Guidance for the template on reporting of used parameters and variables included in Annex 1, part 2, of the Energy Union Governance

The aim of this excel file is to facilitate reporting of the quantitative parameters and variables under Annex I Part 2 in the indicated format

- All parameters and variables highlighted in green are already currently requested under existing legislation (MMR, RES Directive, or Energy Efficiency Directive), see e.g. http://cdr.eionet.europa.eu/help/mmr/MMR_projections_templates_2018.zip
- All energy related parameters and variables highlighted in red might require to rely on complementary tools than standard energy system models covering also new requirements in the revised legislation
- All variables highligted in orange correspond to indicators to be computed on the basis of parameters and variables already available elsewhere in the excel file
- The request for historical data relates to data if and when used in modelling
- All monetary Euro values shall be expressed in constant 2023 prices using ESTAT HICP deflator.
- Elements in red font are meant to provide further precision to what is currently indicated in the template in the provisionally agreed Governance Regulation. They aim to provide additional guidance or specifications and should facilitate the better understanding of modelling results by the Commission. While they remain optional, their use is much encouraged.
- Please report the used values for the years 2005 to 2040 in five yearly steps, and if possible yearly for 2021 to 2030 (the latter indicated in the red font as not required in the template in the Governance regulation).
- Column T can be used for comments that MS wish to provide (e.g. explanation of different methodology, caveats or sources of projections)

Reporting of used parameters and variables included in Annex 1, part 2, of the Energy Union Governance as agreed in trilogue

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All parameters and variables highlighted in green are already currently requested under existing legislation (e.g MMR, RED Directive, or Energy Efficiency Directive), see e.g. http://cdr.eionet.europa.eu/help/mmr/MMR_projections_templates_2018.zip

All energy related parameters and variables highlighted in red might require to rely on complementary tools than standard energy system models, covering new requirements from the revised legislation

All variables highligted in orange correspond to indicators to be computed on the basis of parameters and variables already available elsewhere in the excel file

		Unit	2005	2010	2015	2020	2025	2030	2035	2040	Comments MS	Comments Commission
1. General parameters and variables												
1	Population	million	2,2	2,1	2,0	1,9	1,8	1,8	1,7	1,7	x-2022 - CSB; 2023-40 - Ministry of Economics; converted from 2015 prices by Price index (implicit deflator), EU's GDP at market prices (2015=1) = 1.22673	
2	GDP	EUR million	26060	25426	30143	32694	37940	42594	47672	52786	x-2022 - CSB; 2023-40 - Ministry of Economics; converted from 2015 prices by Price index (implicit deflator), EU's GDP at market prices (2015=1) = 1.22673	
3	Sectorial gross value added	EUR million	22857	22809	26514	28512	32917	36985	41431	45911	x-2022 - CSB; 2023-40 - Ministry of Economics; converted from 2015 prices by Price index (implicit deflator), EU's GDP at market prices (2015=1) = 1.22673	
	Agriculture	EUR million	854	882	1053	1195	1222	1336	1441	1535	x-2022 - CSB; 2023-40 - Ministry of Economics; converted from 2015 prices by Price index (implicit deflator), EU's GDP at market prices (2015=1) = 1.22673	
	Construction	EUR million	1832	1095	1605	1897	2157	2423	2732	3047	x-2022 - CSB; 2023-40 - Ministry of Economics; converted from 2015 prices by Price index (implicit deflator), EU's GDP at market prices (2015=1) = 1.22673	
	Services	EUR million	16774	17254	20097	20862	24489	27547	31004	34533	x-2022 - CSB; 2023-40 - Ministry of Economics; converted from 2015 prices by Price index (implicit deflator), EU's GDP at market prices (2015=1) = 1.22673	
	Energy Sector	EUR million	804	777	629	427	477	552	639	714	x-2022 - CSB; 2023-40 - Ministry of Economics; converted from 2015 prices by Price index (implicit deflator), EU's GDP at market prices (2015=1) = 1.22673	
	Industry	EUR million	3250	2852	3129	3857	4572	5126	5615	6082	x-2022 - CSB; 2023-40 - Ministry of Economics; converted from 2015 prices by Price index (implicit deflator), EU's GDP at market prices (2015=1) = 1.22673	
4	Number of households	million	0,9	0,8	0,8	0,8	0,8	0,8	0,8	0,8	x-2022 - CSB; 2023-40 - Calculation for modelling system	
5	Households size	inhabitants/household	2,5	2,5	2,5	2,3	2,2	2,2	2,1	2,1	Calculated value for modelling system	

		Unit	2005	2010	2015	2020	2025	2030	2035	2040	Comments MS	Comments Commission
6	**Disposable income of households (yearly)**	**EUR**	**16572**	**18491**	**21817**	**21832**	**25642**	**29550**	**33312**	**36737**	**x-2022 - CSB; 2023-40 - Ministry of Economics; converted from 2015 prices by Price index (implicit deflator), EU's GDP at market prices (2015=1) = 1.22673; Private consumption per Households**	**Please specify the definition applied**
7	**Number of passenger-kilometers**	**million pkm**	**18227**	**20262**	**21247**	**18643**	**21327**	**22350**	**23200**	**23932**	**Sum of subheadings**	
	Public road transport	million pkm	**3744**	**3064**	**3003**	**1865**	**1817**	**1779**	**1761**	**1762**	**x-2022 - CSB, EUROSTAT; 2023-40 - Calculated value for modelling system; Trams and Trolleybuses are included**	
	Private cars	million pkm	**12112**	**12312**	**13543**	**14774**	**12851**	**13638**	**14232**	**14707**	**x-2022 - EUROSTAT; 2022-40 - Calculated value for modelling system; Motorcycles are included**	
	Motorcycles	million pkm	**IE**	**IE**	**IE**	**IE**	**IE**	**IE**	**IE**	**IE**	**Included in Private cars**	
	Rail	million pkm	**894**	**749**	**591**	**413**	**618**	**613**	**614**	**622**	**x-2022 - CSB; 2023-40 - Calculated value for modelling system**	
	Aviation	million pkm	**1478**	**4136**	**4110**	**1591**	**6041**	**6320**	**6593**	**6841**	**x-2022 - CSB; 2023-40 - Calculated value for modelling system; International aviation**	
	Inland navigation	million pkm	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
8	**Freight transport tonnes-kilometres**	**million tkm**	**28326**	**27769**	**33596**	**21684**	**22778**	**23805**	**24770**	**25627**	**Sum of subheadings**	
	Trucks	million tkm	**8547**	**10590**	**14690**	**13705**	**15101**	**15773**	**16392**	**16933**	**x-2022 - CSB; 2023-40 - Calculated value for modelling system**	
	Rail	million tkm	**19779**	**17179**	**18906**	**7979**	**7677**	**8032**	**8378**	**8694**	**x-2022 - CSB; 2023-40 - Calculated value for modelling system**	
	Inland navigation	million tkm	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
9	**International Fuel prices**	**EUR/GJ or EUR/toe**										**Please specify if Commission's proposal or other source was applied and in the latter case specify methodology**
	Oil	EUR/GJ or EUR/toe	**11**	**15**	**9**	**7**	**12**	**14**	**15**	**16**	**Used EC recommended prices growth rates; EUR/GJ**	**Please specify if Commission's proposal or other source was applied and in the latter case specify methodology**
	Gas (NCV)	EUR/GJ or EUR/toe	**3**	**9**	**9**	**3**	**13**	**10**	**9**	**9**	**Used EC recommended prices (Gas min) growth rates; EUR/GJ**	**Please specify if Commission's proposal or other source was applied and in the latter case specify methodology**
	Coal	EUR/GJ or EUR/toe	**3**	**3**	**4**	**3**	**6**	**6**	**6**	**6**	**Used EC recommended prices growth rates; EUR/GJ**	**Please specify if Commission's proposal or other source was applied and in the latter case specify methodology**
10	**Carbon price ETS sectors**	**EUR/ ton CO2**	**31**	**18**	**9**	**28**	**93**	**93**	**98**	**98**	**EC recommended**	**Please specify if Commission's proposal or other source was applied and in the latter case specify methodology**
11	**Exchange rate to EUR and to US dollar**	**EUR/currency and/or USD/currency**	**1**	**1**	**1**	**1**	**NE**	**NE**	**NE**	**NE**	**x-2023 - EUROSTAT**	
12	**Heating degree days**		**4181**	**4636**	**3657**	**3404**	**3847**	**3790**	**3733**	**3677**	**x-2023 - EUROSTAT; 2024-40 - Calculated value for modelling system**	**Please specify if Commission's proposal or other source was applied and in the latter case specify methodology**
13	**Cooling degree days**		**0**	**49**	**4**	**2**	**15**	**17**	**19**	**21**	**x-2023 - EUROSTAT; 2024-40 - Calculated value for modelling system**	**Please specify if Commission's proposal or other source was applied and in the latter case specify methodology**
14	**Technology cost assumptions (see https://climate.ec.europa.eu/eu-action/climate-strategies-targets/2040-climate-target_en for technology cost assumptions as used in 2040 Climate Target Plan for suggestions on what could be relevant to report**		**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		**Please specify if Commission's proposal or other source was applied and in the latter case specify methodology**
2. energy balances and indicators												
2.1 energy supply												
1	**Production (incl.recovery of products)**	**ktoe**	**1869**	**1980**	**2347**	**2735**	**1388**	**1649**	**1867**	**2029**	**Sum of subheadings**	
	Solids	ktoe	7	13	8	26	34	36	33	33	**Modelling system's output**	

		Unit	2005	2010	2015	2020	2025	2030	2035	2040	Comments MS	Comments Commission
	Oil	ktoe	7	2	7	25	26	26	26	26	**Modelling system's output**	
	Natural gas	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		
	Nuclear	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		
	Renewable energy sources	ktoe	**1847**	**1952**	**2244**	**2604**	**1248**	**1540**	**1763**	**1952**	Modelling system's output	
	Biogases	ktoe	**8**	**13**	**88**	**80**	**79**	**47**	**45**	**18**	Modelling system's output	please, indicate what is the projection to produce biogas (primary production), regardless on its end-use
	- out of which, injected in the natural gas grid	bcm	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		indicate quantity of biomethane injected in grid as in Energy Balances [TI_BNG_E] Transformation input - for blending with natural gas - energy use; 1 ktoe = 1.15 million m3
2	**Net Imports (ktoe)**	**ktoe**	**3370**	**2557**	**2778**	**2651**	**2312**	**1948**	**1628**	**1300**	**Sum of subheadings**	
	Solids	ktoe	81	132	86	79	82	82	76	75	**Modelling system's output**	
	Oil	ktoe	1670	1444	1449	1518	1529	1407	1095	902	Modelling system's output	
	Natural gas	ktoe	1435	905	1086	914	513	409	379	211	**Modelling system's output**	
	Electricity	ktoe	185	75	157	140	189	50	78	111	**Modelling system's output**	
3	**Import Dependency**	**%**	**69,4%**	**64,3%**	**63,4%**	**57,5%**	**54,1%**	**46,8%**	**40,2%**	**33,6%**	**Computed indicator; included net import of biomass**	
4	**Main import sources for energy carriers**											
	Main country (please specify here) of origin of Electricity Purchases	**% of total imports**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
	1st main country (please specify here) of origin of Gas Purchases	**% of total imports**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
	2nd main country (please specify here) of origin of Gas Purchases	**% of total imports**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
	3rd main country (please specify here) of origin of Gas Purchases	**% of total imports**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		If more countries to be reported please add rows
5	**Gross Inland Consumption**	**ktoe**	**4592**	**4657**	**4396**	**4386**	**4276**	**4159**	**4045**	**3871**	**Sum of subheadings**	
	Solids	ktoe	85	110	47	24	15	17	8	7	Modelling system's output	
	Oil	ktoe	1476	1543	1497	1447	1555	1433	1121	928	**Modelling system's output**	
	Natural gas	ktoe	1359	1465	1102	913	513	409	379	211	**Modelling system's output**	
	Nuclear	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		
	Electricity	ktoe	185	75	157	140	189	50	78	111	**Modelling system's output**	
	Renewable energy forms	ktoe	1483	1435	1538	1774	1904	2149	2358	2513	**Modelling system's output**	
	Other-waste	ktoe	4	28	55	88	101	101	101	101	**Modelling system's output**	
2.2. Electricity and heat												
1	**Gross electricity generation**	**GWhe**	**4906**	**6628**	**5533**	**5725**	**5658**	**8269**	**8795**	**8936**	**Sum of subheadings**	
2	**By fuel**											
	Nuclear energy	GWhe	NE	NE	NE	NE	NE	NE	NE	NE		
	Solids	GWhe	0	2	0	0	0	0	15	10	**Modelling system's output**	
	Oil (including refinery gas)	GWhe	6	2	1	0	18	23	6	24	**Modelling system's output**	
	Gas (including derived gases)	GWhe	1486	2988	2756	2075	605	452	425	15	**Modelling system's output**	
	Biomass-waste	GWhe	41	66	769	865	893	683	1139	1577	**Modelling system's output**	
	Hydro (pumping excluded)	GWhe	3326	3521	1860	2603	3039	3170	3170	3170	**Modelling system's output**	
	Wind	GWhe	47	49	147	177	355	3108	3137	3167	**Modelling system's output**	
	Solar	GWhe	0	0	0	5	749	833	902	972	**Modelling system's output**	
	Geothermal and other renewables	GWhe	NE	NE	NE	NE	NE	NE	NE	NE		
	Other fuels (hydrogen, methanol)	GWhe	NE	NE	NE	NE	NE	NE	NE	NE		
3	**Share of power generation from combined heat and power generation in total electricity generation (CHP electricity generation divided by the total gross electricity generation, including the generation in pumped storage power stations**	**%**	31,2%	46,1%	63,7%	51,4%	26,8%	14,0%	18,0%	18,2%	**Computed indicator**	
	Share of heat generation from combined heat and power generation in total heat generation (CHP heat generation divided by the total heat for district heating)	**%**	**47,1%**	**58,7%**	**74,5%**	**67,2%**	**58,7%**	**59,0%**	**71,0%**	**72,0%**	**Computed indicator**	
4	**Capacity electricity generation including retirements and new investments** [note: split between retirements and new investments may not be straightforward to obtain with standard models. Complementary assumptions may need to be made]	**GW**	**2,17**	**2,56**	**2,93**	**2,94**	**3,69**	**4,59**	**4,05**	**3,69**	**Sum of subheadings**	

		Unit	2005	2010	2015	2020	2025	2030	2035	2040	Comments MS	Comments Commission
	Nuclear energy	GW	NE	NE	NE	NE	NE	NE	NE	NE		
	Solids	GW	0,00	0,00	0,00	0,00	0,00	0,00	0,03	0,01	Modelling system's output	
	Oil (including refinery gas)	GW	0,00	0,00	0,00	0,00	0,02	0,03	0,01	0,02	Modelling system's output	
	Gas (including derived gases)	GW	0,59	0,93	1,15	1,12	1,09	1,07	0,46	0,01	Modelling system's output	
	Biomass-waste	GW	0,00	0,01	0,07	0,10	0,13	0,14	0,20	0,27	Modelling system's output	
	Biogases	GW	0,01	0,01	0,06	0,06	0,05	0,05	0,00	0,00	Modelling system's output	
	Hydro (pumping excluded)	GW	1,54	1,58	1,59	1,59	1,59	1,66	1,66	1,66	Modelling system's output	
	Wind	GW	0,03	0,03	0,07	0,08	0,16	0,95	0,95	0,95	Modelling system's output	
	Solar	GW	0,00	0,00	0,00	0,00	0,66	0,70	0,74	0,78	Modelling system's output	
	Geothermal and other renewables	GW	NE	NE	NE	NE	NE	NE	NE	NE		
	Other fuels (hydrogen, methanol)	GW	NE	NE	NE	NE	NE	NE	NE	NE		
	Installed capacity of stationary batteries	GWh	NE	NE	NE	NE	NE	NE	NE	NE		Might be significant by 2040, useful in view of the preparation of the next Reference Scenario, model calibration, and to monitor progress on NZIA objectives.
5	Heat generation from thermal power generation	GWhe	NE	NE	NE	NE	NE	NE	NE	NE		
6	Heat generation from combined heat and power plants, including industrial waste heat	GWhe	4077	4673	5267	5038	3726	3503	4553	4757	Modelling system's output	
7	Cross-border interconnection capacities for electricity [the level of electricity interconnectivity in line with Article 4(d)(1) and the relevant annex of the Energy Union Governance regulation] and their projected usage rates [note that such information may not be available in standard energy system models; complementary tools or assumptions might be needed]		NE	NE	NE	NE	NE	NE	NE	NE		
2.3. Transformation sector												
1	Fuel Inputs to Thermal Power Generation	ktoe	555	762	698	503	199	166	147	19	Sum of subheadings	
	Solids	ktoe	0	9	2	0	0	0	4	2	Modelling system's output	
	Oil	ktoe	14	5	0	0	17	31	4	6	Modelling system's output	
	Gas	ktoe	541	748	695	503	182	135	139	11	Modelling system's output	
2	Fuel Input to other conversion processes	ktoe	488	369	220	274	266	248	196	200	Modelling system's output	
2.4. Energy consumption												
1	Primary energy consumption	ktoe	4592	4657	4396	4386	4217	4115	4000	3828		In practice this is the PEC(2020-2030) indicator of Eurostat
1	Final energy consumption	ktoe	4021	4124	3794	3859	3907	3823	3678	3479	Sum of subheadings; w/o nonEnergy use	In practice this is the FEC(2020-2030) indicator of Eurostat
2	*by sector*											
	Industry	ktoe	699	775	790	872	880	882	879	870	Modelling system's output	
	Residential	ktoe	1505	1390	1106	1116	1006	953	936	880	Modelling system's output	
	Tertiary	ktoe	597	601	589	555	538	524	515	503	Modelling system's output	(Eurostat) Services?
	Transport	ktoe	1067	1201	1148	1105	1269	1216	1079	946	Modelling system's output; including International Aviation	
	Other	ktoe	152	156	162	211	214	248	268	281	Modelling system's output	(Eurostat) Fishing+Agriculture/Forestry+Others
	Number of heat pumps	Million Units	NE	NE	NE	NE	NE	NE	NE	NE		Useful in view of the preparation of the next Reference Scenario, model calibration, and to monitor progress on NZIA objectives.
	By transport activity, when available											
	Passenger transport	ktoe	534	616	571	589	599	597	514	420	Modelling system's output, Road transport	
	Freight transport	ktoe	385	390	391	421	487	423	327	276	Modelling system's output, Road transport	
	Batteries for Evs	GWh	NE	NE	NE	NE	NE	NE	NE	NE		Useful in view of the preparation of the next Reference Scenario, model calibration, and to monitor progress on NZIA objectives.
	Electrolysers	GW	NE	NE	NE	NE	NE	NE	NE	NE		Useful to monitor progress on NZIA objectives.
3	*by fuel*											
	Solids	ktoe	82	123	98	111	113	111	101	101	Modelling system's output	

		Unit	2005	2010	2015	2020	2025	2030	2035	2040	Comments MS	Comments Commission
	Oil	ktoe	1320	1446	1376	1343	1455	1341	1066	874	**Modelling system's output**	
	Gas	ktoe	508	499	317	324	251	201	199	181	**Modelling system's output**	
	Electricity	ktoe	493	535	556	561	587	654	722	765	**Modelling system's output**	
	Heat	ktoe	604	575	504	555	480	466	503	518	**Modelling system's output**	
	Renewable energy forms	ktoe	1014	946	942	965	1022	1050	1086	1040	**Modelling system's output**	
	Other	ktoe	NE	NE	NE	NE	0	0	0	0	**Modelling system's output**	
4	**Final non energy consumption**	**ktoe**	**97**	**73**	**113**	**97**	**59**	**45**	**45**	**44**	**Modelling system's output**	
5	**Primary energy intensity of the economy**	**toe/euro**	**0,0002**	**0,0002**	**0,0001**	**0,0001**	**0,0001**	**0,0001**	**0,0001**	**0,0001**	**Computed indicator; denominator - GDP**	
6	**Final energy intensity by sector**											
	Industry	toe/euro of value added	**0,0002**	**0,0003**	**0,0003**	**0,0002**	**0,0002**	**0,0002**	**0,0002**	**0,0001**	**Computed indicator**	Energy consumption of the sector and value added of the secto
	Residential	toe/euro of value added	**0,0001**	**0,0001**	**0,0001**	**0,0001**	**0,0000**	**0,0000**	**0,0000**	**0,0000**	**Computed indicator; denominator - total Disposable income of households**	Energy consumption of the sector and value added of the secto
	Tertiary	toe/euro of value added	**0,0000**	**0,0000**	**0,0000**	**0,0000**	**0,0000**	**0,0000**	**0,0000**	**0,0000**	**Computed indicator**	Energy consumption of the sector and value added of the secto
	Passenger transport	toe/million pkm	**33,70**	**40,04**	**34,50**	**35,42**	**40,84**	**38,73**	**32,15**	**25,50**		
	Freight transport	toe/million tkm	**45,06**	**36,86**	**26,61**	**30,75**	**32,27**	**26,79**	**19,96**	**16,31**		
2.5. Prices												
1	**Electricity prices by type of using sector (residential, industry, tertiary)**											
	residential	euro/MWh	NE	NE	NE	**NE**	**NE**	**NE**	**NE**	**NE**		
	industry	euro/MWh	NE	NE	NE	**NE**	**NE**	**NE**	**NE**	**NE**		
	tertiary	euro/ktoe	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
2	**National retail fuel prices (including taxes, per source and sector)**											
	Diesel oil	**euro/ktoe**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
	Industry	euro/ktoe	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
	Households	euro/ktoe	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
	Transport private	euro/ktoe	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
	Transport public	euro/ktoe	NE	NE	NE	**NE**	**NE**	**NE**	**NE**	**NE**		
	Gasoline	**euro/ktoe**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
	Transport private	euro/ktoe	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
	Transport public	euro/ktoe	NE	NE	NE	**NE**	**NE**	**NE**	**NE**	**NE**		
	Natural gas	**euro/ktoe**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
	Industry	euro/ktoe	NE	NE	NE	**NE**	**NE**	**NE**	**NE**	**NE**		
	Households	euro/ktoe	NE	NE	NE	**NE**	**NE**	**NE**	**NE**	**NE**		
2.6. Investments												
	Energy-related investment costs for overall economy	% of GDP	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		If possible a further disaggregated overview . The following categories could be used: energy generation, energy conversion, energy storage, energy transmission and distribution, energy use, energy efficiency, CCS/CCU. Additional to the desired NECPR Annex XIII' Progress towards financing' template.
	Energy related investmentts costs for Industry	% of value added	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
2.7. Renewables												
1	**Gross final consumption of energy from renewable sources and share of renewable energy in gross final energy consumption and by sector (electricity, heating and cooling, transport) and by technology**											
	RES in Gross Final Energy Consumption	**%**				**42,2%**	**46,3%**	**53,9%**	**60,7%**	**67,3%**	**Computed indicator**	In line with RED recast
	RES-H&C share	%	NE	NE	NE	NE	NE	NE	**NE**	**NE**		In line with RED recast
	RES-E share	%				49,7%	64,1%	88,1%	**86,0%**	**86,9%**	**Computed indicator**	In line with RED recast
	RES-T share	%				5,8%	6,5%	12,2%	**25,1%**	**35,6%**	**Computed indicator**	In line with RED recast (as per Art 25 (1))
	(final consumption of renewable energy in transport as contribution to overall target	%				**2,7%**	**2,6%**	**2,2%**	**1,5%**	**1,1%**	**Computed indicator**	In line with RED recast (as per Art 7 (4))

		Unit	2005	2010	2015	2020	2025	2030	2035	2040	Comments MS	Comments Commission
	Contribution of biofuels and biogas produced from feedstock listed in part A of Annex IX and consumed in transport	%	NE	NE	NE	NE	NE	NE	NE	NE		In line with RED recast
	Contribution of biofuels and biogas produced from feedstock listed in part B of Annex IX and consumed in transport	%	NE	NE	NE	NE	NE	NE	NE	NE		In line with RED recast
	Contribution from biofuels, bioliquids and biomass fuels consumed in transport, produced from food or feed crops	%				2,1%	2,0%	1,6%	1,0%	0,6%	Computed indicator	In line with RED recast
	Contribution of other biofuels and consumed in transport	%	NE	NE	NE	NE	NE	NE	NE	NE		In line with RED recast
	Contribution of renewable fuels of non-biological origin	%	NE	NE	NE	NE	NE	NE	NE	NE		
	Gross final consumption of RES for heating and cooling	ktoe				1326	1389	1409	1555	1637	Modelling system's output	
	Gross final consumption of electricity from RES	ktoe				314	433	671	718	765	Modelling system's output	
	Gross final consumption of energy from RES in transport	ktoe				45	49	46	34	26	Modelling system's output	
	Total Gross final consumption of RES	ktoe				1685	1871	2125	2307	2427	Sum of subheadings	
	Gross final consumption of waste heat and cold for heating and cooling	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		If applicable for H&C obligation
	Waste heat and cold share in gross final consumption for heating and cooling	%	NE	NE	NE	NE	NE	NE	NE	NE		If applicable for H&C obligation
	Gross final consumption of RES from district heating and cooling	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		In line with RED recast
	RES share from district heating and cooling in gross final consumption for heating and cooling	%	NE	NE	NE	NE	NE	NE	NE	NE		In line with RED recast
	Gross final consumption of waste heat and cold from district heating and cooling	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		In line with RED recast
	Waste heat and cold share from district heating and cooling in gross final consumption for heating and cooling	%	NE	NE	NE	NE	NE	NE	NE	NE		In line with RED recast
	Total final energy consumption (not gross final) in buildings	ktoe				1685	1560	1493	1467	1398	Modelling system's output	As per RED Article 15a
	Total Renewables final energy consumption (not gross final) in buildings	ktoe				979	906	925	1193	1169	Modelling system's output	As per RED Article 15a
	Total waste heat final energy consumption (not gross final) in buildings (N.B. waste heat cannot be part of Total final energy consumption indicator above)	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 15a
	Renewables-share in buildings including waste heat	%	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 15a
	Renewables-share in buildings excluding waste heat	%				58,1%	58,0%	62,0%	81,3%	83,7%	Computed indicator	As per RED Article 15a
	Total gross final energy consumption for energy and non-energy in industry	ktoe				947	920	907	905	897	Modelling system's output	As per RED Article 22a
	Total Renewables gross final energy consumption for energy and non-energy in industry	ktoe				546	676	717	786	790	Modelling system's output	As per RED Article 22a
	Total waste heat for energy and non-energy in industry (N.B. waste heat cannot be part of Total gross final energy consumption indicator above)	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 22a
	Total hydrogen for energy and non-energy in industry	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 22a
	Total RFNBO for energy and non-energy in industry	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 22a
	Renewables-share in industry	%				57,6%	73,5%	79,0%	86,8%	88,1%	Computed indicator	As per RED Article 22a
	Renewables-share in industry including waste heat	%	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 22a
	Renewables-share in industry excluding waste heat	%	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 22a
	Total gross final energy consumption in Heating and Cooling	ktoe				2290	2137	2045	2009	1935	Modelling system's output	As per RED Article 23
	Total renewables gross final energy consumption in Heating and Cooling	ktoe				1326	1389	1409	1555	1637	Modelling system's output	As per RED Article 23
	Total waste heat in Heating and Cooling (N.B. waste heat cannot be part of total gross final energy consumption indicator above)	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 23
	Total renewable electricity in Heating and Cooling (N.B. renewable electricity cannot be part of total gross final energy consumption indicator above)	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 23
	Renewables-share in Heating and Cooling	%				57,9%	65,0%	68,9%	77,4%	84,6%	Computed indicator	As per RED Article 23
	Renewables-share in Heating and Cooling including waste heat and/or renewable electricity	%	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 23
	Renewables-share in Heating and Cooling excluding waste heat and/or renewable electricity	%	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 23
	Total gross final energy consumption in District Heating and Cooling	ktoe				630	535	501	541	557	Modelling system's output	As per RED Article 24
	Total renewables gross final energy consumption in District Heating and Cooling	ktoe				356	348	337	435	555	Modelling system's output	As per RED Article 24
	Total waste heat in District Heating and Cooling (N.B. waste heat cannot be part of total gross final energy consumption indicator above)	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 24
	Total renewable electricity in District Heating and Cooling (N.B. renewable electricity cannot be part of total gross final energy consumption indicator)	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 24
	Renewables-share in District Heating and Cooling	%				56,5%	65,1%	67,2%	80,4%	99,7%	Computed indicator	As per RED Article 24
	Renewables-share in District Heating and Cooling including waste heat and/or renewable electricity	%	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 24
	Renewables-share in District Heating and Cooling excluding waste heat and/or renewable electricity	%	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 24

		Unit	2005	2010	2015	2020	2025	2030	2035	2040	Comments MS	Comments Commission
2	**Electricity and heat generation from renewable energy in buildings (as defined in Article 2(1) of Directive 2010/31/EU); this shall include, where available, disaggregated data on energy produced, consumed and injected into the grid by solar photovoltaic systems, solar thermal systems, biomass, heat pumps, geothermal systems, as well as all other decentralized renewables systems)**		NE	NE	NE	NE	NE	NE	NE	NE		Add additional rows if necessary
3	**If applicable, other national trajectories, including long-term or sectorial ones (the share of food-based and advanced biofuels, the share of renewable energy in district heating, as well as the renewable energy produced by cities and energy communities as defined by Article 22 of [recast of Directive 2009/28/EC as proposed by COM(2016) 767])**		NE	NE	NE	NE	NE	NE	NE	NE		Add additional rows if necessary
3. GHG emissions and removals related indicators												
1	**GHG emissions by policy sector (EU ETS, Effort Sharing Regulation and LULUCF)**	**tCO2eq**	**11.041.678**	**11.887.504**	**10.771.518**	**10.504.533**	**9.529.273**	**8.765.744**	**7.527.063**	**6.474.610**	**According to Latvia`s 2024 GHG inventory for 2005 - 2020**	
	ETS sector emissions (in ETS scope since 2013)	tCO2eq			2.312.538	2.021.990	1.330.804	1.255.956	1.149.434	835.713	According to Latvia`s 2024 GHG inventory for 2005 - 2020	
	Effort Sharing sector GHG emissions (in scope since 2013)	tCO2eq			8.457.273	8.481.229	8.193.812	7.504.915	6.372.546	5.633.622	According to Latvia`s 2024 GHG inventory for 2005 - 2020	
	LULUCF (accounted according to EU legislation requirements)	tCO2eq					2.146.716	2.909.775	2.733.043	3.794.246		
2	**GHG emissions by IPCC sector and by gas (where relevant split into EU ETS and Effort Sharing sectors).**	**tCO2eq**										
3	**Carbon intensity of the overall economy**	**tCO2eq/GDP**	**424**	**468**	**357**	**321**	**251**	**206**	**158**	**123**	**According to Latvia`s 2024 GHG inventory for 2005 - 2020**	
4	**CO2 emission related indicators**											
a	**GHG intensity of domestic power and heat generation**	**tCO2eq/MWh**	**0,15**	**0,15**	**0,14**	**0,10**	**0,06**	**0,05**	**0,03**	**0,01**	**Computed indicator**	
b	**GHG intensity of final energy consumption by sector**	**tCO2eq/toe**	**1,48**	**1,49**	**1,40**	**1,37**	**1,31**	**1,21**	**0,99**	**0,86**	**Computed indicator**	
	Industry	tCO2eq/toe	1,67	1,43	0,87	0,75	0,40	0,35	0,32	0,30	Computed indicator	
	Residential	tCO2eq/toe	0,46	0,55	0,51	0,50	0,54	0,45	0,35	0,26	Computed indicator	
	Tertiary	tCO2eq/toe	0,96	0,97	0,82	0,81	0,83	0,78	0,41	0,46	Computed indicator	
	Passenger tranport	tCO2eq/toe	NE	NE	NE	NE	NE	NE	NE	NE		
	Freight transport	tCO2eq/toe	NE	NE	NE	NE	NE	NE	NE	NE		
5	**Non-CO2 GHG emission related parameters**											
a	**Livestock**											
	dairy cattle	1000 heads	185	164	162	136	122	116	110	108		
	non-dairy cattle	1000 heads	200	215	257	263	249	241	234	233		
	pigs	1000 heads	428	390	334	307	266	268	263	260		
	sheep	1000 heads	42	77	102	92	90	90	90	90		
	poultry	1000 heads	4.092	4.949	4.532	5.838	5.886	5.896	5.905	5.911		
b	**Nitrogen input from application of synthetic fertilizers**	**kt nitrogen**	41	60	76	84	88	86	87	87		
c	**Nitrogen input from application of manure**	**kt nitrogen**	19	17	16	13	11	11	11	10		
d	**Nitrogen fixed by N-fixing crops**	**kt nitrogen**	NA	NA	NA	NA	NA	NA	NA	NA		
e	**Nitrogen in crop residues returned to soils**	**kt nitrogen**	18	20	32	36	42	41	40	39		
f	**Area of cultivated organic soils**	**hectares**	167	163	161	165	165	165	165	165		
g	**Municipal solid waste (MSW) generation**	**t**	716.000	680.140	798.060	773.995	904.387	912.748	921.185	900.000		
h	**Municipal solid waste (MSW) going to landfills**	**t**	610.900	605.400	503.900	494.351	330.000	270.000	270.000	270.000		
i	**Share of CH4 recovery in total CH4 generation from landfills**	**%**	4%	20%	32%	30%	26%	28%	28%	28%		

Reporting of used parameters and variables included in Annex 1, part 2, of the Energy Union Governance as agreed in trilogue

NECP target scenario

All parameters and variables highlighted in green are already currently requested under existing legislation (e.g MMR, RED Directive, or Energy Efficiency Directive), see e.g. http://cdr.eionet.europa.eu/help/mmr/MMR_projections_templates_2018.zip

All energy related parameters and variables highlighted in red might require to rely on complementary tools than standard energy system models, covering new requirements from the revised legislation

All variables highligted in orange correspond to indicators to be computed on the basis of parameters and variables already available elsewhere in the excel file

		Unit	2005	2010	2015	2020	2025	2030	2035	2040	Comments MS	Comments Commission
1. General parameters and variables												
1	Population	million	2,2	2,1	2,0	1,9	1,8	1,8	1,7	1,7	x-2022 - CSB; 2023-40 - Ministry of Economics; converted from 2015 prices by Price index (implicit deflator), EU's GDP at market prices (2015=1) = 1.22673	
2	GDP	EUR million	26060	25426	30143	32694	37940	42594	47672	52786	x-2022 - CSB; 2023-40 - Ministry of Economics; converted from 2015 prices by Price index (implicit deflator), EU's GDP at market prices (2015=1) = 1.22673	
3	Sectorial gross value added	EUR million	22857	22809	26514	28512	32917	36985	41431	45911	x-2022 - CSB; 2023-40 - Ministry of Economics; converted from 2015 prices by Price index (implicit deflator), EU's GDP at market prices (2015=1) = 1.22673	
	Agriculture	EUR million	854	882	1053	1195	1222	1336	1441	1535	x-2022 - CSB; 2023-40 - Ministry of Economics; converted from 2015 prices by Price index (implicit deflator), EU's GDP at market prices (2015=1) = 1.22673	
	Construction	EUR million	1832	1095	1605	1897	2157	2423	2732	3047	x-2022 - CSB; 2023-40 - Ministry of Economics; converted from 2015 prices by Price index (implicit deflator), EU's GDP at market prices (2015=1) = 1.22673	
	Services	EUR million	16774	17254	20097	20862	24489	27547	31004	34533	x-2022 - CSB; 2023-40 - Ministry of Economics; converted from 2015 prices by Price index (implicit deflator), EU's GDP at market prices (2015=1) = 1.22673	
	Energy Sector	EUR million	804	777	629	427	477	552	639	714	x-2022 - CSB; 2023-40 - Ministry of Economics; converted from 2015 prices by Price index (implicit deflator), EU's GDP at market prices (2015=1) = 1.22673	
	Industry	EUR million	3250	2852	3129	3857	4572	5126	5615	6082	x-2022 - CSB; 2023-40 - Ministry of Economics; converted from 2015 prices by Price index (implicit deflator), EU's GDP at market prices (2015=1) = 1.22673	
4	Number of households	million	0,9	0,8	0,8	0,8	0,8	0,8	0,8	0,8	x-2022 - CSB; 2023-40 - Calculation for modelling system	
5	Households size	inhabitants/household	2,5	2,5	2,5	2,3	2,2	2,2	2,1	2,1	Calculated value for modelling system	

		Unit	2005	2010	2015	2020	2025	2030	2035	2040	Comments MS	Comments Commission
6	**Disposable income of households (yearly)**	**EUR**	**16572**	**18491**	**21817**	**21832**	**25642**	**29550**	**33312**	**36737**	**x-2022 - CSB; 2023-40 - Ministry of Economics; converted from 2015 prices by Price index (implicit deflator), EU's GDP at market prices (2015=1) = 1.22673; Private consumption per Households**	**Please specify the definition applied**
7	**Number of passenger-kilometers**	**million pkm**	**18227**	**20262**	**21247**	**18643**	**21327**	**22350**	**23200**	**23932**	**Sum of subheadings**	
	Public road transport	million pkm	**3744**	**3064**	**3003**	**1865**	**1817**	**1779**	**1761**	**1762**	**x-2022 - CSB, EUROSTAT; 2023-40 - Calculated value for modelling system; Trams and Trolleybuses are included**	
	Private cars	million pkm	**12112**	**12312**	**13543**	**14774**	**12851**	**13638**	**14232**	**14707**	**x-2022 - EUROSTAT; 2022-40 - Calculated value for modelling system; Motorcycles are included**	
	Motorcycles	million pkm	**IE**	**IE**	**IE**	**IE**	**IE**	**IE**	**IE**	**IE**	**Included in Private cars**	
	Rail	million pkm	**894**	**749**	**591**	**413**	**618**	**613**	**614**	**622**	**x-2022 - CSB; 2023-40 - Calculated value for modelling system**	
	Aviation	million pkm	**1478**	**4136**	**4110**	**1591**	**6041**	**6320**	**6593**	**6841**	**x-2022 - CSB; 2023-40 - Calculated value for modelling system; International aviation**	
	Inland navigation	million pkm	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
8	**Freight transport tonnes-kilometres**	**million tkm**	**28326**	**27769**	**33596**	**21684**	**22778**	**23805**	**24770**	**25627**	**Sum of subheadings**	
	Trucks	million tkm	**8547**	**10590**	**14690**	**13705**	**15101**	**15773**	**16392**	**16933**	**x-2022 - CSB; 2023-40 - Calculated value for modelling system**	
	Rail	million tkm	**19779**	**17179**	**18906**	**7979**	**7677**	**8032**	**8378**	**8694**	**x-2022 - CSB; 2023-40 - Calculated value for modelling system**	
	Inland navigation	million tkm	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
9	**International Fuel prices**	**EUR/GJ or EUR/toe**										**Please specify if Commission's proposal or other source was applied and in the latter case specify methodology**
	Oil	EUR/GJ or EUR/toe	**11**	**15**	**9**	**7,5**	**12,2**	**13,6**	**15,1**	**15,5**	**Used EC recommended prices growth rates; EUR/GJ**	**Please specify if Commission's proposal or other source was applied and in the latter case specify methodology**
	Gas (NCV)	EUR/GJ or EUR/toe	**3**	**9**	**9**	**2,9**	**13,3**	**9,6**	**9,3**	**9,5**	**Used EC recommended prices (Gas min) growth rates; EUR/GJ**	**Please specify if Commission's proposal or other source was applied and in the latter case specify methodology**
	Coal	EUR/GJ or EUR/toe	**3**	**3**	**4**	**3,2**	**6,1**	**6,0**	**5,7**	**5,7**	**Used EC recommended prices growth rates; EUR/GJ**	**Please specify if Commission's proposal or other source was applied and in the latter case specify methodology**
10	**Carbon price ETS sectors**	**EUR/ ton CO2**	**31**	**18**	**9**	**28**	**93**	**93**	**137**	**285**	**EC recommended**	**Please specify if Commission's proposal or other source was applied and in the latter case specify methodology**
11	**Exchange rate to EUR and to US dollar**	**EUR/currency and/or USD/currency**	**1**	**1**	**1**	**1**	**NE**	**NE**	**NE**	**NE**	**x-2023 - EUROSTAT**	
12	**Heating degree days**		**4181**	**4636**	**3657**	**3404**	**3847**	**3790**	**3733**	**3677**	**x-2023 - EUROSTAT; 2024-40 - Calculated value for modelling system**	**Please specify if Commission's proposal or other source was applied and in the latter case specify methodology**
13	**Cooling degree days**		**0**	**49**	**4**	**2**	**15**	**17**	**19**	**21**	**x-2023 - EUROSTAT; 2024-40 - Calculated value for modelling system**	**Please specify if Commission's proposal or other source was applied and in the latter case specify methodology**
14	**Technology cost assumptions (see https://climate.ec.europa.eu/eu-action/climate-strategies-targets/2040-climate-target_en for technology cost assumptions as used in 2040 Climate Target Plan for suggestions on what could be relevant to report**		**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		**Please specify if Commission's proposal or other source was applied and in the latter case specify methodology**
2. energy balances and indicators												
2.1 energy supply												
1	**Production (incl.recovery of products)**	**ktoe**	**1869**	**1980**	**2347**	**2735**	**1655**	**1964**	**2349**	**2527**	**Sum of subheadings**	
	Solids	ktoe	7	13	8	26	34	36	33	33	**Modelling system's output**	

		Unit	2005	2010	2015	2020	2025	2030	2035	2040	Comments MS	Comments Commission
	Oil	ktoe	7	2	7	25	26	26	26	26	**Modelling system's output**	
	Natural gas	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		
	Nuclear	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		
	Renewable energy sources	ktoe	**1847**	**1952**	**2244**	**2604**	**1515**	**1854**	**2245**	**2426**	Modelling system's output	
	Biogases	ktoe	**8**	**13**	**88**	**80**	**79**	**47**	**45**	**43**	Modelling system's output	please, indicate what is the projection to produce biogas (primary production), regardless on its end-use
	- out of which, injected in the natural gas grid	bcm	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		indicate quantity of biomethane injected in grid as in Energy Balances [TI_BNG_E] Transformation input - for blending with natural gas - energy use; 1 ktoe = 1.15 million m3
2	**Net Imports (ktoe)**	**ktoe**	**3370**	**2557**	**2778**	**2651**	**2074**	**1574**	**1097**	**755**	**Sum of subheadings**	
	Solids	ktoe	81	132	86	79	81	81	74	69	**Modelling system's output**	
	Oil	ktoe	1670	1444	1449	1518	1326	1225	877	676	Modelling system's output	
	Natural gas	ktoe	1435	905	1086	914	505	384	361	166	**Modelling system's output**	
	Electricity	ktoe	185	75	157	140	162	-115	-214	-156	**Modelling system's output**	
3	**Import Dependency**	**%**	**69,4%**	**64,3%**	**63,4%**	**57,5%**	**48,6%**	**38,6%**	**27,5%**	**19,6%**	**Computed indicator; included net import of biomass**	
4	**Main import sources for energy carriers**											
	Main country (please specify here) of origin of Electricity Purchases	**% of total imports**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
	1st main country (please specify here) of origin of Gas Purchases	**% of total imports**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
	2nd main country (please specify here) of origin of Gas Purchases	**% of total imports**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
	3rd main country (please specify here) of origin of Gas Purchases	**% of total imports**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		If more countries to be reported please add rows
5	**Gross Inland Consumption**	**ktoe**	**4592**	**4657**	**4396**	**4386**	**4270**	**4073**	**3993**	**3862**	**Sum of subheadings**	
	Solids	ktoe	85	110	47	24	14	16	6	1	Modelling system's output	
	Oil	ktoe	1476	1543	1497	1447	1352	1251	903	702	**Modelling system's output**	
	Natural gas	ktoe	1359	1465	1102	913	505	384	361	166	**Modelling system's output**	
	Nuclear	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		
	Electricity	ktoe	185	75	157	140	162	-115	-214	-156	**Modelling system's output**	
	Renewable energy forms	ktoe	1483	1435	1538	1774	2136	2437	2837	3048	**Modelling system's output**	
	Other - waste	ktoe	4	28	55	88	101	101	101	101	**Modelling system's output**	
2.2. Electricity and heat												
1	**Gross electricity generation**	**GWhe**	**4906**	**6628**	**5533**	**5725**	**6224**	**10572**	**13489**	**13668**	**Sum of subheadings**	
2	**By fuel**											
	Nuclear energy	GWhe	NE	NE	NE	NE	NE	NE	NE	NE		
	Solids	GWhe	0	2	0	0	0	0	14	0	**Modelling system's output**	
	Oil (including refinery gas)	GWhe	6	2	1	0	18	23	7	18	**Modelling system's output**	
	Gas (including derived gases)	GWhe	1486	2988	2756	2075	611	452	425	7	**Modelling system's output**	
	Biomass-waste	GWhe	41	66	769	865	893	667	877	1304	**Modelling system's output**	
	Hydro (pumping excluded)	GWhe	3326	3521	1860	2603	3039	3170	3170	3170	**Modelling system's output**	
	Wind	GWhe	47	49	147	177	366	4281	6923	7003	**Modelling system's output**	
	Solar	GWhe	0	0	0	5	1297	1979	2071	2165	**Modelling system's output**	
	Geothermal and other renewables	GWhe	NE	NE	NE	NE	NE	NE	NE	NE		
	Other fuels (hydrogen, methanol)	GWhe	NE	NE	NE	NE	NE	NE	NE	NE		
3	**Share of power generation from combined heat and power generation in total electricity generation (CHP electricity generation divided by the total gross electricity generation, including the generation in pumped storage power stations**	**%**	31,2%	46,1%	63,7%	51,4%	24,5%	10,8%	9,8%	9,7%	**Computed indicator**	
	Share of heat generation from combined heat and power generation in total heat generation (CHP heat generation divided by the total heat for district heating)	**%**	**47,1%**	**58,7%**	**74,5%**	**67,2%**	**58,7%**	**59,8%**	**67,0%**	**69,8%**	**Computed indicator**	
4	**Capacity electricity generation including retirements and new investments** [note: split between retirements and new investments may not be straightforward to obtain with standard models. Complementary assumptions may need to be made]	**GW**	**2,2**	**2,6**	**2,9**	**2,9**	**4,1**	**5,8**	**6,1**	**5,8**	**Sum of subheadings**	

		Unit	2005	2010	2015	2020	2025	2030	2035	2040	Comments MS	Comments Commission
	Nuclear energy	GW	NE	NE	NE	NE	NE	NE	NE	NE		
	Solids	GW	0,0	0,0	0,00	0,00	0,00	0,00	0,02	0,00	Modelling system's output	
	Oil (including refinery gas)	GW	0,0	0,0	0,00	0,00	0,02	0,03	0,01	0,02	Modelling system's output	
	Gas (including derived gases)	GW	0,6	0,9	1,15	1,12	1,09	1,07	0,46	0,01	Modelling system's output	
	Biomass-waste	GW	0,0	0,0	0,07	0,10	0,13	0,14	0,16	0,23	Modelling system's output	
	Biogases	GW	0,0	0,0	0,06	0,06	0,05	0,00	0,00	0,00	Modelling system's output	
	Hydro (pumping excluded)	GW	1,5	1,6	1,59	1,59	1,59	1,66	1,66	1,66	Modelling system's output	
	Wind	GW	0,0	0,0	0,07	0,08	0,16	1,31	2,11	2,11	Modelling system's output	
	Solar	GW	0,0	0,0	0,0	0,0	1,1	1,6	2	2	Modelling system's output	
	Geothermal and other renewables	GW	NE	NE	NE	NE	NE	NE	NE	NE		
	Other fuels (hydrogen, methanol)	GW	NE	NE	NE	NE	NE	NE	NE	NE		
	Installed capacity of stationary batteries	GWh	NE	NE	NE	NE	NE	NE	NE	NE		Might be significant by 2040, useful in view of the preparation of the next Reference Scenario, model calibration, and to monitor progress on NZIA objectives.
5	Heat generation from thermal power generation	GWhe	NE	NE	NE	NE	NE	NE	NE	NE		
6	Heat generation from combined heat and power plants, including industrial waste heat	GWhe	4077	4673	5267	5038	3726	3493	3865	4009	Modelling system's output	
7	Cross-border interconnection capacities for electricity [the level of electricity interconnectivity in line with Article 4(d)(1) and the relevant annex of the Energy Union Governance regulation] and their projected usage rates [note that such information may not be available in standard energy system models; complementary tools or assumptions might be needed]		NE	NE	NE	NE	NE	NE	NE	NE		
2.3. Transformation sector												
1	Fuel Inputs to Thermal Power Generation	ktoe	555	762	698	503	200	166	147	13	Sum of subheadings	
	Solids	ktoe	0	9	2	0	0	0	3	0	Modelling system's output	
	Oil	ktoe	14	5	0	0	17	31	4	4	Modelling system's output	
	Gas	ktoe	541	748	695	503	183	135	139	9	Modelling system's output	
2	Fuel Input to other conversion processes	ktoe	488	369	220	274	266	237	195	183	Modelling system's output	
2.4. Energy consumption												
1	Primary energy consumption	ktoe	4592	4657	4396	4386	4227	4030	3950	3822		In practice this is the PEC(2020-2030) indicator of Eurostat
1	Final energy consumption	ktoe	4021	4124	3794	3859	3811	3638	3494	3331	Sum of subheadings; w/o nonEnergy use	In practice this is the FEC(2020-2030) indicator of Eurostat
2	*by sector*											
	Industry	ktoe	699	775	790	872	864	814	825	832	Modelling system's output	
	Residential	ktoe	1505	1390	1106	1116	1006	939	930	870	Modelling system's output	
	Tertiary	ktoe	597	601	589	555	533	503	493	482	Modelling system's output	(Eurostat) Services?
	Transport	ktoe	1067	1201	1148	1105	1184	1134	977	865	Modelling system's output; including International Aviation	
	Other	ktoe	152	156	162	211	224	248	268	283	Modelling system's output	(Eurostat) Fishing+Agriculture/Forestry+Others
	Number of heat pumps	Million Units	NE	NE	NE	NE	NE	NE	NE	NE		Useful in view of the preparation of the next Reference Scenario, model calibration, and to monitor progress on NZIA objectives.
	By transport activity, when available											
	Passenger transport	ktoe	534	616	571	589	575	548	454	361	Modelling system's output, Road transport	
	Freight transport	ktoe	385	390	391	421	430	392	315	291	Modelling system's output, Road transport	
	Batteries for Evs	GWh	NE	NE	NE	NE	NE	NE	NE	NE		Useful in view of the preparation of the next Reference Scenario, model calibration, and to monitor progress on NZIA objectives.
	Electrolysers	GW	NE	NE	NE	NE	NE	NE	NE	NE		Useful to monitor progress on NZIA objectives.
3	*by fuel*											
	Solids	ktoe	82	123	98	111	113	111	101	101	Modelling system's output	

		Unit	2005	2010	2015	2020	2025	2030	2035	2040	Comments MS	Comments Commission
	Oil	ktoe	1320	1446	1376	1343	1270	1163	852	646	**Modelling system's output**	
	Gas	ktoe	508	499	317	324	248	183	182	139	**Modelling system's output**	
	Electricity	ktoe	493	535	556	561	593	663	785	853	**Modelling system's output**	
	Heat	ktoe	604	575	504	555	480	458	453	451	**Modelling system's output**	
	Renewable energy forms	ktoe	1014	946	942	965	1113	1063	1135	1151	**Modelling system's output**	
	Other	ktoe	NE	NE	NE	NE	1	7	19	36	**Modelling system's output**	
4	**Final non energy consumption**	**ktoe**	**97**	**73**	**113**	**97**	**130**	**273**	**330**	**400**	**Modelling system's output**	
5	**Primary energy intensity of the economy**	**toe/euro**	**0,0002**	**0,0002**	**0,0001**	**0,0001**	**0,0001**	**0,0001**	**0,0001**	**0,0001**	**Computed indicator; denominator - GDP**	
6	**Final energy intensity by sector**											
	Industry	toe/euro of value added	**0,0002**	**0,0003**	**0,0003**	**0,0002**	**0,0002**	**0,0002**	**0,0001**	**0,0001**	**Computed indicator**	Energy consumption of the sector and value added of the secto
	Residential	toe/euro of value added	**0,0001**	**0,0001**	**0,0001**	**0,0001**	**0,00005**	**0,00004**	**0,00003**	**0,00003**	**Computed indicator; denominator - total Disposable income of households**	Energy consumption of the sector and value added of the secto
	Tertiary	toe/euro of value added	**0,00004**	**0,00003**	**0,00003**	**0,00003**	**0,00002**	**0,00002**	**0,00002**	**0,00001**	**Computed indicator**	Energy consumption of the sector and value added of the secto
	Passenger transport	toe/million pkm	**34**	**40**	**34,5**	**35,4**	**39,2**	**35,5**	**28,4**	**21,9**		
	Freight transport	toe/million tkm	**45**	**37**	**26,6**	**30,7**	**28,5**	**24,9**	**19,2**	**17,2**		
2.5. Prices												
1	**Electricity prices by type of using sector (residential, industry, tertiary)**											
	residential	euro/MWh	NE	NE	NE	**NE**	**NE**	**NE**	**NE**	**NE**		
	industry	euro/MWh	NE	NE	NE	**NE**	**NE**	**NE**	**NE**	**NE**		
	tertiary	euro/ktoe	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
2	**National retail fuel prices (including taxes, per source and sector)**											
	Diesel oil	**euro/ktoe**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
	Industry	euro/ktoe	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
	Households	euro/ktoe	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
	Transport private	euro/ktoe	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
	Transport public	euro/ktoe	NE	NE	NE	**NE**	**NE**	**NE**	**NE**	**NE**		
	Gasoline	**euro/ktoe**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
	Transport private	euro/ktoe	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
	Transport public	euro/ktoe	NE	NE	NE	**NE**	**NE**	**NE**	**NE**	**NE**		
	Natural gas	**euro/ktoe**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
	Industry	euro/ktoe	NE	NE	NE	**NE**	**NE**	**NE**	**NE**	**NE**		
	Households	euro/ktoe	NE	NE	NE	**NE**	**NE**	**NE**	**NE**	**NE**		
2.6. Investments												
	Energy-related investment costs for overall economy	% of GDP	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		If possible a further disaggregated overview . The following categories could be used: energy generation, energy conversion, energy storage, energy transmission and distribution, energy use, energy efficiency, CCS/CCU. Additional to the desired NECPR Annex XIII' Progress towards financing' template.
	Energy related investmentts costs for Industry	% of value added	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**		
2.7. Renewables												
1	**Gross final consumption of energy from renewable sources and share of renewable energy in gross final energy consumption and by sector (electricity, heating and cooling, transport) and by technology**											
	RES in Gross Final Energy Consumption	**%**				**42,2%**	**50,9%**	**62,0%**	**74,2%**	**82,7%**	**Computed indicator**	In line with RED recast
	RES-H&C share	%	NE	NE	NE	NE	NE	NE	**NE**	**NE**		In line with RED recast
	RES-E share	%				49,7%	69,0%	109,4%	**118,6%**	**115,1%**	**Computed indicator**	In line with RED recast
	RES-T share	%				5,8%	25,8%	30,3%	**48,8%**	**61,0%**	**Computed indicator**	In line with RED recast (as per Art 25 (1))
	(final consumption of renewable energy in transport as contribution to overall target	%				**2,7%**	**7,7%**	**6,2%**	**6,8%**	**6,5%**	**Computed indicator**	In line with RED recast (as per Art 7 (4))

		Unit	2005	2010	2015	2020	2025	2030	2035	2040	Comments MS	Comments Commission
	Contribution of biofuels and biogas produced from feedstock listed in part A of Annex IX and consumed in transport	%	NE	NE	NE	NE	NE	NE	NE	NE		In line with RED recast
	Contribution of biofuels and biogas produced from feedstock listed in part B of Annex IX and consumed in transport	%	NE	NE	NE	NE	NE	NE	NE	NE		In line with RED recast
	Contribution from biofuels, bioliquids and biomass fuels consumed in transport, produced from food or feed crops	%				2,1%	0,3%	0,4%	1,2%	1,3%	Computed indicator	In line with RED recast
	Contribution of other biofuels and consumed in transport	%	NE	NE	NE	NE	NE	NE	NE	NE		In line with RED recast
	Contribution of renewable fuels of non-biological origin	%	NE	NE	NE	NE	NE	NE	NE	NE		
	Gross final consumption of RES for heating and cooling	ktoe				1326	1382	1324	1397	1514	Modelling system's output	
	Gross final consumption of electricity from RES	ktoe				314	481	869	1122	1174	Modelling system's output	
	Gross final consumption of energy from RES in transport	ktoe				45	155	144	183	188	Modelling system's output	
	Total Gross final consumption of RES	ktoe				1685	2019	2337	2702	2875	Sum of subheadings	
	Gross final consumption of waste heat and cold for heating and cooling	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		If applicable for H&C obligation
	Waste heat and cold share in gross final consumption for heating and cooling	%	NE	NE	NE	NE	NE	NE	NE	NE		If applicable for H&C obligation
	Gross final consumption of RES from district heating and cooling	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		In line with RED recast
	RES share from district heating and cooling in gross final consumption for heating and cooling	%	NE	NE	NE	NE	NE	NE	NE	NE		In line with RED recast
	Gross final consumption of waste heat and cold from district heating and cooling	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		In line with RED recast
	Waste heat and cold share from district heating and cooling in gross final consumption for heating and cooling	%	NE	NE	NE	NE	NE	NE	NE	NE		In line with RED recast
	Total final energy consumption (not gross final) in buildings	ktoe				1685	1555	1459	1438	1375	Modelling system's output	As per RED Article 15a
	Total Renewables final energy consumption (not gross final) in buildings	ktoe				979	898	898	1162	1185	Modelling system's output	As per RED Article 15a
	Total waste heat final energy consumption (not gross final) in buildings (N.B. waste heat cannot be part of Total final energy consumption indicator above)	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 15a
	Renewables-share in buildings including waste heat	%	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 15a
	Renewables-share in buildings excluding waste heat	%				58,1%	57,7%	61,5%	80,8%	86,2%	Computed indicator	As per RED Article 15a
	Total gross final energy consumption for energy and non-energy in industry	ktoe				947	888	837	850	857	Modelling system's output	As per RED Article 22a
	Total Renewables gross final energy consumption for energy and non-energy in industry	ktoe				546	666	654	732	751	Modelling system's output	As per RED Article 22a
	Total waste heat for energy and non-energy in industry (N.B. waste heat cannot be part of Total gross final energy consumption indicator above)	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 22a
	Total hydrogen for energy and non-energy in industry	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 22a
	Total RFNBO for energy and non-energy in industry	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 22a
	Renewables-share in industry	%				57,6%	74,9%	78,1%	86,1%	87,6%	Computed indicator	As per RED Article 22a
	Renewables-share in industry including waste heat	%	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 22a
	Renewables-share in industry excluding waste heat	%	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 22a
	Total gross final energy consumption in Heating and Cooling	ktoe				2290	2131	1942	1868	1787	Modelling system's output	As per RED Article 23
	Total renewables gross final energy consumption in Heating and Cooling	ktoe				1326	1382	1324	1397	1514	Modelling system's output	As per RED Article 23
	Total waste heat in Heating and Cooling (N.B. waste heat cannot be part of total gross final energy consumption indicator above)	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 23
	Total renewable electricity in Heating and Cooling (N.B. renewable electricity cannot be part of total gross final energy consumption indicator above)	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 23
	Renewables-share in Heating and Cooling	%				57,9%	64,9%	68,2%	74,8%	84,7%	Computed indicator	As per RED Article 23
	Renewables-share in Heating and Cooling including waste heat and/or renewable electricity	%	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 23
	Renewables-share in Heating and Cooling excluding waste heat and/or renewable electricity	%	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 23
	Total gross final energy consumption in District Heating and Cooling	ktoe				630	535	493	488	485	Modelling system's output	As per RED Article 24
	Total renewables gross final energy consumption in District Heating and Cooling	ktoe				356	357	337	378	484	Modelling system's output	As per RED Article 24
	Total waste heat in District Heating and Cooling (N.B. waste heat cannot be part of total gross final energy consumption indicator above)	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 24
	Total renewable electricity in District Heating and Cooling (N.B. renewable electricity cannot be part of total gross final energy consumption indicator)	ktoe	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 24
	Renewables-share in District Heating and Cooling	%				56,5%	66,6%	68,4%	77,6%	99,7%	Computed indicator	As per RED Article 24
	Renewables-share in District Heating and Cooling including waste heat and/or renewable electricity	%	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 24
	Renewables-share in District Heating and Cooling excluding waste heat and/or renewable electricity	%	NE	NE	NE	NE	NE	NE	NE	NE		As per RED Article 24

		Unit	2005	2010	2015	2020	2025	2030	2035	2040	Comments MS	Comments Commission
2	**Electricity and heat generation from renewable energy in buildings (as defined in Article 2(1) of Directive 2010/31/EU); this shall include, where available, disaggregated data on energy produced, consumed and injected into the grid by solar photovoltaic systems, solar thermal systems, biomass, heat pumps, geothermal systems, as well as all other decentralized renewables systems)**		NE	NE	NE	NE	NE	NE	NE	NE		Add additional rows if necessary
3	**If applicable, other national trajectories, including long-term or sectorial ones (the share of food-based and advanced biofuels, the share of renewable energy in district heating, as well as the renewable energy produced by cities and energy communities as defined by Article 22 of [recast of Directive 2009/28/EC as proposed by COM(2016) 767])**		NE	NE	NE	NE	NE	NE	NE	NE		Add additional rows if necessary
3. GHG emissions and removals related indicators												
1	**GHG emissions by policy sector (EU ETS, Effort Sharing Regulation and LULUCF)**	**tCO2eq**	**11.041.678**	**11.887.504**	**10.771.518**	**10.504.533**	**8.989.031**	**8.095.644**	**6.671.167**	**5.442.387**	**According to Latvia`s 2024 GHG inventory for 2005 - 2020**	
	ETS sector emissions (in ETS scope since 2013)	tCO2eq			2.312.538	2.021.990	1.330.759	1.256.340	1.148.878	833.228	According to Latvia`s 2024 GHG inventory for 2005 - 2020	
	Effort Sharing sector GHG emissions (in scope since 2013)	tCO2eq			8.457.273	8.481.229	7.653.801	6.834.547	5.517.206	4.603.885	According to Latvia`s 2024 GHG inventory for 2005 - 2020	
	LULUCF (accounted according to EU legislation requirements)	tCO2eq					1.783.568	-2.435.976	-1.056.209	-1.650.633		
2	**GHG emissions by IPCC sector and by gas (where relevant split into EU ETS and Effort Sharing sectors).**	**tCO2eq**										
3	**Carbon intensity of the overall economy**	**tCO2eq/GDP**	**424**	**468**	**357**	**321**	**237**	**190**	**140**	**103**	**According to Latvia`s 2024 GHG inventory for 2005 - 2020**	
4	**CO2 emission related indicators**											
a	**GHG intensity of domestic power and heat generation**	**tCO2eq/MWh**	**0,15**	**0,15**	**0,14**	**0,10**	**0,06**	**0,04**	**0,03**	**0,01**	**Computed indicator**	
b	**GHG intensity of final energy consumption by sector**	**tCO2eq/toe**	**1,48**	**1,49**	**1,40**	**1,37**	**1,19**	**1,10**	**0,82**	**0,63**	**Computed indicator**	
	Industry	tCO2eq/toe	1,67	1,43	0,87	0,75	0,38	0,35	0,34	0,31	Computed indicator	
	Residential	tCO2eq/toe	0,46	0,55	0,51	0,50	0,55	0,47	0,35	0,22	Computed indicator	
	Tertiary	tCO2eq/toe	0,96	0,97	0,82	0,81	0,84	0,77	0,49	0,36	Computed indicator	
	Passenger tranport	tCO2eq/toe	NE	NE	NE	NE	NE	NE	NE	NE		
	Freight transport	tCO2eq/toe	NE	NE	NE	NE	NE	NE	NE	NE		
5	**Non-CO2 GHG emission related parameters**											
a	**Livestock**											
	dairy cattle	1000 heads	185	164	162	136	122	116	110	108		
	non-dairy cattle	1000 heads	200	215	257	263	249	241	234	233		
	pigs	1000 heads	428	390	334	307	266	268	263	260		
	sheep	1000 heads	42	77	102	92	90	90	90	90		
	poultry	1000 heads	4.092	4.949	4.532	5.838	5.886	5.896	5.905	5.911		
b	**Nitrogen input from application of synthetic fertilizers**	**kt nitrogen**	41	60	76	84	88	86	87	87		
c	**Nitrogen input from application of manure**	**kt nitrogen**	19	17	16	13	11	11	11	10		
d	**Nitrogen fixed by N-fixing crops**	**kt nitrogen**	NA	NA	NA	NA	NA	NA	NA	NA		
e	**Nitrogen in crop residues returned to soils**	**kt nitrogen**	18	20	32	36	42	41	40	39		
f	**Area of cultivated organic soils**	**hectares**	167	163	161	165	165	125	125	125		
g	**Municipal solid waste (MSW) generation**	**t**	716.000	680.140	798.060	773.995	904.387	912.748	921.185	700.000		
h	**Municipal solid waste (MSW) going to landfills**	**t**	610.900	605.400	503.900	494.351	330.000	220.000	92.118	50.000		
i	**Share of CH4 recovery in total CH4 generation from landfills**	**%**	4%	20%	32%	30%	26%	28%	28%	32%		