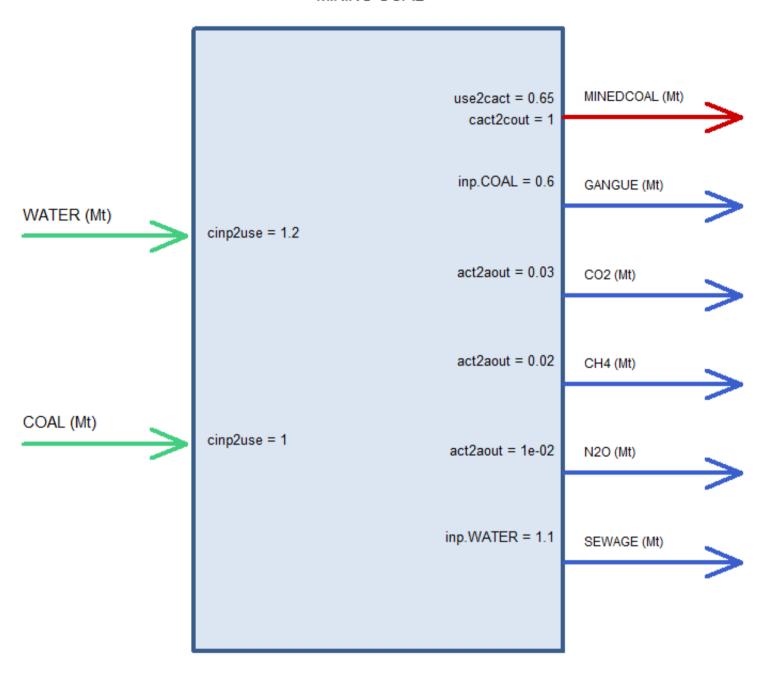


Figure 10: Technology scheme UNDERmi in year 2010, slice ANNUAL

5.5 WATERwa

description: "WASHING COAL WITH WATER" $\,$

Table 97: input.

comm	unit	group	combustion
------	------	-------	------------

	comm	unit	group	combustion
1	MINEDCOAL	Mt	-	0.03
2	WATER	Mt	-	0

Table 99: output.

	comm	unit	group
1	WASHEDCOAL	Mt	-
2	DUMMYWASHEDCOAL	Mt	-
3	GANGUE1	Mt	-

Table 101: aux.

	acomm	unit
1	SEWAGE	Mt
2	WASTEGANGUE	Mt
3	N2O	Mt
4	CO2	Mt
5	CH4	Mt

Table 103: units.

	capacity	activity	varom	fixom	invcost
1	Mt	Mt	MRMB/Mt	MRMB/Mt	MRMB/Mt

Table 105: ceff.

	comm	cinp2use	cact2cout
1	MINEDCOAL	1	-
2	WATER	0.2	-
3	WASHEDCOAL	-	0.8
4	DUMMYWASHEDCOAL	-	-
5	GANGUE1	-	0.1

Table 107: aeff.

	acomm	comm	cinp2aout	act2aout
1	SEWAGE	WATER	0.5	-
2	WASTEGANGUE	MINEDCOAL	0.02	-
3	N2O	-	-	0.02
4	CO2	-	-	0.03
5	CH4	-	-	0.01

Table 109: afa.

	region	year	slice	afa.lo	afa.up	afa.fx
1	-	-	-	-	0.6	-

Table 111: fixom.

	region	year	fixom
1	A	2020	60

Table 113: varom.

	region	year	slice	comm	varom	cvarom
1	A	2020	-	-	10	-

Table 115: invcost.

	region	year	invcost
1	A	2020	3500

Table 117: olife.

	region	olife
1	-	20

WATERwa

WASHING COAL WITH WATER

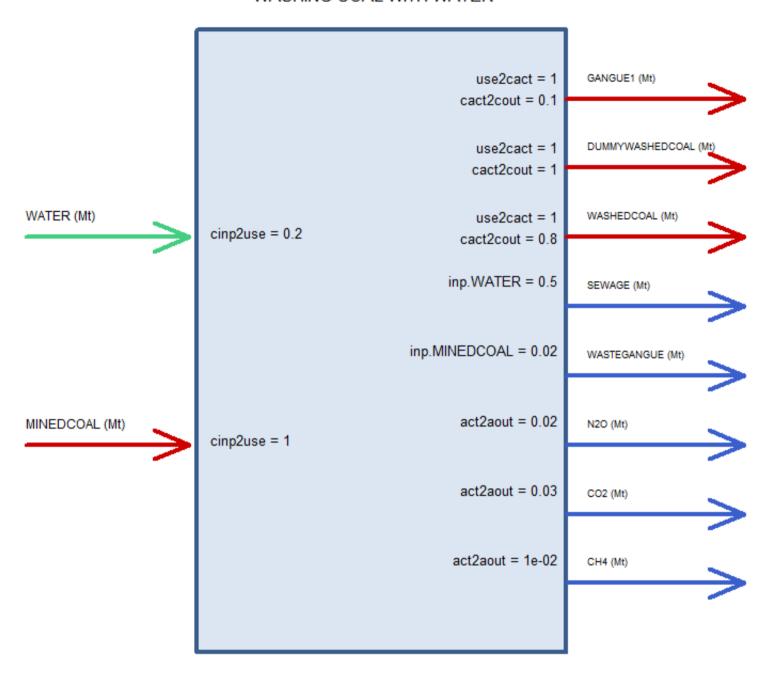


Figure 11: Technology scheme WATERwa in year 2010, slice ANNUAL

5.6 WITHOUTwa

description: "WASHING COAL WITH WATER" $\,$

Table 119: input.

comm	unit	group	combustion
------	------	-------	------------

	comm	unit	group	combustion
1	MINEDCOAL	Mt	-	0
2	WATER	Mt	-	0

Table 121: output.

	comm	unit	group
1	WASHEDCOAL	Mt	-
2	DUMMYWASHEDCOAL	Mt	-
3	GANGUE1	Mt	-

Table 123: aux.

	acomm	unit
1	SEWAGE	Mt
2	WASTEGANGUE	Mt
3	N2O	Mt
4	CO2	Mt
5	CH4	Mt

Table 125: units.

	capacity	activity	varom	\mathbf{fixom}	invcost
1	Mt	Mt	MRMB/Mt	MRMB/Mt	MRMB/Mt

Table 127: ceff.

	comm	cinp2use	cact2cout
1	MINEDCOAL	1	-
2	WATER	0	-
3	WASHEDCOAL	-	0.001
4	DUMMYWASHEDCOAL	-	1
5	GANGUE1	-	0.001

Table 129: aeff.

	acomm	comm
1	SEWAGE	WATER
2	WASTEGANGUE	MINEDCOAL
3	N2O	-
4	CO2	-
5	CH4	-

Table 131: afa.

	region	year	slice	afa.lo	afa.up	afa.fx
1	-	-	-	-	0.6	-

Table 133: fixom.

	region	year	fixom
1	A	2020	60

Table 135: varom.

	region	year	slice	comm	varom	cvarom
1	A	2020	-	_	10	-

Table 137: invcost.

	region	year	invcost
1	A	2020	3500

Table 139: olife.

	region	olife
1	-	20

WITHOUTwa

WASHING COAL WITH WATER

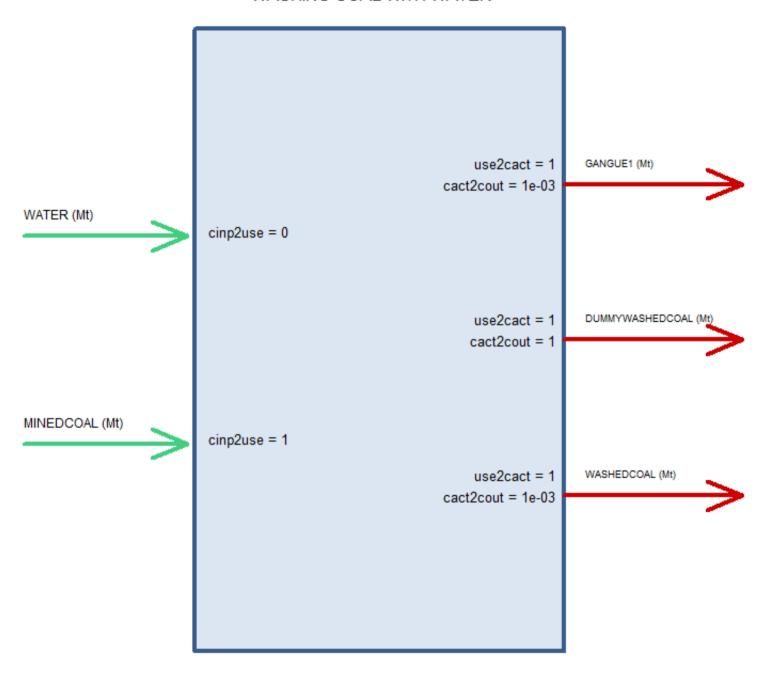


Figure 12: Technology scheme WITHOUTwa in year 2010, slice ANNUAL $\,$