



EECS Rules Fact Sheet 5

TYPES OF ENERGY INPUTS AND TECHNOLOGIES

The attached tables set out the permissible energy inputs and technologies.

Document Reference	AIB-EECS-FS05
Version number	2
Issue	Release 7.6
Date of Issue	20 th February 2019
Reason for Issue	Addition of valid combinations of T & F codes
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TYPES OF ENERGY INPUTS AND TECHNOLOGIES

TECHNOLOGY

Level 1		Level 2		Level 3				
Code	Description	Code	Description	Code	Description	Full code		
01	Solar	00	Unspecified	00	Unspecified	T010000		
		01	Photovoltaic	00	Unspecified	T010100		
				01	Classic silicon	T010101		
				02	Thin film	T010102		
02	Concentration	00	Unspecified	T010200				
02	Wind	00	Unspecified	00	Unspecified	T020000		
				01	Onshore	T020001		
				02	Offshore	T020002		
03	Hydro-electric head installations	00	Unspecified	00	Unspecified	T030000		
				01	Run-of-river head installation	00	Unspecified	T030100
				02	Storage head installation	00	Unspecified	T030200
				03	Pure pumped storage head installation	00	Unspecified	T030300
				04	Mixed pumped storage head	00	Unspecified	T030400
04	Marine	00	Unspecified	00	Unspecified	T040000		
				01	Tidal	00	Unspecified	T040100
						01	Onshore	T040101
						02	Offshore	T040102
				02	Wave	00	Unspecified	T040200
						01	Onshore	T040201
						02	Offshore	T040202
				03	Currents	00	Unspecified	T040300
				04	Pressure	00	Unspecified	T040400
				05	Thermal	00	Unspecified	00
01	Combined cycle gas turbine with heat recovery	00	Unspecified					T050100
		01	Non CHP					T050101
		02	CHP					T050102
02	Steam turbine with back-pressure turbine (open cycle)	00	Unspecified					T050200
		01	Non CHP					T050201
02	CHP	T050202						
03	Steam turbine with condensation turbine (closed cycle)	00	Unspecified					T050300
		01	Non CHP					T050301
02	CHP	T050302						
04	Gas turbine with heat recovery	00	Unspecified					T050400
		01	Non CHP					T050401
		02	CHP					T050402

TYPES OF ENERGY INPUTS AND TECHNOLOGIES

Level 1		Level 2		Level 3		
Code	Description	Code	Description	Code	Description	Full code
		05	Internal combustion engine	00	Unspecified	T050500
				01	Non CHP	T050501
				02	CHP	T050502
		06	Micro-turbine	00	Unspecified	T050600
				01	Non CHP	T050601
				02	CHP	T050602
		07	Stirling engine	00	Unspecified	T050700
				01	Non CHP	T050701
				02	CHP	T050702
		08	Fuel cell	00	Unspecified	T050800
				01	Non CHP	T050801
				02	CHP	T050802
		09	Steam engine	00	Unspecified	T050900
				01	Non CHP	T050901
				02	CHP	T050902
10	Organic rankine cycle	00	Unspecified	T051000		
		01	Non CHP	T051001		
		02	CHP	T051002		
06	Nuclear	00	Unspecified	00	Unspecified	T060000
		01	Heavy-water reactor	00	Unspecified	T060100
		02	Light water reactor	00	Unspecified	T060200
		03	Breeder	00	Unspecified	T060300
		04	Graphite reactor	00	Unspecified	T060400
07	Other	00	Unspecified	00	Unspecified	T070000

TYPES OF ENERGY INPUTS AND TECHNOLOGIES

FUEL (or heat source)

Level 1		Level 2		Level 3		Level 4		Full code	CO2 Kg/GJ ¹				
Code	Description	Code	Description	Code	Description	Code	Description						
00	Unspecified	00	Unspecified	00	Unspecified	00	Unspecified	F00000000	0				
01	Renewable	00	Unspecified	00	Unspecified	00	Unspecified	F01000000	0				
		01	Solid	00	Unspecified	00	Unspecified	00	Unspecified	F01010000	0		
				01	Municipal waste	01	Biogenic	01	Biogenic	F01010101	0		
				02	Industrial and commercial waste	01	Biogenic	01	Biogenic	F01010201	0		
				03	Wood	00	Unspecified	00	Unspecified	00	Unspecified	F01010300	0
						01	Forestry products	01	Forestry products	01	Forestry products	F01010301	0
						02	Forestry by-products & waste	02	Forestry by-products & waste	02	Forestry by-products & waste	F01010302	0
				04	Animal fats	00	Unspecified	00	Unspecified	F01010400	0		
				05	Biomass from agriculture	00	Unspecified	00	Unspecified	00	Unspecified	F01010500	0
						01	Agricultural products	01	Agricultural products	01	Agricultural products	F01010501	0
						02	Agricultural by-products & waste	02	Agricultural by-products & waste	02	Agricultural by-products & waste	F01010502	0
		02	Liquid	00	Unspecified	00	Unspecified	00	Unspecified	F01020000	0		
				01	Municipal biodegradable waste	00	Unspecified	00	Unspecified	F01020100	0		
				02	Black liquor	00	Unspecified	00	Unspecified	F01020200	0		
				03	Pure plant oil	00	Unspecified	00	Unspecified	00	Unspecified	F01020300	0
						01	Rapeseed (Brassica napus L.)	01	Rapeseed (Brassica napus L.)	01	Rapeseed (Brassica napus L.)	F01020301	0
						02	Sunflower (Helianthus annuus L.)	02	Sunflower (Helianthus annuus L.)	02	Sunflower (Helianthus annuus L.)	F01020302	0
						03	Oil palm (Elaeis guineensis Jacq.)	03	Oil palm (Elaeis guineensis Jacq.)	03	Oil palm (Elaeis guineensis Jacq.)	F01020303	0
						04	Coconut (Cocos nucifera L.)	04	Coconut (Cocos nucifera L.)	04	Coconut (Cocos nucifera L.)	F01020304	0
						05	Jatropha	05	Jatropha	05	Jatropha	F01020305	0
				04	Waste plant oil	00	Unspecified	00	Unspecified	F01020400	0		
				05	Refined vegetable oil	00	Unspecified	00	Unspecified	00	Unspecified	F01020500	0
						01	Biodiesel (mono-alkyl ester)	01	Biodiesel (mono-alkyl ester)	01	Biodiesel (mono-alkyl ester)	F01020501	0
						02	Biogasoline (C6-C12 hydrocarbon)	02	Biogasoline (C6-C12 hydrocarbon)	02	Biogasoline (C6-C12 hydrocarbon)	F01020502	0.0
		03	Gaseous	00	Unspecified	00	Unspecified	00	Unspecified	F01030000	0.0		
				01	Landfill gas	00	Unspecified	00	Unspecified	F01030100	0.0		

¹ This reflects the IPCC statistics where these exist for an energy source, and otherwise the Dutch table of standard CO2 emission factors for energy production

TYPES OF ENERGY INPUTS AND TECHNOLOGIES

Level 1		Level 2		Level 3		Level 4		Full code	CO2 Kg/GJ1				
Code	Description	Code	Description	Code	Description	Code	Description						
				02	Sewage gas	00	Unspecified	F01030200	0.0				
				03	Agricultural gas	00	Unspecified	F01030300	0.0				
						01	Pig manure	F01030301	0.0				
						02	Cow manure	F01030302	0.0				
						03	Chicken manure	F01030303	0.0				
						04	Unspecified manure	F01030304	0.0				
		05	Energy crops	F01030305	0.0								
		04	Gas from organic waste digestion	00	Unspecified	F01030400	0.0						
		05	Process gas	01	Biogenic	F01030501	0.0						
		06	Bionaturalgas	01	Biomethane	F01030601	0.0						
		04	Heat		01	Solar	00	Unspecified	F01040100	0.0			
					02	Geothermal	00	Unspecified	F01040200	0.0			
							01	Conventional geothermal heat	F01040201	0.0			
							02	Enhanced dry bed geothermal heat	F01040202	0.0			
					03	Aerothermal	00	Unspecified	F01040300	0.0			
					04	Hydrothermal	00	Unspecified	F01040400	0.0			
					05	Process heat	01	Biogenic	F01040501	0.0			
					05	Mechanical source or other		00	Unspecified	00	Unspecified	F01050000	0.0
								01	Wind	00	Unspecified	F01050100	0.0
								02	Hydro & marine	00	Unspecified	F01050200	0.0
		02	Fossil	00	Unspecified	00	Unspecified	00	Unspecified	F02000000	247.4		
01	Solid			00	Unspecified	00	Unspecified	00	Unspecified	F02010000	111.9		
				01	Hard coal	00	Unspecified	00	Unspecified	F02010100	111.9		
						01	Anthracite	F02010101	98.3				
						02	Bituminous coal	F02010102	94.7				
						03	Coking coal	F02010103	94.0				
						04	Coke-oven coke	F02010104	111.9				
						05	Lignite coke	F02010105	111.9				
						00	Unspecified	F02010200	106.0				
				02	Brown coal	01	Sub-bituminous coal	F02010201	96.1				
						02	Lignite	F02010202	101.2				
						03	Brown coal briquette	F02010203	94.6				
						04	Peat briquette	F02010204	106.0				

TYPES OF ENERGY INPUTS AND TECHNOLOGIES

Level 1		Level 2		Level 3		Level 4		Full code	CO2 Kg/GJ1		
Code	Description	Code	Description	Code	Description	Code	Description				
				03	Peat	00	Unspecified	F02010300	106.0		
				04	Municipal waste	00	Unspecified	F02010400	73.6		
				05	Industrial and commercial waste	00	Unspecified	F02010500	73.6		
						01	Non-renewable	F02010501	73.6		
				02	Liquid	00	Unspecified	00	Unspecified	F02020000	100.8
		01	Crude oil			00	Unspecified	F02020100	73.3		
						01	Shale oil	F02020101	73.3		
		03	Petroleum products			02	Natural gas liquids (NGL)	00	Unspecified	F02020200	63.1
								00	Unspecified	F02020300	77.4
								01	Ethane	F02020301	61.6
								02	Naphtha	F02020302	73.3
								03	Aviation gasoline	F02020303	72.0
								04	Motor gasoline	F02020304	72.0
								05	Aviation turbine fuel	F02020305	71.5
								06	Other kerosene	F02020306	71.9
								07	Gas/diesel oil	F02020307	74.3
								08	Fuel oil, low-sulphur	F02020308	74.3
								09	Fuel oil, high-sulphur	F02020309	77.4
								10	Liquid Petroleum Gas	F02020310	66.7
				11	Orimulsion			F02020311	80.7		
		12	Bitumen	F02020312	80.7						
		13	Lubricants	F02020313	73.3						
		14	Petroleum coke	F02020314	100.8						
		15	Refinery Feedstock	F02020315	73.3						
		03	Gaseous	00	Unspecified	00	Unspecified	F02030000	247.4		
						01	Natural gas	F02030100	56.1		
				02	Coal-derived gas	00	Unspecified	F02030200	247.4		
						01	Blast furnace gas	F02030201	247.4		
02	Coke-oven gas					F02030202	41.2				
03	Petroleum products			00	Unspecified	F02030300	73.7				
				01	Propane	F02030301	73.7				
				02	Butane	F02030302	73.7				
				03	Refinery gas	F02030303	66.7				
				04	Chemical waste gas	F02030304	66.7				
04	Municipal gas plant			00	Unspecified	F02030400	User				



TYPES OF ENERGY INPUTS AND TECHNOLOGIES

Level 1		Level 2		Level 3		Level 4		Full code	CO2 Kg/GJ1
Code	Description	Code	Description	Code	Description	Code	Description		
									spec'd
				05	Process gas	00	Unspecified	F02030500	191.9
						01	Carbon monoxide	F02030501	155.2
						02	Methane	F02030502	54.9
						03	Hydrogen (fossil sourced)	F02030503	56.1
						04	Phosphor gas	F02030504	149.5
						05	Oxy gas	F02030505	191.9
		04	Heat	00	Unspecified	00	Unspecified	F02040000	User spec'd
						01	Non-renewable	F02040001	
				01	Process heat	00	Unspecified	F02040100	
						01	Non-renewable	F02040101	
03	Nuclear	01	Solid	01	Radioactive fuel	00	Unspecified	F03010100	0.0
						01	UOX	F03010101	0.0
						02	AGR	F03010102	0.0
						03	MOX	F03010103	0.0

TYPES OF ENERGY INPUTS AND TECHNOLOGIES

Permissible Combinations of Technology Code and Fuel Source Code²

Technology code	Fuel source code	Comments
T01xxxx <i>Solar – all forms</i>	F01040100 <i>Renewable > Heat > Solar</i>	<i>While solar power is actually energy conveyed by photons, it has been categorised under “heat”</i>
T02xxxx <i>Wind – all forms</i>	F010501xx <i>Renewable > Mechanical source/other > Wind</i>	<i>All forms of wind power, whether onshore or offshore</i>
T03xxxx <i>Hydro-electric head installations</i>	F010502xx <i>Renewable > Mechanical source/other > Hydro & marine</i>	<i>All forms of hydropower, whether run-of-river, storage head, or pumped storage</i>
T04xxxx <i>Marine – all forms</i>	F010502xx <i>Mechanical source/other > Hydro & marine</i>	<i>Marine power, which uses mechanical energy from tidal currents, waves, currents or pressurised water</i>
T05xxxx <i>Thermal – all forms</i>	F00000000 <i>Unspecified</i>	<i>Thermal power uses heat energy from combustion, geothermal etc., and one of the below. Avoid it, as it does not categorise the fuel or heat source</i>
	F0100xxxx <i>Renewable > Unspecified</i>	<i>Any renewable fuel that cannot be further specified</i>
	F0101xxxx <i>Renewable > Solid</i>	<i>Any combustible renewable solid fuels including: Municipal waste, Industrial and commercial waste, Wood, Animal fats & Biomass from agriculture</i>
	F0102xxxx <i>Renewable > Liquid</i>	<i>Any combustible renewable liquid fuels including: Municipal biodegradable waste, Black liquor, Pure plant oil, Waste plant oil and Refined vegetable oil</i>
	F0103xxxx <i>Renewable > Gaseous</i>	<i>Any combustible renewable gaseous fuels including: Landfill gas, Sewage gas, Agricultural gas, Gas from organic waste digestion, Process gas and Bio natural gas</i>
	F0104xxxx <i>Renewable > Heat</i>	<i>Any form of renewable power from heat, including: Solar, Geothermal, Aerothermal, Hydro-thermal and Process heat</i>
	F010500xx <i>Renewable > Mechanical source/other > Unspecified</i>	<i>Any form of thermal renewable power from a mechanical source</i>
	F02xxxxxx <i>Fossil – all forms</i>	<i>All combustible fossil fuels, whether solid (coal, peat, waste ...), liquid (oil, liquid gas, petroleum-based ...), gaseous (coal-derived, petroleum, municipal gas, process gas ...)</i>
T06xxxx <i>Nuclear</i>	F03xxxxxx <i>Nuclear</i>	<i>Any form of nuclear power including heavy-water, light-water, breeder and graphite reactors running on UOX, AGR and MOX fuels</i>
T07xxxx <i>Other</i>		<i>Unforeseen eventualities which do not fit into another category. Can be used with any Fuel code, but avoid using it as it gives no indication of technology</i>

² Notation: T99xxxx or F9999xxxx, where T and F denote technology and fuel codes, 99 or 9999 is the second two or four characters of the code, and xxxx means that all other codes are included. Thus T03xxxx includes T030000, T030100, T030200, T030300 and T030400



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TYPES OF ENERGY INPUTS AND TECHNOLOGIES

