1 Patent Classification

The Coopoerative Patent Classification (CPC) system has over 200,000 technology classes. Our goal is to identify technologies that address the global climate change issue and have the potential to reducing greenhouse gas emission. More specifically, we classify these technology classes into 3 categories we call "green technologies", "general efficiency technologies", and "brown efficiency technologies" based on four classification sources[1]. The three categories are defined as:

1. Green technologies: Technologies that may substitute carbon dioxide emitting technologies for carbon dioxide-free technologies.

2. General efficiency technologies: Technologies that improve processes efficiencies and therefore reduce carbon dioxide emissions per output.

3. Brown efficiency technologies: Technologies that improve process efficiencies of fossil fuel sources and therefore reduce carbon dioxide emissions per output.

The four sources underlying environment-related technology classification sources are:

1. Environmental technologies classified by the Organization of Economic Co-opeartion and Development (OECD)[2]: The search strategy is described by Hascic & Migotto (2015) and has a broad coverage including technologies related to environmental pollution, water scarcity and climate change mitigation. We are using the 2020 version and call this the OECD classification.

2. International Patent Classification (IPC) Green Inventory[3]: This classification is developped by the IPC Committee of Experts and captures Environmentally Sound Technologies (ESTs) defined as "technologies that have the potential to significantly improved environmental performance relative to other technologies"[4]. We call this the IPC classification.

3. Efficiency improving fossil fuel technology classes: Lanzi *et al.* (2011) search fuel-efficient technologies for electricity generation in fuel preparation technologies, furnaces and burners as well as boilers, turbines and engines. We call this the Fossil Fuel (FF) classification.

4. Corporate Knights Clean 200 patents[5]: Corporate Knights identifies the top 200 companies based on the amount of revenue each company earns from products and services aligned with the Corporate Knights Clean Economy Taxonomy. For the corporate knights 200 firms' who have at least 70% of their patents classified as clean revenue, we gather all of their patents up to 5 years before the listing year. For the stock of patents we identify the CPC technology classes. To identify technology classes related to greenhouse gas reduction, we iteratively go through all classes aggregated at the 5th, 7th and 8th level of CPC classification. Finally we filter the lowest level for key words[6] and assess whether a technology class is related to greenhouse gas reduction. We call this the Corporate Knights (CK) classification.

[1] Note: "Classes" refers to the underlying patent classification system class. "Classification" refers to the classification sources we build our categories on. "Categories" are the final three categories that we study in our paper.
[2] https://www.oecd.org/env/indicators-modelling-outlooks/green-patents.htm
[3] https://www.wipo.int/classifications/ipc/green-inventory/home
[4] https://www.unep.org/regions/asia-and-pacific/regional-initiatives/supporting-resource-efficiency/environmentally-sound
[5] https://www.corporateknights.com/rankings/clean-200-rankings/
[6] Keywords include: solar, nuclear, water, wind, renewable, hydro, geothermal, fuel cell, greenhouse gas, efficiency, energy, hybrid, batter, fuel injection

Our last step is to classify the four individual technology classification sources into our three defined categories "green technologies", "general efficiency technologies" and "brown efficiency technologies". To classify the OECD and IPC classification, we go through the lowest available classification level. The OECD has up to 4 levels. If available, we classify the fourth level[7]. The final categories assigned are listed in Table 4. IPC has up to 5 levels. Only very topics go down to level 5, but if available we classify the fifth level[8]. We list the final categories assigned to the IPC classifications in Table 5. All patent classifications from the Fossil Fuel technology are classified as "brown efficiency technologies" . Finally we classify the Corporate Knights classification based on the highest aggregate technology patent classification level at which all lower level classifications are also considered to be environment related technologies starting from level 5. Several technology classifications are covered by multiple sources (compare Table 1). We assign the final classification if there are multiple sources first based on the category assigned in OECD, then IPC and finally the category assigned in FF.

The CPC classification has up to 19 levels, but not all technology classes go down to 19 levels. Considering all technology classifications from Level 5 onwards, we have a total of 261,993 classification[9] Considering only the lowest level within a given classification path, there are a total of 186,668 classifications. We identified 7,738 (5,217 considering only the lowest level) classifications as "green technologies"; 5,110 (3,552) as "general efficiency technologies" and 6,742 (4,686) as "brown efficiency technologies". Table 1 documents the number of classifications from each of the four sources. Table 2 shows the number of technology classes by category and classification source. We show the percentage of technology classes from the various classification sources in a given category (green, efficiency brown and efficiency general) in Table 3. We derive most technology classes for "green technologies" from IPC and for "brown efficiency technologies" from FF.

TABLE 1: NO. OF TECHNOLOGY CLASSES BY CLASSIFICATION SOURCE

Classification source	All classes level 5 onwards		Lowest class only	
	No.	Perc.	No.	Perc.
OECD	2222	0.85	1529	0.82
OECD & IPC	1847	0.7	1334	0.72
OECD & IPC & FF	127	0.05	89	0.05
OECD & FF	24	0.01	14	0.01
IPC	9483	3.62	6417	3.44
IPC & FF	783	0.3	557	0.3
FF	3499	1.34	2429	1.3
CK	1874	0.72	1368	0.73
none	242134	92.42	172821	92.64

[7] "2.1.1 Wind Energy" is an example classification where the lowest level is level 3. "9.2.1.1 Indoor water conservation" is an example classification that goes down to level 4.

[8] "Air quality management - treatment of waste gases - Combustion apparatus using recirculation of flue gases" is an example of a classification that goes down to level 5.

[9] This is as of the CPC classification of August 2021.

TABLE 2: NO. OF TECHNOLOGY CLASSES BY CLASSIFICATION SOURCE AND CATEGORY

Category	Classification source	All classes level 5 onwards		Lowest class only	
		No.	Perc.	No.	Perc.
Green	OECD	157	0.06	123	0.07
Green	OECD & IPC	298	0.11	209	0.11
Green	OECD & IPC & FF	1	0	1	0
Green	IPC	6446	2.46	4367	2.34
Green	CK	836	0.32	617	0.33
Efficiency general	OECD	199	0.08	137	0.07
Efficiency general	OECD & IPC	1427	0.54	1042	0.56
Efficiency general	IPC	2922	1.12	1970	1.06
Efficiency general	CK	562	0.21	403	0.22
Efficiency brown	OECD	1606	0.61	1094	0.59
Efficiency brown	OECD & IPC	113	0.04	76	0.04
Efficiency brown	OECD & IPC & FF	126	0.05	88	0.05
Efficiency brown	OECD & FF	24	0.01	14	0.01
Efficiency brown	IPC	115	0.04	80	0.04
Efficiency brown	IPC & FF	783	0.3	557	0.3
Efficiency brown	FF	3499	1.34	2429	1.3
Efficiency brown	CK	476	0.18	348	0.19
na	OECD	260	0.1	175	0.09
na	OECD & IPC	9	0	7	0
n.o.i.	none	242134	92.42	172821	92.64

TABLE 3: NO. OF TECHNOLOGY CLASSES IN CATEGORY BY CLASSIFICATION SOURCE

Classification source	Green		Efficiency brown		Efficiency general	
	No.	Perc.	No.	Perc.	No.	Perc.
OECD	123	2.31	1094	23.35	137	3.86
OECD & IPC	209	3.93	76	1.62	1042	29.34
OECD & IPC & FF	1	0.02	88	1.88	0	0
OECD & FF	0	0	14	0.3	0	0
IPC	4367	82.13	80	1.71	1970	55.46
IPC & FF	0	0	557	11.89	0	0
FF	0	0	2429	51.84	0	0
CK	617	11.6	348	7.43	403	11.35

TABLE 4: CATEGORIES ASSIGNED TO OECD CLASSIFICATION

Level	Topic L1	Topic L2	Topic L3	Topic L4	Category
3	1. Environmental Management	1.1. Air pollution abatement	1.1.1. Emissions abatement from stationary sources (e.g. SOx, NOx, PM emissions from combustion plants)		Efficiency brown
3	1. Environmental Management	1.1. Air pollution abatement	1.1.2. Emissions abatement from mobile sources (e.g. NOx, CO, HC, PM emissions from motor vehicles)		Efficiency brown
3	1. Environmental Management	1.1. Air pollution abatement	1.1.3. Air pollution abatement - Not elsewhere classified		Efficiency general
3	1. Environmental Management	1.2. Water pollution abatement	1.2.1. Water and wastewater treatment		Efficiency general
3	1. Environmental Management	1.2. Water pollution abatement	1.2.2. Fertilizers from wastewater		Green
3	1. Environmental Management	1.2. Water pollution abatement	1.2.3. Oil spill and pollutant clean-up		Efficiency brown
3	1. Environmental Management	1.3. Waste management	1.3.1. Solid waste collection		Efficiency general
3	1. Environmental Management	1.3. Waste management	1.3.2. Material recovery, recycling and re-use		Green
3	1. Environmental Management	1.3. Waste management	1.3.3. Fertilizers from waste		Green
3	1. Environmental Management	1.3. Waste management	1.3.4. Incineration and energy recovery		Efficiency general
3	1. Environmental Management	1.3. Waste management	1.3.5. Landfilling		Efficiency general
3	1. Environmental Management	1.3. Waste management	1.3.6. Waste management - Not elsewhere classified		Efficiency general
2	1. Environmental Management	1.4. Soil remediation			Efficiency general
2	1. Environmental Management	1.5. Environmental monitoring			Efficiency general
3	2. Climate change mitigation technologies related to energy generation, transmission or distribution	2.1. Renewable energy generation	2.1.1. Wind energy		Green
3	2. Climate change mitigation technologies related to energy generation, transmission or distribution	2.1. Renewable energy generation	2.1.2. Solar thermal energy		Green
3	2. Climate change mitigation technologies related to energy generation, transmission or distribution	2.1. Renewable energy generation	2.1.3. Solar photovoltaic (PV) energy		Green
3	2. Climate change mitigation technologies related to energy generation, transmission or distribution	2.1. Renewable energy generation	2.1.4. Solar thermal-PV hybrids		Green
3	2. Climate change mitigation technologies related to energy generation, transmission or distribution	2.1. Renewable energy generation	2.1.5. Geothermal energy		Green
3	2. Climate change mitigation technologies related to energy generation, transmission or distribution	2.1. Renewable energy generation	2.1.6. Marine energy, e.g. using wave energy or salinity gradient		Green
3	2. Climate change mitigation technologies related to energy generation, transmission or distribution	2.1. Renewable energy generation	2.1.7. Hydro energy		Green
3	2. Climate change mitigation technologies related to energy generation, transmission or distribution	2.2. Energy generation from fuels of non-fossil origin	2.2.1. Biofuels, e.g. bio-diesel		Green
3	2. Climate change mitigation technologies related to energy generation, transmission or distribution	2.2. Energy generation from fuels of non-fossil origin	2.2.2. Fuel from waste, e.g. synthetic alcohol or diesel		Green
3	2. Climate change mitigation technologies related to energy generation, transmission or distribution	2.2. Energy generation from fuels of non-fossil origin	2.3.1. Technologies for improved output efficiency (combined heat and power, combined cycles, etc.)		Efficiency brown
3	2. Climate change mitigation technologies related to energy generation, transmission or distribution	2.2. Energy generation from fuels of non-fossil origin	2.3.2. Technologies for improved input efficiency (efficient combustion or heat usage)		Efficiency brown
3	2. Climate change mitigation technologies related to energy generation, transmission or distribution	2.4. Nuclear energy	2.4.1. Nuclear fusion reactors		Green
3	2. Climate change mitigation technologies related to energy generation, transmission or distribution	2.4. Nuclear energy	2.4.2. Nuclear fission reactors		Green
3	2. Climate change mitigation technologies related to energy generation, transmission or distribution	2.5. Technologies for an efficient electrical power generation, transmission or distribution	2.5.1. Superconducting electric elements or equipment		Green
3	2. Climate change mitigation technologies related to energy generation, transmission or distribution	2.5. Technologies for an efficient electrical power generation, transmission or distribution	2.5.2. Smart grids as climate change mitigation technology in the energy generation sector		Green
3	2. Climate change mitigation technologies related to energy generation, transmission or distribution	2.5. Technologies for an efficient electrical power generation, transmission or distribution	2.5.3. Not elsewhere classified		Green
3	2. Climate change mitigation technologies related to energy generation, transmission or distribution	2.6. Enabling Technologies (Technologies with potential or indirect contribution to GHG emission mitigation)	2.6.1. Energy storage		Green
3	2. Climate change mitigation technologies related to energy generation, transmission or distribution	2.6. Enabling Technologies (Technologies with potential or indirect contribution to GHG emission mitigation)	2.6.2. Hydrogen technology		Efficiency general
3	2. Climate change mitigation technologies related to energy generation, transmission or distribution	2.6. Enabling Technologies (Technologies with potential or indirect contribution to GHG emission mitigation)	2.6.3. Fuel cells		Green
3	2. Climate change mitigation technologies related to energy generation, transmission or distribution	2.6. Enabling Technologies (Technologies with potential or indirect contribution to GHG emission mitigation)	2.6.4. High-voltage direct current transmission		Efficiency general
2	2. Climate change mitigation technologies related to energy generation, transmission or distribution	2.7. Other energy conversion or management systems reducing GHG emissions			Efficiency general
2	3. Capture, storage, sequestration or disposal of greenhouse gases	3.1. Capture or disposal of nitrous oxide (N2O)			Green
2	3. Capture, storage, sequestration or disposal of greenhouse gases	3.2. Capture or disposal of methane (CH4)			Green
2	3. Capture, storage, sequestration or disposal of greenhouse gases	3.3. Capture or disposal of perfluorocarbons [PFC], hydrofluorocarbons [HFC] or sulfur hexafluoride [SF6]			Green
2	3. Capture, storage, sequestration or disposal of greenhouse gases	3.4. Capture or disposal of carbon dioxide (CO2)			Green
3	4. Climate change mitigation technologies related to transportation	4.1. Road transport	4.1.1. Conventional vehicles (based on internal combustion engine)		Efficiency brown
3	4. Climate change mitigation technologies related to transportation	4.1. Road transport	4.1.2. Hybrid vehicles		Green
3	4. Climate change mitigation technologies related to transportation	4.1. Road transport	4.1.3. Electric vehicles		Green
3	4. Climate change mitigation technologies related to transportation	4.1. Road transport	4.1.4. Fuel efficiency-improving vehicle design (common to all road vehicles)		Efficiency general
2	4. Climate change mitigation technologies related to transportation	4.2. Rail Transport	4.2. RAIL Transport		Efficiency general
2	4. Climate change mitigation technologies related to transportation	4.3. Aeronautics or air transport			Efficiency general
2	4. Climate change mitigation technologies related to transportation	4.4. Maritime or waterways transport			Efficiency general
3	4. Climate change mitigation technologies related to transportation	4.5. Enabling Technologies in transport	4.5.1. Electric vehicle charging		Green
3	4. Climate change mitigation technologies related to transportation	4.5. Enabling Technologies in transport	4.5.2. Application of hydrogen technology to transportation, e.g. using fuel cells		Green
2	5. Climate change mitigation technologies related to buildings	5.1. Integration of renewable energy sources in buildings			Green
3	5. Climate change mitigation technologies related to buildings	5.2. energy efficiency in buildings	5.2.1. Energy efficient lighting		Efficiency general
3	5. Climate change mitigation technologies related to buildings	5.2. energy efficiency in buildings	5.2.2. Energy efficient heating, ventilation or air conditioning [HVAC]		Efficiency general
3	5. Climate change mitigation technologies related to buildings	5.2. energy efficiency in buildings	5.2.3. Energy efficiency in home appliances		Efficiency general
3	5. Climate change mitigation technologies related to buildings	5.2. energy efficiency in buildings	5.2.4. Energy efficient elevators, escalators and moving walkways, e.g. energy saving or recuperation technologies		Efficiency general
3	5. Climate change mitigation technologies related to buildings	5.2. energy efficiency in buildings	5.2.5. End-user side		Efficiency general
2	5. Climate change mitigation technologies related to buildings	5.3. Architectural or constructional elements improving the thermal performance of buildings			Green
2	5. Climate change mitigation technologies related to buildings	5.4. Enabling technologies in buildings			Green
2	6. Climate change mitigation technologies related to wastewater treatment or waste management	6.1. wastewater treatment			Efficiency general
3	6. Climate change mitigation technologies related to wastewater treatment or waste management	6.2. Solid waste management	6.2.1. Waste collection, transportation, transfer or storage		Efficiency general
3	6. Climate change mitigation technologies related to wastewater treatment or waste management	6.2. Solid waste management	6.2.2. Waste processing or separation		Efficiency general
3	6. Climate change mitigation technologies related to wastewater treatment or waste management	6.2. Solid waste management	6.2.3. Landfill technologies aiming to mitigate methane emissions		Efficiency general
3	6. Climate change mitigation technologies related to wastewater treatment or waste management	6.2. Solid waste management	6.2.4. Bio-organic fraction processing; Production of fertilisers from the organic fraction of waste or refuse		Green
4	6. Climate change mitigation technologies related to wastewater treatment or waste management	6.2. Solid waste management	6.2.5. Reuse, recycling or recovery technologies	6.2.5.1. Mechanical processing of waste for the recovery of materials	Green
4	6. Climate change mitigation technologies related to wastewater treatment or waste management	6.2. Solid waste management	6.2.5. Reuse, recycling or recovery technologies	6.2.5.2. Waste management of vehicles	Green
4	6. Climate change mitigation technologies related to wastewater treatment or waste management	6.2. Solid waste management	6.2.5. Reuse, recycling or recovery technologies	6.2.5.3. Construction or demolition [C&D] waste	Green
4	6. Climate change mitigation technologies related to wastewater treatment or waste management	6.2. Solid waste management	6.2.5. Reuse, recycling or recovery technologies	6.2.5.4. Glass recycling	Green
4	6. Climate change mitigation technologies related to wastewater treatment or waste management	6.2. Solid waste management	6.2.5. Reuse, recycling or recovery technologies	6.2.5.5. Plastics and rubber recycling	Green
4	6. Climate change mitigation technologies related to wastewater treatment or waste management	6.2. Solid waste management	6.2.5. Reuse, recycling or recovery technologies	6.2.5.6. Paper recycling	Green
4	6. Climate change mitigation technologies related to wastewater treatment or waste management	6.2. Solid waste management	6.2.5. Reuse, recycling or recovery technologies	6.2.5.7. Disintegrating fibre-containing textile articles to obtain fibres for re-use	Green
4	6. Climate change mitigation technologies related to wastewater treatment or waste management	6.2. Solid waste management	6.2.5. Reuse, recycling or recovery technologies	6.2.5.8. Recovery of fats, fatty oils, fatty acids or other fatty substances, e.g. lanolin or waxes	Green
4	6. Climate change mitigation technologies related to wastewater treatment or waste management	6.2. Solid waste management	6.2.5. Reuse, recycling or recovery technologies	6.2.5.9. Recycling of wood or furniture waste	Green
4	6. Climate change mitigation technologies related to wastewater treatment or waste management	6.2. Solid waste management	6.2.5. Reuse, recycling or recovery technologies	6.2.5.10. Packaging reuse or recycling, e.g. of multilayer packaging	Green
4	6. Climate change mitigation technologies related to wastewater treatment or waste management	6.2. Solid waste management	6.2.5. Reuse, recycling or recovery technologies	6.2.5.11. Recycling of waste of electrical or electronic equipment [WEEE]	Green
4	6. Climate change mitigation technologies related to wastewater treatment or waste management	6.2. Solid waste management	6.2.5. Reuse, recycling or recovery technologies	6.2.5.12. Recycling of batteries or fuel cells	Green
4	6. Climate change mitigation technologies related to wastewater treatment or waste management	6.2. Solid waste management	6.2.5. Reuse, recycling or recovery technologies	6.2.5.13. Use of waste materials as fillers for mortars or concrete	Green
2	6. Climate change mitigation technologies related to wastewater treatment or waste management	6.3. Enabling technologies or technologies with a potential or indirect contribution to GHG mitigation			Efficiency general
3	7. Climate change mitigation technologies in the production or processing of goods	7.1. Technologies related to metal processing	7.1.1. Reduction of greenhouse gas [GHG] emissions		Efficiency brown
3	7. Climate change mitigation technologies in the production or processing of goods	7.1. Technologies related to metal processing	7.1.2. Process efficiency		Efficiency general
3	7. Climate change mitigation technologies in the production or processing of goods	7.2. Technologies relating to the chemical industry	7.2.1. Process efficiency in chemical industry		Efficiency general
3	7. Climate change mitigation technologies in the production or processing of goods	7.2. Technologies relating to the chemical industry	7.2.2. Feedstock		Efficiency general
3	7. Climate change mitigation technologies in the production or processing of goods	7.2. Technologies relating to the chemical industry	7.2.3. Reduction of greenhouse gas [GHG] emissions, e.g. CO2		Efficiency brown
3	7. Climate change mitigation technologies in the production or processing of goods	7.2. Technologies relating to the chemical industry	7.2.5. Improvements relating to adipic acid or caprolactam production		Efficiency general
3	7. Climate change mitigation technologies in the production or processing of goods	7.2. Technologies relating to the chemical industry	7.2.6. Improvements relating to fluorochloro hydrocarbon, e.g. chlorodifluoromethane [HCFC-22] production		Efficiency general
3	7. Climate change mitigation technologies in the production or processing of goods	7.3. Technologies relating to oil refining and petrochemical industry	7.3.1. Bio-feedstock		Efficiency brown
3	7. Climate change mitigation technologies in the production or processing of goods	7.3. Technologies relating to oil refining and petrochemical industry	7.3.2. Ethylene production		Efficiency brown
3	7. Climate change mitigation technologies in the production or processing of goods	7.4. Technologies relating to the processing of minerals	7.4.1. Production of cement		Efficiency general
3	7. Climate change mitigation technologies in the production or processing of goods	7.4. Technologies relating to the processing of minerals	7.4.2. Production or processing of lime		Efficiency general
3	7. Climate change mitigation technologies in the production or processing of goods	7.4. Technologies relating to the processing of minerals	7.4.3. Glass production		Efficiency general
3	7. Climate change mitigation technologies in the production or processing of goods	7.4. Technologies relating to the processing of minerals	7.4.4. Production of ceramic materials or ceramic elements		Efficiency general
3	7. Climate change mitigation technologies in the production or processing of goods	7.5. Technologies relating to agriculture, livestock or agroalimentary industries	7.5.1. Using renewable energies, e.g. solar water pumping		Green
3	7. Climate change mitigation technologies in the production or processing of goods	7.5. Technologies relating to agriculture, livestock or agroalimentary industries	7.5.2. Measures for saving energy, e.g. in green houses		Efficiency general
3	7. Climate change mitigation technologies in the production or processing of goods	7.5. Technologies relating to agriculture, livestock or agroalimentary industries	7.5.3. Reduction of greenhouse gas [GHG] emissions in agriculture		Efficiency general
3	7. Climate change mitigation technologies in the production or processing of goods	7.5. Technologies relating to agriculture, livestock or agroalimentary industries	7.5.4. Land use policy measures		Efficiency general
3	7. Climate change mitigation technologies in the production or processing of goods	7.5. Technologies relating to agriculture, livestock or agroalimentary industries	7.5.5. Afforestation or reforestation		Efficiency general
3	7. Climate change mitigation technologies in the production or processing of goods	7.5. Technologies relating to agriculture, livestock or agroalimentary industries	7.5.6. Livestock or poultry management		Efficiency general
3	7. Climate change mitigation technologies in the production or processing of goods	7.5. Technologies relating to agriculture, livestock or agroalimentary industries	7.5.7. Fishing; Aquaculture; Aquafarming		Efficiency general
3	7. Climate change mitigation technologies in the production or processing of goods	7.5. Technologies relating to agriculture, livestock or agroalimentary industries	7.5.8. Food processing, e.g. use of renewable energies or variable speed drives in handling, conveying or stacking		Efficiency general
2	7. Climate change mitigation technologies in the production or processing of goods	7.6. technologies in the production process for final industrial or consumer products			Efficiency general
2	7. Climate change mitigation technologies in the production or processing of goods	7.7. Climate change mitigation technologies for sector-wide applications			Efficiency general
2	7. Climate change mitigation technologies in the production or processing of goods	7.8. Enabling technologies with a potential contribution to GHG emissions mitigation			Efficiency general
2	8. Climate change mitigation in information and communication technologies	8.1. Energy efficient computing			Efficiency general

Level	Topic L1	Topic L2	Topic L3	Topic L4	Category
2	8. Climate change mitigation in information and communication technologies	8.2. Energy efficiency in communication networks			Efficiency general
3	9. Climate change adaption technologies	9.1. Adaptation at coastal zones or river basins	9.1.1. Hard structures, e.g. dams, dykes or breakwaters		na
3	9. Climate change adaption technologies	9.1. Adaptation at coastal zones or river basins	9.1.2. Dune restoration or creation; cliff stabilisation		na
3	9. Climate change adaption technologies	9.1. Adaptation at coastal zones or river basins	9.1.3. Artificial reefs or seaweed; restoration or protection of coral reefs		na
3	9. Climate change adaption technologies	9.1. Adaptation at coastal zones or river basins	9.1.4. Flood prevention; flood or storm water management		na
3	9. Climate change adaption technologies	9.1. Adaptation at coastal zones or river basins	9.1.5. Controlling, monitoring or forecasting		na
4	9. Climate change adaption technologies	9.2. Water resource management	9.2.1. Demand-side technologies (water conservation)	9.2.1.1. Indoor water conservation	na
4	9. Climate change adaption technologies	9.2. Water resource management	9.2.1. Demand-side technologies (water conservation)	9.2.1.2. Irrigation water conservation	na
4	9. Climate change adaption technologies	9.2. Water resource management	9.2.1. Demand-side technologies (water conservation)	9.2.1.3. Water conservation in thermoelectric power production	Efficiency brown
4	9. Climate change adaption technologies	9.2. Water resource management	9.2.2. Supply-side technologies (water availability)	9.2.2.1. Water collection (rain, surface and ground-water)	na
4	9. Climate change adaption technologies	9.2. Water resource management	9.2.2. Supply-side technologies (water availability)	9.2.2.2. Water desalination	na
4	9. Climate change adaption technologies	9.2. Water resource management	9.2.2. Supply-side technologies (water availability)	9.2.2.3. Water storage and distribution	na
4	9. Climate change adaption technologies	9.2. Water resource management	9.2.2. Supply-side technologies (water availability)	9.2.2.4. Water filtration; Water and wastewater treatment	na
4	9. Climate change adaption technologies	9.2. Water resource management	9.2.2. Supply-side technologies (water availability)	9.2.2.5. Protecting water resources	na
3	9. Climate change adaption technologies	9.3. Adapting or protecting infrastructure or their operation	9.3.1. Extreme weather resilient electric power supply systems		na
3	9. Climate change adaption technologies	9.3. Adapting or protecting infrastructure or their operation	9.3.2. Structural elements or technology for improving thermal insulation		na
3	9. Climate change adaption technologies	9.3. Adapting or protecting infrastructure or their operation	9.3.3. Relating to heating, ventilation or air conditioning [HVAC] technologies		na
3	9. Climate change adaption technologies	9.3. Adapting or protecting infrastructure or their operation	9.3.4. In transportation		na
3	9. Climate change adaption technologies	9.3. Adapting or protecting infrastructure or their operation	9.3.5. Planning or developing urban green infrastructure		na
3	9. Climate change adaption technologies	9.4. Adaption technologies in agriculture, forestry, livestock or agroalimentary production	9.4.1. In agriculture		na
3	9. Climate change adaption technologies	9.4. Adaption technologies in agriculture, forestry, livestock or agroalimentary production	9.4.2. Ecological corridors or buffer zones		na
3	9. Climate change adaption technologies	9.4. Adaption technologies in agriculture, forestry, livestock or agroalimentary production	9.4.3. In livestock or poultry		na
3	9. Climate change adaption technologies	9.4. Adaption technologies in agriculture, forestry, livestock or agroalimentary production	9.4.4. In fisheries management		na
3	9. Climate change adaption technologies	9.4. Adaption technologies in agriculture, forestry, livestock or agroalimentary production	9.4.5. In food processing or handling, e.g. food conservation		na
3	9. Climate change adaption technologies	9.5. Adaptation technologies in human health protection, e.g. against extreme weather	9.5.1. Air quality improvement or preservation		na
3	9. Climate change adaption technologies	9.5. Adaptation technologies in human health protection, e.g. against extreme weather	9.5.2. Against vector-borne diseases whose impact is exacerbated by climate change		na
3	9. Climate change adaption technologies	9.6. Technologies having an indirect contribution to adaption to climate change	9.6.1. Information and communication technologies [ICT] supporting adaptation to climate change, e.g. for weather forecasting or climate simulation		na
3	9. Climate change adaption technologies	9.6. Technologies having an indirect contribution to adaption to climate change	9.6.2. Assessment of water resources		na
3	9. Climate change adaption technologies	9.6. Technologies having an indirect contribution to adaption to climate change	9.6.3. Monitoring or fighting invasive species		na
3	10. Ocean Economy	10.1 Ocean renewable energy generation	10.1.2. Offshore solar energy		Green
3	10. Ocean Economy	10.1 Ocean renewable energy generation	10.1.3. Tide, wave, current and other marine energy		Green
3	10. Ocean Economy	10.2. Ocean pollution abatement	10.2.1. Ballast water treatment		Efficiency general
3	10. Ocean Economy	10.2. Ocean pollution abatement	10.2.2. Oil spill (and other floating debris) prevention and cleanup		Efficiency brown
3	10. Ocean Economy	10.3. Climate change mitigatoin in maritime transport	10.3.1. Improved vessel design		Efficiency general
3	10. Ocean Economy	10.3. Climate change mitigatoin in maritime transport	10.3.2. Fuel-efficient propulsion or fuel substitution		Efficiency brown
2	10. Ocean Economy	10.4. Climate change mitigation & adaption in fishing, aquaculture and aquafarming			Efficiency general
2	10. Ocean Economy	10.5. Desalination of sea water		10.5. desalination of SEA water	Green
2	10. Ocean Economy	10.6. Climate change adaption in coastal zones			na

TABLE 5: CATEGORIES ASSIGNED TO IPC CLASSIFICATION

Level	Topic L1	Topic L2	Topic L3	Topic L4	Topic L5	IPC codes	Category
3	ALTERNATIVE ENERGY PRODUCTION	BIO-FUELS	SOLID FUELS			C10L 5/00, 5/40-5/48	Green
4	ALTERNATIVE ENERGY PRODUCTION	BIO-FUELS	SOLID FUELS	TORREFACTION OF BIOMASS		C10B 53/02	Green
4	ALTERNATIVE ENERGY PRODUCTION	BIO-FUELS	SOLID FUELS	TORREFACTION OF BIOMASS		C10L 5/40, 9/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	BIO-FUELS	LIQUID FUELS			C10L 1/00, 1/02, 1/14	Green
4	ALTERNATIVE ENERGY PRODUCTION	BIO-FUELS	LIQUID FUELS	VEGETABLE OILS		C10L 1/02, 1/19	Green
4	ALTERNATIVE ENERGY PRODUCTION	BIO-FUELS	LIQUID FUELS	BIODIESEL		C07C 67/00, 69/00	Green
4	ALTERNATIVE ENERGY PRODUCTION	BIO-FUELS	LIQUID FUELS	BIODIESEL		C10G	Green
4	ALTERNATIVE ENERGY PRODUCTION	BIO-FUELS	LIQUID FUELS	BIODIESEL		C10L 1/02, 1/19	Green
4	ALTERNATIVE ENERGY PRODUCTION	BIO-FUELS	LIQUID FUELS	BIODIESEL		C11C 3/10	Green
4	ALTERNATIVE ENERGY PRODUCTION	BIO-FUELS	LIQUID FUELS	BIODIESEL		C12P 7/649	Green
4	ALTERNATIVE ENERGY PRODUCTION	BIO-FUELS	LIQUID FUELS	BIOETHANOL		C10L 1/02, 1/182	Green
4	ALTERNATIVE ENERGY PRODUCTION	BIO-FUELS	LIQUID FUELS	BIOETHANOL		C12N 9/24	Green
4	ALTERNATIVE ENERGY PRODUCTION	BIO-FUELS	LIQUID FUELS	BIOETHANOL		C12P 7/06-7/14	Green
3	ALTERNATIVE ENERGY PRODUCTION	BIO-FUELS	BIOGAS			C02F 3/28, 11/04	Green
3	ALTERNATIVE ENERGY PRODUCTION	BIO-FUELS	BIOGAS			C10L 3/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	BIO-FUELS	BIOGAS			C12M 1/107	Green
3	ALTERNATIVE ENERGY PRODUCTION	BIO-FUELS	BIOGAS			C12P 5/02	Green
3	ALTERNATIVE ENERGY PRODUCTION	BIO-FUELS	FROM GENETICALLY ENGINEERED ORGANISMS			C12N 1/13, 1/15, 1/21, 5/10, 15/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	BIO-FUELS	FROM GENETICALLY ENGINEERED ORGANISMS			A01H	Green
2	ALTERNATIVE ENERGY PRODUCTION	INTEGRATED GASIFICATION COMBINED CYCLE (IGCC)				C10L 3/00	Efficiency brown
2	ALTERNATIVE ENERGY PRODUCTION	INTEGRATED GASIFICATION COMBINED CYCLE (IGCC)				F02C 3/28	Efficiency brown
2	ALTERNATIVE ENERGY PRODUCTION	FUEL CELLS				H01M 4/86-4/98, 8/00-8/24, 12/00-12/08	Green
3	ALTERNATIVE ENERGY PRODUCTION	FUEL CELLS	ELECTRODES			H01M 4/86-4/98	Green
4	ALTERNATIVE ENERGY PRODUCTION	FUEL CELLS	ELECTRODES	INERT ELECTRODES WITH CATALYTIC ACTIVITY		H01M 4/86-4/98	Green
3	ALTERNATIVE ENERGY PRODUCTION	FUEL CELLS	NON-ACTIVE PARTS			H01M 8/00-8/24, 50/00-50/171	Green
3	ALTERNATIVE ENERGY PRODUCTION	FUEL CELLS	WITHIN HYBRID CELLS			H01M 12/00-12/08	Green
2	ALTERNATIVE ENERGY PRODUCTION	PYROLYSIS OR GASIFICATION OF BIOMASS				C10B 53/00	Green
2	ALTERNATIVE ENERGY PRODUCTION	PYROLYSIS OR GASIFICATION OF BIOMASS				C10J	Green
3	ALTERNATIVE ENERGY PRODUCTION	HARNESSING ENERGY FROM MANMADE WASTE	AGRICULTURAL WASTE			C10L 5/00	Green
4	ALTERNATIVE ENERGY PRODUCTION	HARNESSING ENERGY FROM MANMADE WASTE	AGRICULTURAL WASTE	FUEL FROM ANIMAL WASTE AND CROP RESIDUES		C10L 5/42, 5/44	Green
4	ALTERNATIVE ENERGY PRODUCTION	HARNESSING ENERGY FROM MANMADE WASTE	AGRICULTURAL WASTE	INCINERATORS FOR FIELD, GARDEN OR WOOD WASTE		F23G 7/00, 7/10	Green
3	ALTERNATIVE ENERGY PRODUCTION	HARNESSING ENERGY FROM MANMADE WASTE	GASIFICATION			C10J 3/02, 3/46	Efficiency brown
3	ALTERNATIVE ENERGY PRODUCTION	HARNESSING ENERGY FROM MANMADE WASTE	GASIFICATION			F23B 90/00	Efficiency brown
3	ALTERNATIVE ENERGY PRODUCTION	HARNESSING ENERGY FROM MANMADE WASTE	GASIFICATION			F23G 5/027	Efficiency brown
3	ALTERNATIVE ENERGY PRODUCTION	HARNESSING ENERGY FROM MANMADE WASTE	CHEMICAL WASTE			B09B 3/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	HARNESSING ENERGY FROM MANMADE WASTE	CHEMICAL WASTE			F23G 7/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	HARNESSING ENERGY FROM MANMADE WASTE	INDUSTRIAL WASTE			C10L 5/48	Green
3	ALTERNATIVE ENERGY PRODUCTION	HARNESSING ENERGY FROM MANMADE WASTE	INDUSTRIAL WASTE			F23G 5/00, 7/00	Green
4	ALTERNATIVE ENERGY PRODUCTION	HARNESSING ENERGY FROM MANMADE WASTE	INDUSTRIAL WASTE	USING TOP GAS IN BLAST FURNACES TO POWER PIG-IRON PRODUCTION		C21B 5/06	Efficiency brown
4	ALTERNATIVE ENERGY PRODUCTION	HARNESSING ENERGY FROM MANMADE WASTE	INDUSTRIAL WASTE	PULP LIQUORS		D21C 11/00	Green
4	ALTERNATIVE ENERGY PRODUCTION	HARNESSING ENERGY FROM MANMADE WASTE	INDUSTRIAL WASTE	ANAEROBIC DIGESTION OF INDUSTRIAL WASTE		A62D 3/02	Green
4	ALTERNATIVE ENERGY PRODUCTION	HARNESSING ENERGY FROM MANMADE WASTE	INDUSTRIAL WASTE	ANAEROBIC DIGESTION OF INDUSTRIAL WASTE		C02F 11/04, 11/14	Green
4	ALTERNATIVE ENERGY PRODUCTION	HARNESSING ENERGY FROM MANMADE WASTE	INDUSTRIAL WASTE	INDUSTRIAL WOOD WASTE		F23G 7/00, 7/10	Green
3	ALTERNATIVE ENERGY PRODUCTION	HARNESSING ENERGY FROM MANMADE WASTE	HOSPITAL WASTE			B09B 3/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	HARNESSING ENERGY FROM MANMADE WASTE	HOSPITAL WASTE			F23G 5/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	HARNESSING ENERGY FROM MANMADE WASTE	LANDFILL GAS			B09B	Efficiency brown
4	ALTERNATIVE ENERGY PRODUCTION	HARNESSING ENERGY FROM MANMADE WASTE	LANDFILL GAS	SEPARATION OF COMPONENTS		B01D 53/02, 53/04, 53/047, 53/14, 53/22, 53/24	Efficiency brown
3	ALTERNATIVE ENERGY PRODUCTION	HARNESSING ENERGY FROM MANMADE WASTE	MUNICIPAL WASTE			C10L 5/46	Green
3	ALTERNATIVE ENERGY PRODUCTION	HARNESSING ENERGY FROM MANMADE WASTE	MUNICIPAL WASTE			F23G 5/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	HYDRO ENERGY	WATER-POWER PLANTS			E02B 9/00-9/06	Green
4	ALTERNATIVE ENERGY PRODUCTION	HYDRO ENERGY	WATER-POWER PLANTS	TIDE OR WAVE POWER PLANTS		E02B 9/08	Green
3	ALTERNATIVE ENERGY PRODUCTION	HYDRO ENERGY	MACHINES OR ENGINES FOR LIQUIDS			F03B	Green
3	ALTERNATIVE ENERGY PRODUCTION	HYDRO ENERGY	MACHINES OR ENGINES FOR LIQUIDS			F03C	Green
4	ALTERNATIVE ENERGY PRODUCTION	HYDRO ENERGY	MACHINES OR ENGINES FOR LIQUIDS	USING WAVE OR TIDE ENERGY		F03B 13/12-13/26	Green
3	ALTERNATIVE ENERGY PRODUCTION	HYDRO ENERGY	REGULATING, CONTROLLING OR SAFETY MEANS OF MACHINES OR ENGINES			F03B 15/00-15/22	Green
3	ALTERNATIVE ENERGY PRODUCTION	HYDRO ENERGY	PROPULSION OF MARINE VESSELS USING ENERGY DERIVED FROM WATER MOVEMENT			B63H 19/02, 19/04	Green
2	ALTERNATIVE ENERGY PRODUCTION	OCEAN THERMAL ENERGY CONVERSION (OTEC)				F03G 7/05	Green
2	ALTERNATIVE ENERGY PRODUCTION	WIND ENERGY				F03D	Green
3	ALTERNATIVE ENERGY PRODUCTION	WIND ENERGY	STRUCTURAL ASSOCIATION OF ELECTRIC GENERATOR WITH MECHANICAL DRIVING MOTOR			H02K 7/18	Green
3	ALTERNATIVE ENERGY PRODUCTION	WIND ENERGY	STRUCTURAL ASPECTS OF WIND TURBINES			B63B 35/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	WIND ENERGY	STRUCTURAL ASPECTS OF WIND TURBINES			E04H 12/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	WIND ENERGY	STRUCTURAL ASPECTS OF WIND TURBINES			F03D 13/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	WIND ENERGY	PROPULSION OF VEHICLES USING WIND POWER			B60K 16/00	Green
4	ALTERNATIVE ENERGY PRODUCTION	WIND ENERGY	PROPULSION OF VEHICLES USING WIND POWER	ELECTRIC PROPULSION OF VEHICLES USING WIND POWER		B60L 8/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	WIND ENERGY	PROPULSION OF MARINE VESSELS BY WIND-POWERED MOTORS			B63H 13/00	Green
2	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY				F24S	Green
2	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY				H02S	Green
4	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	PHOTOVOLTAICS (PV)	DEVICES ADAPTED FOR THE CONVERSION OF RADIATION ENERGY INTO ELECTRICAL ENERGY		H01L 27/142, 31/00-31/078	Green
4	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	PHOTOVOLTAICS (PV)	DEVICES ADAPTED FOR THE CONVERSION OF RADIATION ENERGY INTO ELECTRICAL ENERGY		H01G 9/20	Green
4	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	PHOTOVOLTAICS (PV)	DEVICES ADAPTED FOR THE CONVERSION OF RADIATION ENERGY INTO ELECTRICAL ENERGY		H02S 10/00	Green
5	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	PHOTOVOLTAICS (PV)	DEVICES ADAPTED FOR THE CONVERSION OF RADIATION ENERGY INTO ELECTRICAL ENERGY	USING ORGANIC MATERIALS AS THE ACTIVE PART	H01L 27/30, 51/42-51/48	Green
4	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	PHOTOVOLTAICS (PV)	ASSEMBLIES OF A PLURALITY OF SOLAR CELLS		H01L 25/00, 25/03, 25/16, 25/18, 31/042	Green
4	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	PHOTOVOLTAICS (PV)	SILICON; SINGLE-CRYSTAL GROWTH		C01B 33/02	Green
4	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	PHOTOVOLTAICS (PV)	SILICON; SINGLE-CRYSTAL GROWTH		C23C 14/14, 16/24	Green
4	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	PHOTOVOLTAICS (PV)	SILICON; SINGLE-CRYSTAL GROWTH		C30B 29/06	Green
4	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	PHOTOVOLTAICS (PV)	REGULATING TO THE MAXIMUM POWER AVAILABLE FROM SOLAR CELLS		G05F 1/67	Green
4	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	PHOTOVOLTAICS (PV)	ELECTRIC LIGHTING DEVICES WITH, OR RECHARGEABLE WITH, SOLAR CELLS		F21L 4/00	Green
4	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	PHOTOVOLTAICS (PV)	ELECTRIC LIGHTING DEVICES WITH, OR RECHARGEABLE WITH, SOLAR CELLS		F21S 9/03	Green
4	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	PHOTOVOLTAICS (PV)	CHARGING BATTERIES		H02J 7/35	Green
4	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	PHOTOVOLTAICS (PV)	DYE-SENSITISED SOLAR CELLS (DSSC)		H01G 9/20	Green
4	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	PHOTOVOLTAICS (PV)	DYE-SENSITISED SOLAR CELLS (DSSC)		H01M 14/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	USE OF SOLAR HEAT			F24S	Green
4	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	USE OF SOLAR HEAT	FOR DOMESTIC HOT WATER SYSTEMS		F24D 17/00, 18/00	Green
4	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	USE OF SOLAR HEAT	FOR SPACE HEATING		F24D 3/00, 5/00, 11/00, 19/00	Green
4	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	USE OF SOLAR HEAT	FOR SWIMMING POOLS		F24S 90/00	Green
4	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	USE OF SOLAR HEAT	SOLAR UPDRAFT TOWERS		F03D 1/04, 9/00, 13/20	Green
4	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	USE OF SOLAR HEAT	SOLAR UPDRAFT TOWERS		F03G 6/00	Green
4	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	USE OF SOLAR HEAT	FOR TREATMENT OF WATER, WASTE WATER OR SLUDGE		C02F 1/14	Green
4	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	USE OF SOLAR HEAT	GAS TURBINE POWER PLANTS USING SOLAR HEAT SOURCE		F02C 1/05	Green
3	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	HYBRID SOLAR THERMAL-PV SYSTEMS			H01L 31/0525	Green
3	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	HYBRID SOLAR THERMAL-PV SYSTEMS			H02S 40/44	Green
3	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	PROPULSION OF VEHICLES USING SOLAR POWER			B60K 16/00	Green
4	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	PROPULSION OF VEHICLES USING SOLAR POWER	ELECTRIC PROPULSION OF VEHICLES USING SOLAR POWER		B60L 8/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	PRODUCING MECHANICAL POWER FROM SOLAR ENERGY			F03G 6/00-6/06	Green
3	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	ROOF COVERING ASPECTS OF ENERGY COLLECTING DEVICES			E04D 13/00, 13/18	Green
3	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	STEAM GENERATION USING SOLAR HEAT			F22B 1/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	STEAM GENERATION USING SOLAR HEAT			F24V 30/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	REFRIGERATION OR HEAT PUMP SYSTEMS USING SOLAR ENERGY			F25B 27/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	USE OF SOLAR ENERGY FOR DRYING MATERIALS OR OBJECTS			F26B 3/00, 3/28	Green
3	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	SOLAR CONCENTRATORS			F24S 23/00	Green

Level	Topic L1	Topic L2	Topic L3	Topic L4	Topic L5	IPC codes	Category
3	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	SOLAR CONCENTRATORS			G02B 7/183	Green
3	ALTERNATIVE ENERGY PRODUCTION	SOLAR ENERGY	SOLAR PONDS			F24S 10/10	Green
2	ALTERNATIVE ENERGY PRODUCTION	GEOTHERMAL ENERGY				F24T	Green
3	ALTERNATIVE ENERGY PRODUCTION	GEOTHERMAL ENERGY	USE OF GEOTHERMAL HEAT			F01K	Green
3	ALTERNATIVE ENERGY PRODUCTION	GEOTHERMAL ENERGY	USE OF GEOTHERMAL HEAT			F24F 5/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	GEOTHERMAL ENERGY	USE OF GEOTHERMAL HEAT			F24T 10/00-50/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	GEOTHERMAL ENERGY	USE OF GEOTHERMAL HEAT			H02N 10/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	GEOTHERMAL ENERGY	USE OF GEOTHERMAL HEAT			F25B 30/06	Green
3	ALTERNATIVE ENERGY PRODUCTION	GEOTHERMAL ENERGY	PRODUCTION OF MECHANICAL POWER FROM GEOTHERMAL ENERGY			F03G 4/00-4/06, 7/04	Green
2	ALTERNATIVE ENERGY PRODUCTION	OTHER PRODUCTION OR USE OF HEAT, NOT DERIVED FROM COMBUSTION, E.G. NATURAL HEAT				F24T 10/00-50/00	Green
2	ALTERNATIVE ENERGY PRODUCTION	OTHER PRODUCTION OR USE OF HEAT, NOT DERIVED FROM COMBUSTION, E.G. NATURAL HEAT				F24V 30/00-50/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	OTHER PRODUCTION OR USE OF HEAT, NOT DERIVED FROM COMBUSTION, E.G. NATURAL HEAT	HEAT PUMPS IN CENTRAL HEATING SYSTEMS USING HEAT ACCUMULATED IN STORAGE MASSES			F24D 11/02	Green
3	ALTERNATIVE ENERGY PRODUCTION	OTHER PRODUCTION OR USE OF HEAT, NOT DERIVED FROM COMBUSTION, E.G. NATURAL HEAT	HEAT PUMPS IN OTHER DOMESTIC- OR SPACE-HEATING SYSTEMS			F24D 15/04	Green
3	ALTERNATIVE ENERGY PRODUCTION	OTHER PRODUCTION OR USE OF HEAT, NOT DERIVED FROM COMBUSTION, E.G. NATURAL HEAT	HEAT PUMPS IN DOMESTIC HOT-WATER SUPPLY SYSTEMS			F24D 17/02, 18/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	OTHER PRODUCTION OR USE OF HEAT, NOT DERIVED FROM COMBUSTION, E.G. NATURAL HEAT	AIR OR WATER HEATERS USING HEAT PUMPS			F24H 4/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	OTHER PRODUCTION OR USE OF HEAT, NOT DERIVED FROM COMBUSTION, E.G. NATURAL HEAT	HEAT PUMPS			F25B 30/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	USING WASTE HEAT	TO PRODUCE MECHANICAL ENERGY			F01K 27/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	USING WASTE HEAT	OF COMBUSTION ENGINES			F01K 23/06-23/10	Efficiency brown
3	ALTERNATIVE ENERGY PRODUCTION	USING WASTE HEAT	OF COMBUSTION ENGINES			F01N 5/00	Efficiency brown
3	ALTERNATIVE ENERGY PRODUCTION	USING WASTE HEAT	OF COMBUSTION ENGINES			F02G 5/00-5/04	Efficiency brown
3	ALTERNATIVE ENERGY PRODUCTION	USING WASTE HEAT	OF COMBUSTION ENGINES			F25B 27/02	Efficiency brown
3	ALTERNATIVE ENERGY PRODUCTION	USING WASTE HEAT	OF STEAM ENGINE PLANTS			F01K 17/00, 23/04	Efficiency brown
3	ALTERNATIVE ENERGY PRODUCTION	USING WASTE HEAT	OF GAS-TURBINE PLANTS			F02C 6/18	Efficiency brown
3	ALTERNATIVE ENERGY PRODUCTION	USING WASTE HEAT	AS SOURCE OF ENERGY FOR REFRIGERATION PLANTS			F25B 27/02	Green
3	ALTERNATIVE ENERGY PRODUCTION	USING WASTE HEAT	FOR TREATMENT OF WATER, WASTE WATER OR SEWAGE			C02F 1/16	Green
3	ALTERNATIVE ENERGY PRODUCTION	USING WASTE HEAT	RECOVERY OF WASTE HEAT IN PAPER PRODUCTION			D21F 5/20	Green
3	ALTERNATIVE ENERGY PRODUCTION	USING WASTE HEAT	FOR STEAM GENERATION BY EXPLOITATION OF THE HEAT CONTENT OF HOT HEAT CARRIERS			F22B 1/02	Green
3	ALTERNATIVE ENERGY PRODUCTION	USING WASTE HEAT	RECUPERATION OF HEAT ENERGY FROM WASTE INCINERATION			F23G 5/46	Green
3	ALTERNATIVE ENERGY PRODUCTION	USING WASTE HEAT	ENERGY RECOVERY IN AIR CONDITIONING			F24F 12/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	USING WASTE HEAT	ARRANGEMENTS FOR USING WASTE HEAT FROM FURNACES, KILNS, OVENS OR RETORTS			F27D 17/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	USING WASTE HEAT	REGENERATIVE HEAT-EXCHANGE APPARATUS			F28D 17/00-20/00	Green
3	ALTERNATIVE ENERGY PRODUCTION	USING WASTE HEAT	OF GASIFICATION PLANTS			C10J 3/86	Green
2	ALTERNATIVE ENERGY PRODUCTION	DEVICES FOR PRODUCING MECHANICAL POWER FROM MUSCLE ENERGY				F03G 5/00-5/08	Green
3	TRANSPORTATION	VEHICLES IN GENERAL	HYBRID VEHICLES, E.G. HYBRID ELECTRIC VEHICLES (HEVS)			B60K 6/00, 6/20	Green
4	TRANSPORTATION	VEHICLES IN GENERAL	HYBRID VEHICLES, E.G. HYBRID ELECTRIC VEHICLES (HEVS)	CONTROL SYSTEMS		B60W 20/00	Green
4	TRANSPORTATION	VEHICLES IN GENERAL	HYBRID VEHICLES, E.G. HYBRID ELECTRIC VEHICLES (HEVS)	GEARINGS THEREFOR		F16H 3/00-3/78, 48/00-48/30	Green
3	TRANSPORTATION	VEHICLES IN GENERAL	BRUSHLESS MOTORS			H02K 29/08	Efficiency general
3	TRANSPORTATION	VEHICLES IN GENERAL	ELECTROMAGNETIC CLUTCHES			H02K 49/10	Efficiency general
3	TRANSPORTATION	VEHICLES IN GENERAL	REGENERATIVE BRAKING SYSTEMS			B60L 7/10-7/22	Efficiency general
3	TRANSPORTATION	VEHICLES IN GENERAL	ELECTRIC PROPULSION WITH POWER SUPPLY FROM FORCE OF NATURE, E.G. SUN, WIND			B60L 8/00	Green
3	TRANSPORTATION	VEHICLES IN GENERAL	ELECTRIC PROPULSION WITH POWER SUPPLY EXTERNAL TO VEHICLE			B60L 9/00	Green
4	TRANSPORTATION	VEHICLES IN GENERAL	ELECTRIC PROPULSION WITH POWER SUPPLY EXTERNAL TO VEHICLE	WITH POWER SUPPLY FROM FUEL CELLS, E.G. FOR HYDROGEN VEHICLES		B60L 50/50-58/40	Green
3	TRANSPORTATION	VEHICLES IN GENERAL	COMBUSTION ENGINES OPERATING ON GASEOUS FUELS, E.G. HYDROGEN			F02B 43/00	Efficiency brown
3	TRANSPORTATION	VEHICLES IN GENERAL	COMBUSTION ENGINES OPERATING ON GASEOUS FUELS, E.G. HYDROGEN			F02M 21/02, 27/02	Efficiency brown
3	TRANSPORTATION	VEHICLES IN GENERAL	POWER SUPPLY FROM FORCE OF NATURE, E.G. SUN, WIND			B60K 16/00	Green
3	TRANSPORTATION	VEHICLES IN GENERAL	CHARGING STATIONS FOR ELECTRIC VEHICLES			H02J 7/00	Green
3	TRANSPORTATION	VEHICLES OTHER THAN RAIL VEHICLES	DRAG REDUCTION			B62D 35/00, 35/02	Efficiency general
3	TRANSPORTATION	VEHICLES OTHER THAN RAIL VEHICLES	DRAG REDUCTION			B63B 1/34-1/40	Efficiency general
3	TRANSPORTATION	VEHICLES OTHER THAN RAIL VEHICLES	HUMAN-POWERED VEHICLE			B62K	Green
3	TRANSPORTATION	VEHICLES OTHER THAN RAIL VEHICLES	HUMAN-POWERED VEHICLE			B62M 1/00, 3/00, 5/00, 6/00	Green
2	TRANSPORTATION	RAIL VEHICLES				B61	Efficiency general
3	TRANSPORTATION	RAIL VEHICLES	DRAG REDUCTION			B61D 17/02	Efficiency general
3	TRANSPORTATION	MARINE VESSEL PROPULSION	PROPULSIVE DEVICES DIRECTLY ACTED ON BY WIND			B63H 9/00	Green
3	TRANSPORTATION	MARINE VESSEL PROPULSION	PROPULSION BY WIND-POWERED MOTORS			B63H 13/00	Green
3	TRANSPORTATION	MARINE VESSEL PROPULSION	PROPULSION USING ENERGY DERIVED FROM WATER MOVEMENT			B63H 19/02, 19/04	Green
3	TRANSPORTATION	MARINE VESSEL PROPULSION	PROPULSION BY MUSCLE POWER			B63H 16/00	Green
3	TRANSPORTATION	MARINE VESSEL PROPULSION	PROPULSION DERIVED FROM NUCLEAR ENERGY			B63H 21/18	Green
2	TRANSPORTATION	COSMONAUTIC VEHICLES USING SOLAR ENERGY				B64G 1/44	Green
2	ENERGY CONSERVATION	STORAGE OF ELECTRICAL ENERGY				B60K 6/28	Green
2	ENERGY CONSERVATION	STORAGE OF ELECTRICAL ENERGY				B60W 10/26	Green
2	ENERGY CONSERVATION	STORAGE OF ELECTRICAL ENERGY				H01M 10/44-10/46	Green
2	ENERGY CONSERVATION	STORAGE OF ELECTRICAL ENERGY				H01G 11/00	Green
2	ENERGY CONSERVATION	STORAGE OF ELECTRICAL ENERGY				H02J 3/28, 7/00, 15/00	Green
2	ENERGY CONSERVATION	POWER SUPPLY CIRCUITRY				H02J	Green
3	ENERGY CONSERVATION	POWER SUPPLY CIRCUITRY	WITH POWER SAVING MODES			H02J 9/00	Green
2	ENERGY CONSERVATION	MEASUREMENT OF ELECTRICITY CONSUMPTION				B60L 3/00	Green
2	ENERGY CONSERVATION	MEASUREMENT OF ELECTRICITY CONSUMPTION				G01R	Green
2	ENERGY CONSERVATION	STORAGE OF THERMAL ENERGY				C09K 5/00	Green
2	ENERGY CONSERVATION	STORAGE OF THERMAL ENERGY				F24H 7/00	Green
2	ENERGY CONSERVATION	STORAGE OF THERMAL ENERGY				F28D 20/00, 20/02	Green
3	ENERGY CONSERVATION	LOW ENERGY LIGHTING	ELECTROLUMINESCENT LIGHT SOURCES (E.G. LEDS, OLEDS, PLEDS)			F21K 99/00	Efficiency general
3	ENERGY CONSERVATION	LOW ENERGY LIGHTING	ELECTROLUMINESCENT LIGHT SOURCES (E.G. LEDS, OLEDS, PLEDS)			F21L 4/02	Efficiency general
3	ENERGY CONSERVATION	LOW ENERGY LIGHTING	ELECTROLUMINESCENT LIGHT SOURCES (E.G. LEDS, OLEDS, PLEDS)			H01L 33/00-33/64, 51/50	Efficiency general
3	ENERGY CONSERVATION	LOW ENERGY LIGHTING	ELECTROLUMINESCENT LIGHT SOURCES (E.G. LEDS, OLEDS, PLEDS)			H05B 33/00	Efficiency general
2	ENERGY CONSERVATION	THERMAL BUILDING INSULATION, IN GENERAL				E04B 1/62, 1/74-1/80, 1/88, 1/90	Efficiency general
3	ENERGY CONSERVATION	THERMAL BUILDING INSULATION, IN GENERAL	INSULATING BUILDING ELEMENTS			E04C 1/40, 1/41, 2/284-2/296	Efficiency general
4	ENERGY CONSERVATION	THERMAL BUILDING INSULATION, IN GENERAL	INSULATING BUILDING ELEMENTS	FOR DOOR OR WINDOW OPENINGS		E06B 3/263	Efficiency general
4	ENERGY CONSERVATION	THERMAL BUILDING INSULATION, IN GENERAL	INSULATING BUILDING ELEMENTS	FOR WALLS		E04B 2/00	Efficiency general
4	ENERGY CONSERVATION	THERMAL BUILDING INSULATION, IN GENERAL	INSULATING BUILDING ELEMENTS	FOR WALLS		E04F 13/08	Efficiency general
4	ENERGY CONSERVATION	THERMAL BUILDING INSULATION, IN GENERAL	INSULATING BUILDING ELEMENTS	FOR FLOORS		E04B 5/00	Efficiency general
4	ENERGY CONSERVATION	THERMAL BUILDING INSULATION, IN GENERAL	INSULATING BUILDING ELEMENTS	FOR FLOORS		E04F 15/18	Efficiency general
4	ENERGY CONSERVATION	THERMAL BUILDING INSULATION, IN GENERAL	INSULATING BUILDING ELEMENTS	FOR ROOFS		E04B 7/00	Efficiency general
4	ENERGY CONSERVATION	THERMAL BUILDING INSULATION, IN GENERAL	INSULATING BUILDING ELEMENTS	FOR ROOFS		E04D 1/28, 3/35, 13/16	Efficiency general
4	ENERGY CONSERVATION	THERMAL BUILDING INSULATION, IN GENERAL	INSULATING BUILDING ELEMENTS	FOR CEILINGS		E04B 9/00	Efficiency general
4	ENERGY CONSERVATION	THERMAL BUILDING INSULATION, IN GENERAL	INSULATING BUILDING ELEMENTS	FOR CEILINGS		E04F 13/08	Efficiency general
2	ENERGY CONSERVATION	RECOVERING MECHANICAL ENERGY				F03G 7/08	Green
3	ENERGY CONSERVATION	RECOVERING MECHANICAL ENERGY	CHARGEABLE MECHANICAL ACCUMULATORS IN VEHICLES			B60K 6/10, 6/30	Green
3	ENERGY CONSERVATION	RECOVERING MECHANICAL ENERGY	CHARGEABLE MECHANICAL ACCUMULATORS IN VEHICLES			B60L 50/30	Green
2	WASTE MANAGEMENT	WASTE DISPOSAL				B09B	Efficiency general
2	WASTE MANAGEMENT	WASTE DISPOSAL				B65F	Efficiency general
3	WASTE MANAGEMENT	TREATMENT OF WASTE	DISINFECTION OR STERILISATION			A61L 11/00	Efficiency general
3	WASTE MANAGEMENT	TREATMENT OF WASTE	TREATMENT OF HAZARDOUS OR TOXIC WASTE			A62D 3/00, 101/00	Efficiency general
3	WASTE MANAGEMENT	TREATMENT OF WASTE	TREATING RADIOACTIVELY CONTAMINATED MATERIAL; DECONTAMINATION ARRANGEMENTS THEREFOR			G21F 9/00	Efficiency general
3	WASTE MANAGEMENT	TREATMENT OF WASTE	REFUSE SEPARATION			B03B 9/06	Efficiency general
3	WASTE MANAGEMENT	TREATMENT OF WASTE	RECLAMATION OF CONTAMINATED SOIL			B09C	Efficiency general
3	WASTE MANAGEMENT	TREATMENT OF WASTE	MECHANICAL TREATMENT OF WASTE PAPER			D21B 1/08, 1/32	Efficiency general
2	WASTE MANAGEMENT	CONSUMING WASTE BY COMBUSTION				F23G	Efficiency general
3	WASTE MANAGEMENT	REUSE OF WASTE MATERIALS	USE OF RUBBER WASTE IN FOOTWEAR			A43B 1/12, 21/14	Efficiency general
3	WASTE MANAGEMENT	REUSE OF WASTE MATERIALS	MANUFACTURE OF ARTICLES FROM WASTE METAL PARTICLES			B22F 8/00	Efficiency general
3	WASTE MANAGEMENT	REUSE OF WASTE MATERIALS	PRODUCTION OF HYDRAULIC CEMENTS FROM WASTE MATERIALS			C04B 7/24-7/30	Efficiency general

Level	Topic L1	Topic L2	Topic L3	Topic L4	Topic L5	IPC codes	Category
3	WASTE MANAGEMENT	REUSE OF WASTE MATERIALS	USE OF WASTE MATERIALS AS FILLERS FOR MORTARS, CONCRETE			C04B 18/04-18/10	Efficiency general
3	WASTE MANAGEMENT	REUSE OF WASTE MATERIALS	PRODUCTION OF FERTILISERS FROM WASTE OR REFUSE			C05F	Efficiency general
3	WASTE MANAGEMENT	REUSE OF WASTE MATERIALS	RECOVERY OR WORKING-UP OF WASTE MATERIALS			C09J 11/00-11/28	Efficiency general
3	WASTE MANAGEMENT	REUSE OF WASTE MATERIALS	RECOVERY OR WORKING-UP OF WASTE MATERIALS			C09K 11/01	Efficiency general
3	WASTE MANAGEMENT	REUSE OF WASTE MATERIALS	RECOVERY OR WORKING-UP OF WASTE MATERIALS			C11B 11/00, 13/00-13/04	Efficiency general
3	WASTE MANAGEMENT	REUSE OF WASTE MATERIALS	RECOVERY OR WORKING-UP OF WASTE MATERIALS			C14C 3/32	Efficiency general
3	WASTE MANAGEMENT	REUSE OF WASTE MATERIALS	RECOVERY OR WORKING-UP OF WASTE MATERIALS			C21B 3/04	Efficiency general
3	WASTE MANAGEMENT	REUSE OF WASTE MATERIALS	RECOVERY OR WORKING-UP OF WASTE MATERIALS			C25C 1/00	Efficiency general
3	WASTE MANAGEMENT	REUSE OF WASTE MATERIALS	RECOVERY OR WORKING-UP OF WASTE MATERIALS			D01F 13/00-13/04	Efficiency general
4	WASTE MANAGEMENT	REUSE OF WASTE MATERIALS	RECOVERY OR WORKING-UP OF WASTE MATERIALS	RECOVERY OF PLASTICS MATERIALS FROM WASTE		B29B 17/00	Efficiency general
4	WASTE MANAGEMENT	REUSE OF WASTE MATERIALS	RECOVERY OR WORKING-UP OF WASTE MATERIALS	DISASSEMBLY OF VEHICLES FOR RECOVERY OF SALVAGEABLE PARTS		B62D 67/00	Efficiency general
4	WASTE MANAGEMENT	REUSE OF WASTE MATERIALS	RECOVERY OR WORKING-UP OF WASTE MATERIALS	OF POLYMERS		C08J 11/04-11/28	Efficiency general
4	WASTE MANAGEMENT	REUSE OF WASTE MATERIALS	RECOVERY OR WORKING-UP OF WASTE MATERIALS	PRODUCTION OF LIQUID HYDROCARBONS FROM RUBBER WASTE		C10G 1/10	Efficiency general
4	WASTE MANAGEMENT	REUSE OF WASTE MATERIALS	RECOVERY OR WORKING-UP OF WASTE MATERIALS	SOLID FUELS DERIVED FROM WASTE		C10L 5/46, 5/48	Efficiency general
4	WASTE MANAGEMENT	REUSE OF WASTE MATERIALS	RECOVERY OR WORKING-UP OF WASTE MATERIALS	OBTAINING METALS FROM SCRAP		C22B 7/00-7/04, 19/30, 25/06	Efficiency general
4	WASTE MANAGEMENT	REUSE OF WASTE MATERIALS	RECOVERY OR WORKING-UP OF WASTE MATERIALS	DISINTEGRATING FIBROUS MATERIALS FOR REUSE		D01G 11/00	Efficiency general
4	WASTE MANAGEMENT	REUSE OF WASTE MATERIALS	RECOVERY OR WORKING-UP OF WASTE MATERIALS	WORKING-UP WASTE PAPER TO OBTAIN CELLULOSE		D21C 5/02	Efficiency general
4	WASTE MANAGEMENT	REUSE OF WASTE MATERIALS	RECOVERY OR WORKING-UP OF WASTE MATERIALS	RECLAIMING SALVAGEABLE COMPONENTS OR MATERIAL FROM ELECTRIC DISCHARGE TUBES OR LAMPS		H01J 9/50, 9/52	Efficiency general
4	WASTE MANAGEMENT	REUSE OF WASTE MATERIALS	RECOVERY OR WORKING-UP OF WASTE MATERIALS	RECLAIMING SERVICEABLE PARTS OF WASTE CELLS, BATTERIES OR ACCUMULATORS		H01M 6/52, 10/54	Efficiency general
3	WASTE MANAGEMENT	POLLUTION CONTROL	CARBON CAPTURE AND STORAGE			B01D 53/14, 53/22, 53/62	Gneen
3	WASTE MANAGEMENT	POLLUTION CONTROL	CARBON CAPTURE AND STORAGE			B65G 5/00	Gneen
3	WASTE MANAGEMENT	POLLUTION CONTROL	CARBON CAPTURE AND STORAGE			C01B 32/50	Gneen
3	WASTE MANAGEMENT	POLLUTION CONTROL	CARBON CAPTURE AND STORAGE			E21B 41/00, 43/16	Gneen
3	WASTE MANAGEMENT	POLLUTION CONTROL	CARBON CAPTURE AND STORAGE			E21F 17/16	Gneen
3	WASTE MANAGEMENT	POLLUTION CONTROL	CARBON CAPTURE AND STORAGE			F25J 3/02	Gneen
4	WASTE MANAGEMENT	POLLUTION CONTROL	AIR QUALITY MANAGEMENT	TREATMENT OF WASTE GASES		B01D 53/00-53/96	Efficiency general
5	WASTE MANAGEMENT	POLLUTION CONTROL	AIR QUALITY MANAGEMENT	TREATMENT OF WASTE GASES	EXHAUST APPARATUS FOR COMBUSTION ENGINES WITH MEANS FOR TREATING EXHAUST	F01N 3/00-3/38	Efficiency brown
5	WASTE MANAGEMENT	POLLUTION CONTROL	AIR QUALITY MANAGEMENT	TREATMENT OF WASTE GASES	RENDERING EXHAUST GASES INNOCUOUS	B01D 53/92	Efficiency brown
5	WASTE MANAGEMENT	POLLUTION CONTROL	AIR QUALITY MANAGEMENT	TREATMENT OF WASTE GASES	RENDERING EXHAUST GASES INNOCUOUS	F02B 75/10	Efficiency brown
5	WASTE MANAGEMENT	POLLUTION CONTROL	AIR QUALITY MANAGEMENT	TREATMENT OF WASTE GASES	REMOVAL OF WASTE GASES OR DUST IN STEEL PRODUCTION	C21C 5/38	Efficiency brown
5	WASTE MANAGEMENT	POLLUTION CONTROL	AIR QUALITY MANAGEMENT	TREATMENT OF WASTE GASES	COMBUSTION APPARATUS USING RECIRCULATION OF FLUE GASES	C10B 21/18	Efficiency brown
5	WASTE MANAGEMENT	POLLUTION CONTROL	AIR QUALITY MANAGEMENT	TREATMENT OF WASTE GASES	COMBUSTION APPARATUS USING RECIRCULATION OF FLUE GASES	F23B 80/02	Efficiency brown
5	WASTE MANAGEMENT	POLLUTION CONTROL	AIR QUALITY MANAGEMENT	TREATMENT OF WASTE GASES	COMBUSTION APPARATUS USING RECIRCULATION OF FLUE GASES	F23C 9/00	Efficiency brown
5	WASTE MANAGEMENT	POLLUTION CONTROL	AIR QUALITY MANAGEMENT	TREATMENT OF WASTE GASES	COMBUSTION OF WASTE GASES OR NOXIOUS GASES	F23G 7/06	Efficiency brown
5	WASTE MANAGEMENT	POLLUTION CONTROL	AIR QUALITY MANAGEMENT	TREATMENT OF WASTE GASES	ELECTRICAL CONTROL OF EXHAUST GAS TREATING APPARATUS	F01N 9/00	Efficiency general
4	WASTE MANAGEMENT	POLLUTION CONTROL	AIR QUALITY MANAGEMENT	SEPARATING DISPERSED PARTICLES FROM GASES OR VAPOURS		B01D 45/00-51/00	Efficiency general
4	WASTE MANAGEMENT	POLLUTION CONTROL	AIR QUALITY MANAGEMENT	SEPARATING DISPERSED PARTICLES FROM GASES OR VAPOURS		B03C 3/00	Efficiency general
5	WASTE MANAGEMENT	POLLUTION CONTROL	AIR QUALITY MANAGEMENT	SEPARATING DISPERSED PARTICLES FROM GASES OR VAPOURS	DUST REMOVAL FROM FURNACES	C21B 7/22	Efficiency general
5	WASTE MANAGEMENT	POLLUTION CONTROL	AIR QUALITY MANAGEMENT	SEPARATING DISPERSED PARTICLES FROM GASES OR VAPOURS	DUST REMOVAL FROM FURNACES	C21C 5/38	Efficiency general
5	WASTE MANAGEMENT	POLLUTION CONTROL	AIR QUALITY MANAGEMENT	SEPARATING DISPERSED PARTICLES FROM GASES OR VAPOURS	DUST REMOVAL FROM FURNACES	F27B 1/18	Efficiency general
5	WASTE MANAGEMENT	POLLUTION CONTROL	AIR QUALITY MANAGEMENT	SEPARATING DISPERSED PARTICLES FROM GASES OR VAPOURS	DUST REMOVAL FROM FURNACES	F27B 15/12	Efficiency general
4	WASTE MANAGEMENT	POLLUTION CONTROL	AIR QUALITY MANAGEMENT	USE OF ADDITIVES IN FUELS OR FIRES TO REDUCE SMOKE OR FACILITATE SOOT REMOVAL		C10L 10/02, 10/06	Efficiency general
4	WASTE MANAGEMENT	POLLUTION CONTROL	AIR QUALITY MANAGEMENT	USE OF ADDITIVES IN FUELS OR FIRES TO REDUCE SMOKE OR FACILITATE SOOT REMOVAL		F23J 7/00	Efficiency general
4	WASTE MANAGEMENT	POLLUTION CONTROL	AIR QUALITY MANAGEMENT	ARRANGEMENTS OF DEVICES FOR TREATING SMOKE OR FUMES FROM COMBUSTION APPARATUS		F23J 15/00	Efficiency general
4	WASTE MANAGEMENT	POLLUTION CONTROL	AIR QUALITY MANAGEMENT	DUST-LAYING OR DUST-ABSORBING MATERIALS		C09K 3/22	Efficiency general
4	WASTE MANAGEMENT	POLLUTION CONTROL	AIR QUALITY MANAGEMENT	POLLUTION ALARMS		G08B 21/12	Efficiency general
4	WASTE MANAGEMENT	POLLUTION CONTROL	CONTROL OF WATER POLLUTION	TREATING WASTE-WATER OR SEWAGE		B63J 4/00	Efficiency general
4	WASTE MANAGEMENT	POLLUTION CONTROL	CONTROL OF WATER POLLUTION	TREATING WASTE-WATER OR SEWAGE		C02F	Efficiency general
5	WASTE MANAGEMENT	POLLUTION CONTROL	CONTROL OF WATER POLLUTION	TREATING WASTE-WATER OR SEWAGE	TO PRODUCE FERTILISERS	C05F 7/00	Efficiency general
4	WASTE MANAGEMENT	POLLUTION CONTROL	CONTROL OF WATER POLLUTION	MATERIALS FOR TREATING LIQUID POLLUTANTS		C09K 3/32	Efficiency general
4	WASTE MANAGEMENT	POLLUTION CONTROL	CONTROL OF WATER POLLUTION	REMOVING POLLUTANTS FROM OPEN WATER		B63B 35/32	Efficiency general
4	WASTE MANAGEMENT	POLLUTION CONTROL	CONTROL OF WATER POLLUTION	REMOVING POLLUTANTS FROM OPEN WATER		E02B 15/04	Efficiency general
4	WASTE MANAGEMENT	POLLUTION CONTROL	CONTROL OF WATER POLLUTION	PLUMBING INSTALLATIONS FOR WASTE WATER		E03C 1/12	Efficiency general
4	WASTE MANAGEMENT	POLLUTION CONTROL	CONTROL OF WATER POLLUTION	MANAGEMENT OF SEWAGE		C02F 1/00, 3/00, 9/00	Efficiency general
4	WASTE MANAGEMENT	POLLUTION CONTROL	CONTROL OF WATER POLLUTION	MANAGEMENT OF SEWAGE		E03F	Efficiency general
3	WASTE MANAGEMENT	POLLUTION CONTROL	MEANS FOR PREVENTING RADIOACTIVE CONTAMINATION IN THE EVENT OF REACTOR LEAKAGE			C21C 13/10	Efficiency general
2	AGRICULTURE / FORESTRY	FORESTRY TECHNIQUES				A01G 23/00	Efficiency general
2	AGRICULTURE / FORESTRY	ALTERNATIVE IRRIGATION TECHNIQUES				A01G 25/00	Efficiency general
2	AGRICULTURE / FORESTRY	PESTICIDE ALTERNATIVES				A01N 25/00-65/00	Efficiency general
2	AGRICULTURE / FORESTRY	SOIL IMPROVEMENT				C09K 17/00	Efficiency general
2	AGRICULTURE / FORESTRY	SOIL IMPROVEMENT				E02D 3/00	Efficiency general
3	AGRICULTURE / FORESTRY	SOIL IMPROVEMENT	ORGANIC FERTILISERS DERIVED FROM WASTE			C05F	Efficiency general
2	ADMINISTRATIVE, REGULATORY OR DESIGN ASPECTS	COMMUTING, E.G., HOV, TELEWORKING, ETC.				G06Q	Efficiency general
2	ADMINISTRATIVE, REGULATORY OR DESIGN ASPECTS	COMMUTING, E.G., HOV, TELEWORKING, ETC				G09G	Efficiency general
2	ADMINISTRATIVE, REGULATORY OR DESIGN ASPECTS	CARBON/EMISSIONS TRADING, E.G. POLLUTION CREDITS				G06Q	Efficiency general
2	ADMINISTRATIVE, REGULATORY OR DESIGN ASPECTS	STATIC STRUCTURE DESIGN				E04H 1/00	Efficiency general
2	NUCLEAR POWER GENERATION	NUCLEAR ENGINEERING				G21	Gneen
3	NUCLEAR POWER GENERATION	NUCLEAR ENGINEERING	FUSION REACTORS			G21B	Gneen
3	NUCLEAR POWER GENERATION	NUCLEAR ENGINEERING	NUCLEAR (FISSION) REACTORS			G21C	Gneen
3	NUCLEAR POWER GENERATION	NUCLEAR ENGINEERING	NUCLEAR POWER PLANT			G21D	Gneen
2	NUCLEAR POWER GENERATION	GAS TURBINE POWER PLANTS USING HEAT SOURCE OF NUCLEAR ORIGIN				F02C 1/05	Gneen

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