

Evident.

I-REC Code for Electricity

SD-02: Technologies and Fuels

Version: 1.0

Release Date: 01 March 2022





Evident . I-REC Code for I-REC(E) SD-02: Technologies and Fuels

Document Control

| | |
|----------------------|---|
| Document ID | EC-IRE-SD02 |
| Document Name | Evident. I-REC Code for I-REC(E) SD-02: Technologies and Fuels |
| Version | 1.0 |

| | |
|-------------------|--------------------|
| Author | Evident |
| Owner | Evident Ev Limited |
| Authoriser | Evident |

| | |
|---------------------|---------------|
| Release Date | 01 March 2022 |
|---------------------|---------------|

Copyright

This document is Copyright © Evident Ev Limited



Evident . I-REC Code for I-REC(E) SD-02: Technologies and Fuels

Contents

| | | |
|-----|---|----|
| 1 | INTRODUCTION | 3 |
| 2 | TECHNOLOGY CODES..... | 4 |
| 2.1 | Active Technology Codes | 4 |
| 2.2 | Technology Codes No Longer in Use | 6 |
| 3 | FUEL CODES | 10 |
| 3.1 | Active Fuel Codes | 10 |
| 3.2 | Fuel Codes No Longer in Use | 12 |



Evident . I-REC Code for I-REC(E) **SD-02: Technologies and Fuels**

1 Introduction

This document details the technology and fuel codes and descriptions approved for the issuing of I-REC(E) certificates under the Evident Code for I-REC(Electricity). This document is correct at the date of issue, however Evident may alter requirements for the issuing of I-REC(E) certificates without notice where necessary for compliance with national legislation or to preserve the integrity for the I-REC(E) market.

Technology and fuel codes and associated descriptions displayed within the Evident Registry shall have precedence over those displayed within this document.



2 Technology Codes

2.1 Active Technology Codes

2.1.1 Solar

| Code | Description |
|-------|---------------------------------------|
| TC110 | PV Ground mounted |
| TC120 | PV Roof Mounted (single installation) |
| TC130 | PV Floating |
| TC140 | PV Aggregated |
| TC150 | Solar Thermal Concentration |

2.1.2 Wind

| Code | Description |
|-------|-------------|
| TC210 | Onshore |
| TC220 | Offshore |

2.1.3 Hydroelectric

| Code | Description |
|-------|---|
| TC310 | Dam |
| TC320 | Run of river |
| TC330 | Pumped Hydro Storage (Natural in-flow only) |

2.1.4 Thermal

| Code | Description |
|-------|--|
| TC410 | Combined cycle gas turbine with heat recovery: Non CHP |
| TC411 | Combined cycle gas turbine with heat recovery: CHP |



Evident . I-REC Code for I-REC(E) SD-02: Technologies and Fuels

| Code | Description |
|-------|---|
| TC421 | Steam turbine with back-pressure turbine (open cycle): Non CHP |
| TC422 | Steam turbine with back-pressure turbine (open cycle): CHP |
| TC423 | Steam turbine with condensation turbine (closed cycle): Non CHP |
| TC424 | Steam turbine with condensation turbine (closed cycle): CHP |
| TC431 | Gas turbine with heat recovery: Non CHP |
| TC432 | Gas turbine with heat recovery: CHP |
| TC441 | Internal combustion engine: Non CHP |
| TC442 | Internal combustion engine: CHP |
| TC451 | Micro-turbine: Non CHP |
| TC452 | Micro-turbine: CHP |
| TC461 | Stirling engine: Non CHP |
| TC462 | Stirling engine: CHP |
| TC481 | Steam engine: Non CHP |
| TC482 | Steam engine: CHP |
| TC491 | Organic Rankine cycle: Non CHP |
| TC492 | Organic Rankine cycle: CHP |

2.1.5 Fuel Cell

| Code | Description |
|-------|--------------------|
| TC471 | Fuel cell: Non CHP |
| TC472 | Fuel cell: CHP |

2.1.6 Nuclear

| Code | Description |
|-------|----------------------|
| TC600 | Nuclear: Unspecified |



Evident . I-REC Code for I-REC(E) SD-02: Technologies and Fuels

| Code | Description |
|-------|------------------------------|
| TC601 | Nuclear: Breeder |
| TC602 | Nuclear: Graphite reactor |
| TC603 | Nuclear: Heavy-water reactor |
| TC604 | Nuclear: Light water reactor |

2.2 Technology Codes No Longer in Use

2.2.1 Solar

| Code | Description |
|---------|--|
| T010000 | Solar : Unspecified |
| T010100 | Solar : Photovoltaic : Unspecified |
| T010101 | Solar : Photovoltaic : Classic silicon |
| T010102 | Solar : Photovoltaic : Thin film |
| T010103 | Solar: Photovoltaic : Aggregated |
| T010200 | Solar : Concentration |

2.2.2 Wind

| Code | Description |
|---------|--------------------|
| T020000 | Wind : Unspecified |
| T020001 | Wind : Onshore |
| T020002 | Wind : Offshore |

2.2.3 Hydroelectric

| Code | Description |
|---------|--|
| T030000 | Hydro-electric head installations : Unspecified |
| T030100 | Hydro-electric head installations : Run-of-river head installation |



Evident . I-REC Code for I-REC(E) SD-02: Technologies and Fuels

| Code | Description |
|----------------|---|
| T030200 | Hydro-electric head installations : Storage head installation |
| T030300 | Hydro-electric head installations : Pure pumped storage head installation |
| T030400 | Hydro-electric head installations : Mixed pumped storage head |
| T040000 | Marine : Unspecified |
| T040100 | Marine : Tidal : Unspecified |
| T040101 | Marine : Tidal : Onshore |
| T040102 | Marine : Tidal : Offshore |
| T040200 | Marine : Wave : Unspecified |
| T040201 | Marine : Wave : Onshore |
| T040202 | Marine : Wave : Offshore |
| T040300 | Marine : Currents : Unspecified |
| T040400 | Marine : Pressure : Unspecified |

2.2.4 Thermal

| Code | Description |
|----------------|--|
| T050000 | Thermal : Unspecified : Unspecified |
| T050100 | Thermal : Combined cycle gas turbine with heat recovery : Unspecified |
| T050101 | Thermal : Combined cycle gas turbine with heat recovery : Non CHP |
| T050102 | Thermal : Combined cycle gas turbine with heat recovery : CHP |
| T050200 | Thermal : Steam turbine with back-pressure turbine (open cycle) : Unspecified |
| T050201 | Thermal : Steam turbine with back-pressure turbine (open cycle) : Non CHP |
| T050202 | Thermal : Steam turbine with back-pressure turbine (open cycle) : CHP |
| T050300 | Thermal : Steam turbine with condensation turbine (closed cycle) : Unspecified |
| T050301 | Thermal : Steam turbine with condensation turbine (closed cycle) : Non CHP |



Evident . I-REC Code for I-REC(E) SD-02: Technologies and Fuels

| Code | Description |
|---------|--|
| T050302 | Thermal : Steam turbine with condensation turbine (closed cycle) : CHP |
| T050400 | Thermal : Gas turbine with heat recovery : Unspecified |
| T050401 | Thermal : Gas turbine with heat recovery : Non CHP |
| T050402 | Thermal : Gas turbine with heat recovery : CHP |
| T050500 | Thermal : Internal combustion engine : Unspecified |
| T050501 | Thermal : Internal combustion engine : Non CHP |
| T050502 | Thermal : Internal combustion engine : CHP |
| T050600 | Thermal : Micro-turbine : Unspecified |
| T050601 | Thermal : Micro-turbine : Non CHP |
| T050602 | Thermal : Micro-turbine : CHP |
| T050700 | Thermal : Stirling engine : Unspecified |
| T050701 | Thermal : Stirling engine : Non CHP |
| T050702 | Thermal : Stirling engine : CHP |
| T050900 | Thermal : Steam engine : Unspecified |
| T050901 | Thermal : Steam engine : Non CHP |
| T050902 | Thermal : Steam engine : CHP |
| T051000 | Thermal : Organic Rankine cycle : Unspecified |
| T051001 | Thermal : Organic Rankine cycle : Non CHP |
| T051002 | Thermal : Organic Rankine cycle : CHP |

2.2.5 Fuel Cell

| Code | Description |
|---------|-----------------------------------|
| T050800 | Thermal : Fuel cell : Unspecified |
| T050801 | Thermal : Fuel cell : Non CHP |
| T050802 | Thermal : Fuel cell : CHP |



Evident . I-REC Code for I-REC(E) SD-02: Technologies and Fuels

2.2.6 Other

| Code | Description |
|---------|-------------|
| T070000 | Other |



3 Fuel Codes

3.1 Active Fuel Codes

3.1.1 Solar

| Code | Description |
|--------------|--------------------|
| ES100 | Solar |

3.1.2 Wind

| Code | Description |
|--------------|--------------------|
| ES200 | Wind |

3.1.3 Hydroelectric

| Code | Description |
|--------------|--------------------------|
| ES300 | Hydro-electric |
| ES410 | Marine Tidal |
| ES420 | Marine Wave |
| ES430 | Marine Current |
| ES440 | Marine Vertical Pressure |

3.1.4 Biofuel

| Code | Description |
|--------------|--|
| ES510 | Biomass Solid: Municipal Waste |
| ES520 | Biomass Solid: Industrial and commercial waste |
| ES530 | Biomass Solid: Forestry products |
| ES540 | Biomass Solid: Forestry by-products & waste |
| ES550 | Biomass Solid: Animal fats |



Evident . I-REC Code for I-REC(E) SD-02: Technologies and Fuels

| Code | Description |
|-------|--|
| ES560 | Biomass Solid: Agricultural products |
| ES570 | Biomass Solid: Agricultural by-products & waste |
| ES610 | Biomass Liquid: Municipal biodegradable waste |
| ES620 | Biomass Liquid: Black liquor |
| ES630 | Biomass Liquid: Pure plant oil |
| ES650 | Biomass Liquid: Waste plant oil |
| ES660 | Biomass Liquid: Refined vegetable oil: Other |
| ES670 | Biomass Liquid: Biodiesel (mono-alkyl ester) |
| ES680 | Biomass Liquid: Biogasoline (C6-C12 hydrocarbon) |
| ES710 | Biogas: Landfill gas |
| ES720 | Biogas: Sewage gas |
| ES730 | Biogas: Gas from organic waste digestion |
| ES740 | Biogas: Process gas: Biogenic |

3.1.5 Nuclear

| Code | Description |
|-------|----------------------|
| ES900 | Nuclear: Unspecified |
| ES901 | Nuclear: MOX |
| ES902 | Nuclear: UOX |
| ES903 | Nuclear: AGR |

3.1.6 Co-fired

| Code | Description |
|-------|---|
| ES910 | Co-fired with fossil: Municipal solid waste: Biomass fraction |
| ES920 | Co-fired with fossil: Industrial and commercial waste: Biomass fraction |



Evident . I-REC Code for I-REC(E) SD-02: Technologies and Fuels

| Code | Description |
|-------|---|
| ES930 | Co-fired with fossil: Waste wood |
| ES940 | Co-fired with fossil: Forestry products |
| ES950 | Co-fired with fossil: Forestry by-products & waste |
| ES960 | Co-fired with fossil: Animal fats |
| ES970 | Co-fired with fossil: Agricultural products biomass fraction |
| ES980 | Co-fired with fossil: Agricultural by-products & waste biomass fraction |
| ES990 | Co-fired with fossil: Solar thermal concentration |

3.1.7 Other

| Code | Description |
|-------|---------------------------------------|
| ES810 | Renewable heat: Geothermal |
| ES820 | Renewable heat: Aerothermal |
| ES830 | Renewable heat: Hydrothermal |
| ES840 | Renewable heat: Biogenic process heat |

3.2 Fuel Codes No Longer in Use

3.2.1 Solar

| Code | Description |
|-----------|--|
| F01040100 | Renewable : Heat : Solar : Unspecified |

3.2.2 Wind

| Code | Description |
|-----------|---|
| F01050100 | Renewable : Mechanical source or other : Wind |



Evident . I-REC Code for I-REC(E) SD-02: Technologies and Fuels

3.2.3 Hydroelectric

| Code | Description |
|------------------|---|
| F01050200 | Renewable : Mechanical source or other : Hydro & marine |

3.2.4 Biofuel

| Code | Description |
|------------------|---|
| F01010000 | Renewable : Solid : Unspecified |
| F01010101 | Renewable : Solid : Municipal waste : Biogenic |
| F01010201 | Renewable : Solid : Industrial and commercial waste : Biogenic |
| F01010300 | Renewable : Solid : Wood : Unspecified |
| F01010301 | Renewable : Solid : Wood : Forestry products |
| F01010302 | Renewable : Solid : Wood : Forestry by-products & waste |
| F01010400 | Renewable : Solid : Animal fats |
| F01010500 | Renewable : Solid : Biomass from agriculture : Unspecified |
| F01010501 | Renewable : Solid : Biomass from agriculture : Agricultural products |
| F01010502 | Renewable : Solid : Biomass from agriculture : Agricultural by-products & waste |
| F01020000 | Renewable : Liquid : Unspecified |
| F01020100 | Renewable : Liquid : Municipal biodegradable waste |
| F01020200 | Renewable : Liquid : Black liquor |
| F01020300 | Renewable : Liquid : Pure plant oil : Unspecified |
| F01020301 | Renewable : Liquid : Pure plant oil : Rapeseed (Brassica napus L.) |
| F01020302 | Renewable : Liquid : Pure plant oil : Sunflower (Helianthus annuus L.) |
| F01020303 | Renewable : Liquid : Pure plant oil : Oil palm (Elaeis guineensis Jacq.) |
| F01020304 | Renewable : Liquid : Pure plant oil : Coconut (Cocos nucifera L.) |
| F01020305 | Renewable : Liquid : Pure plant oil : Yatropha |



Evident . I-REC Code for I-REC(E) SD-02: Technologies and Fuels

| Code | Description |
|-----------|---|
| F01020400 | Renewable : Liquid : Waste plant oil |
| F01020500 | Renewable : Liquid : Refined vegetable oil : Unspecified |
| F01020501 | Renewable : Liquid : Refined vegetable oil : Biodiesel (mono-alkyl ester) |
| F01020502 | Renewable : Liquid : Refined vegetable oil : Biogasoline (C6-C12 hydrocarbon) |
| F01030000 | Renewable : Gaseous : Unspecified |
| F01030100 | Renewable : Gaseous : Landfill gas |
| F01030200 | Renewable : Gaseous : Sewage gas |
| F01030300 | Renewable : Gaseous : Agricultural gas : Unspecified |
| F01030301 | Renewable : Gaseous : Agricultural gas : Pig manure |
| F01030302 | Renewable : Gaseous : Agricultural gas : Cow manure |
| F01030303 | Renewable : Gaseous : Agricultural gas : Chicken manure |
| F01030304 | Renewable : Gaseous : Agricultural gas : Unspecified manure |
| F01030305 | Renewable : Gaseous : Agricultural gas : Energy crops |
| F01030400 | Renewable : Gaseous : Gas from organic waste digestion |
| F01030501 | Renewable : Gaseous : Process gas : Biogenic |

3.2.5 Fossil

| Code | Description |
|-----------|--|
| F02000000 | Fossil : Unspecified |
| F02010000 | Fossil : Solid : Unspecified |
| F02010100 | Fossil : Solid : Hard coal : Unspecified |
| F02010101 | Fossil : Solid : Hard coal : Anthracite |
| F02010102 | Fossil : Solid : Hard coal : Bituminous coal |
| F02010103 | Fossil : Solid : Hard coal : Coking coal |
| F02010104 | Fossil : Solid : Hard coal : Coke-oven coke |



Evident . I-REC Code for I-REC(E) SD-02: Technologies and Fuels

| Code | Description |
|-----------|--|
| F02010105 | Fossil : Solid : Hard coal : Lignite coke |
| F02010200 | Fossil : Solid : Brown coal : Unspecified |
| F02010201 | Fossil : Solid : Brown coal : Sub-bituminous coal |
| F02010202 | Fossil : Solid : Brown coal : Lignite |
| F02010203 | Fossil : Solid : Brown coal : Brown coal briquette |
| F02010204 | Fossil : Solid : Brown coal : Peat briquette |
| F02010300 | Fossil : Solid : Peat |
| F02010400 | Fossil : Solid : Municipal waste |
| F02010500 | Fossil : Solid : Industrial and commercial waste |
| F02010501 | Fossil : Solid : Industrial and commercial waste : Non-renewable |
| F02020000 | Fossil : Liquid : Unspecified |
| F02020100 | Fossil : Liquid : Crude oil : Unspecified |
| F02020101 | Fossil : Liquid : Crude oil : Shale oil |
| F02020200 | Fossil : Liquid : Natural gas liquids (NGL) |
| F02020300 | Fossil : Liquid : Petroleum products : Unspecified |
| F02020301 | Fossil : Liquid : Petroleum products : Ethane |
| F02020302 | Fossil : Liquid : Petroleum products : Naphtha |
| F02020303 | Fossil : Liquid : Petroleum products : Aviation gasoline |
| F02020304 | Fossil : Liquid : Petroleum products : Motor gasoline |
| F02020305 | Fossil : Liquid : Petroleum products : Aviation turbine fuel |
| F02020306 | Fossil : Liquid : Petroleum products : Other kerosene |
| F02020307 | Fossil : Liquid : Petroleum products : Gas/diesel oil |
| F02020308 | Fossil : Liquid : Petroleum products : Fuel oil, low-sulphur |
| F02020309 | Fossil : Liquid : Petroleum products : Fuel oil, high-sulphur |
| F02020310 | Fossil : Liquid : Petroleum products : Liquid Petroleum Gas |



Evident . I-REC Code for I-REC(E) SD-02: Technologies and Fuels

| Code | Description |
|-----------|--|
| F02020311 | Fossil : Liquid : Petroleum products : Orimulsion |
| F02020312 | Fossil : Liquid : Petroleum products : Bitumen |
| F02020313 | Fossil : Liquid : Petroleum products : Lubricants |
| F02020314 | Fossil : Liquid : Petroleum products : Petroleum coke |
| F02020315 | Fossil : Liquid : Petroleum products : Refinery Feedstock |
| F02030000 | Fossil : Gaseous : Unspecified |
| F02030100 | Fossil : Gaseous : Natural gas |
| F02030200 | Fossil : Gaseous : Coal-derived gas : Unspecified |
| F02030201 | Fossil : Gaseous : Coal-derived gas : Blast furnace gas |
| F02030202 | Fossil : Gaseous : Coal-derived gas : Coke-oven gas |
| F02030300 | Fossil : Gaseous : Petroleum products : Unspecified |
| F02030301 | Fossil : Gaseous : Petroleum products : Propane |
| F02030302 | Fossil : Gaseous : Petroleum products : Butane |
| F02030303 | Fossil : Gaseous : Petroleum products : Refinery gas |
| F02030304 | Fossil : Gaseous : Petroleum products : Chemical waste gas |
| F02030400 | Fossil : Gaseous : Municipal gas plant |
| F02030500 | Fossil : Gaseous : Process gas : Unspecified |
| F02030501 | Fossil : Gaseous : Process gas : Carbon monoxide |
| F02030502 | Fossil : Gaseous : Process gas : Methane |
| F02030503 | Fossil : Gaseous : Process gas : Hydrogen (fossil sourced) |
| F02030504 | Fossil : Gaseous : Process gas : Phosphor gas |
| F02030505 | Fossil : Gaseous : Process gas : Oxy gas |
| F02040000 | Fossil : Heat : Unspecified : Unspecified |
| F02040001 | Fossil : Heat : Unspecified : Non-renewable |



Evident . I-REC Code for I-REC(E) SD-02: Technologies and Fuels

3.2.6 Co-fired

| Code | Description |
|------------------|---|
| F04010300 | Co-fired with fossil: Solid: Wood: Unspecified |
| F04010301 | Co-fired with fossil: Solid: Wood: Forestry products |
| F04010302 | Co-fired with fossil: Solid: Wood: Forestry by-products and waste |
| F04010400 | Co-fired with fossil: Solid: Animal fats |
| F04010500 | Co-fired with fossil: Solid: Biomass from agriculture: Unspecified |
| F04010501 | Co-fired with fossil: Solid: Biomass from agriculture: Agricultural products |
| F04010502 | Co-fired with fossil: Solid: Biomass from agriculture: Agricultural by-products and waste |

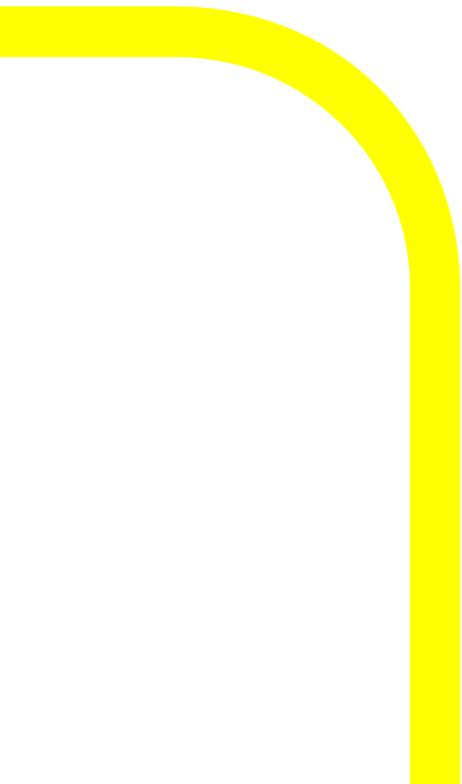
3.2.7 Other

| Code | Description |
|------------------|--|
| F01040200 | Renewable : Heat : Geothermal : Unspecified |
| F01040201 | Renewable : Heat : Geothermal : Conventional geothermal heat |
| F01040202 | Renewable : Heat : Geothermal : Enhanced dry bed geothermal heat |
| F01040300 | Renewable : Heat : Aerothermal |
| F01040400 | Renewable : Heat : Hydrothermal |
| F01040501 | Renewable : Heat : Process heat : Biogenic |
| F00000000 | Unspecified |
| F01000000 | Renewable : Unspecified |
| F01050000 | Renewable : Mechanical source or other : Unspecified |



Ev.

Evident.



400 Springvale Road, Sheffield S10 1LP, UK
<https://evident.global>