

The Japan Patent Office to Act as International
Searching Authority and International Preliminary
Examining Authority for International Applications
Received by the USPTO

Effective July 1, 2015, the Japan Patent Office (JPO) may act as an International Searching Authority (ISA) and International Preliminary Examining Authority (IPEA) under the Patent Cooperation Treaty (PCT) for international applications filed with the United States Patent and Trademark Office (USPTO) as a Receiving Office, provided that: (1) the applications are submitted in the English language; (2) the claims of the application are directed to the field of green technology as defined by certain International Patent Classification classes; (3) the JPO has not received more than 5,000 international applications from the USPTO during the 3 year period from July 1, 2015 to June 30, 2018, and not more than 300 applications per quarter during the first year, and not more than 475 application per quarter during the second and third years; and (4) the JPO is chosen as a competent authority by the applicants of said applications. The JPO will also act as an IPEA if these four requirements are met, and the JPO acted as the ISA.

The arrangement between the JPO and the USPTO is intended to end on June 30, 2018. The arrangement may be continued by mutual written consent.

The USPTO will collect the search fees from the applicants, and will transmit the search fees to the JPO. The search fee for the JPO acting as an ISA for international applications received by the USPTO is \$577 effective July 1, 2015. Any other fees necessary for search or examination or incidental thereto will be paid by applicants directly to the JPO.

All correspondence between the JPO and the USPTO or the applicants will be in English.

With this addition, U.S. applicants may now elect the USPTO, the European Patent Office (EPO)¹, the Korean Intellectual Property Office, IP Australia², Rospatent, the Israel Patent Office³ or the JPO as the ISA or IPEA.

¹The use of the EPO is not restricted. However, the EPO will issue a declaration under PCT Rule 17(2)(a) that no International Search Report will be established whenever an application relates only to a business method as such. In applications containing claims relating to business methods where the subject matter of the application also contains technical features, the EPO will perform a search for those parts of the application which are more than mere business methods. The announcement appears in the Official Gazette at 1414 O.G. 61 on March 10, 2015. The EPO will act as an IPEA only if it also acted as the ISA.

²The use of IP Australia is restricted. IP Australia will not act as an ISA if it has received more than 250 international applications from the USPTO during a fiscal quarter, as indicated in the Official Gazette at 1409 O.G. 302 on December 30, 2014. IP Australia will act as an IPEA only if it also acted as the ISA.

³The use of the ILPO is restricted. The ILPO will not act as an ISA for applications with one or more claims relating to a business method as defined by certain International Patent Classification classes nor will the ILPO act as an ISA where it has received more than 75 international applications from the USPTO during a fiscal quarter, as indicated in the Official Gazette at 1408 O.G. 52 on November 4, 2014. For the definition of what the ILPO considers to be precluded subject matter in the field of business methods, see Annex B of the Agreement between the Israel Patent Office and the United States Patent and Trademark Office (http://www.uspto.gov/patents/law/notices/ilpo_isa-ipea.pdf). The ILPO will act as an IPEA only if it also acted as the ISA.

The concluded arrangement between the USPTO and the JPO for the establishment of the JPO as an ISA and IPEA, including Annex A which sets forth the International Patent Classification classes the JPO considers to be green technology, follows.

7/7/2015

Date

Michelle K. Lee

Michelle K. Lee
Under Secretary of Commerce for Intellectual Property and
Director of the United States Patent and Trademark Office

**Arrangement between the United States Patent and
Trademark Office and the Japan Patent Office
Concerning Action of the Japan Patent Office
as an International Searching Authority
and Preliminary Examining Authority
under the Patent Cooperation Treaty
for International Applications Received by
the United States Patent and Trademark Office**

Whereas an Agreement exists between the Japan Patent Office (hereinafter "JPO") and the International Bureau of the World Intellectual Property Organization (hereinafter called "International Bureau") in relation to the functioning of the JPO as an International Searching and International Preliminary Examining Authority under the Patent Cooperation Treaty (hereinafter called "the Agreement between the JPO and the International Bureau"); and

Whereas the United States Patent and Trademark Office (hereinafter called "USPTO") desires to have the JPO carry out the tasks as one of the International Searching Authorities and International Preliminary Examining Authorities under the Patent Cooperation Treaty, and the JPO is willing to do so,

The USPTO and the JPO (hereinafter also called "the Participants") have reached the common recognition as follows:

1. (1) The JPO intends to act as an International Searching Authority and International Preliminary Examining Authority under the Patent Cooperation Treaty for international applications filed with the USPTO as Receiving Office insofar as the following conditions are met:
 - (i) the international applications are submitted in the English language;
 - (ii) the claims of the international application are directed to the field of green technology as defined by the International Patent Classification classes indicated in Annex A;
 - (iii) The JPO has not received more than 5,000 international applications from the USPTO during the 3 year period from July 1, 2015 to June 30, 2018, and not more than 300 applications per quarter during the first year, and not more than 475 applications per quarter during the second and third years; and

(iv) The JPO is chosen as a competent authority by the applicants of said applications.

(2) Consistent with paragraph (1), the JPO intends to act as an International Preliminary Examining Authority only where the JPO had acted as the International Searching Authority.

(3) The USPTO intends to inform the International Bureau, pursuant to the Patent Cooperation Treaty (hereinafter the "PCT") Rules 35 and 59 that the JPO is competent for the searching and international preliminary examination under this arrangement in paragraphs (1) and (2).

2. The JPO intends to conduct the international search and international preliminary examination pursuant to the provisions of the Agreement between the JPO and the International Bureau, and intends to promptly notify the USPTO of any relevant amendment to said Agreement between the JPO and the International Bureau.
3. The language of correspondence between the USPTO and the JPO or the applicants is English.
4. Conduct of technical and procedural matters including transfer of fees and exchange of documents is as specified in Annex B of this arrangement.
5. The JPO, upon request and on payment, intends to furnish the applicants with copies of the documents cited in the international search reports and the international preliminary examination reports.
6. (1) The fees and charges which the JPO is entitled to make in relation to its function are intended to be those set out in Annex C of the Agreement between the JPO and the International Bureau, depending on the version of the Agreement in force, as represented by Annexes D and E of the PCT Applicant's Guide.

(2) The USPTO intends to collect the search fees from the applicants in the U.S. Dollar (USD) amount specified in Annex D of the PCT Applicant's Guide and intends to transfer said amount in USD to the bank account in Japan, which has been communicated for this use.

(3) The USPTO intends to transfer the search fee to said bank account in Japan, by the end of the next month following the month in which the search fee is received, and intends to promptly notify the JPO of the international filing date, the international application number, and the date on which the search fee was received.

- (4) Any fee for copies of documents cited in the international search report, additional international search fee, international preliminary examination fee, additional preliminary examination fee, or any necessary fee for search or preliminary examination is expected to be paid by the applicant to the JPO in the amount and in the currency set out in Annex D or E of the PCT Applicant's Guide.
7. (1) This Arrangement comes into effect upon July 1, 2015.
- (2) The USPTO and the JPO intend that this Arrangement end on June 30, 2018 or upon the termination of the Agreement between the JPO and the International Bureau if such termination is earlier. The USPTO and the JPO may continue this Arrangement by mutual written consent upon any renewal of the said Agreement between the JPO and the International Bureau.
8. This Arrangement may be modified with the written consent of both the USPTO and the JPO.
9. (1) This Arrangement may be discontinued by either Participant by written notice to the other Participant; however each Participant should endeavour to provide six months advanced notice of its intent to discontinue this Arrangement.
- (2) The JPO intends to act as the competent International Searching Authority and the International Preliminary Examining Authority in accordance with this Arrangement upon international applications insofar as these applications are received by the USPTO within six months after the receipt of the notice under the preceding paragraph.
10. (1) The Participants intend, where relevant, to apply the provisions under the Patent Cooperation Treaty, and the Regulations and the Administrative Instructions under the Treaty, to matters which are not provided for in this Arrangement.
- (2) This Arrangement does not give rise to legal obligations under international or domestic law. The JPO and the USPTO intend to resolve any differences which arise regarding this Arrangement through consultations and negotiations.
11. Annex A and Annex B are part of this Arrangement.
12. The Participants recognize that if there is a change regarding the information in Section 1 (Contact Details) of Annex B, the Participant making the change intends to notify the other Participant.

For the United States Patent
and Trademark Office

For the Japan Patent Office

Michelle N. Lee

Michelle Lee
Under Secretary of Commerce for
Intellectual Property and
Director of the USPTO

Date: 5/15/15

伊藤 仁

Hitoshi Ito
Commissioner of the JPO

Date: 5/27/15

**Arrangement between the United States Patent and Trademark
Office and the Japan Patent Office**

**Concerning Action of the Japan Patent Office
as an International Searching Authority
and Preliminary Examining Authority
under the Patent Cooperation Treaty
for Certain International Applications Received by
the United States Patent and Trademark Office**

Annex A

The Green Technology Classifications

JPO intends to conduct searches on the field of green technology. The details of the field of green technology are as follows:

A. ALTERNATIVE ENERGY PRODUCTION

DESCRIPTION	IPC
Agricultural waste	C10L5/40
Biofuel	C10L5/00 C10L5/40
Chemical waste	B09B3/00 F23D3/00 F23D5/00 F23D7/00 F23D9/00 F23D11/00 F23D14/00 F23G5/00 F23G7/00 F23G7/04
For domestic hot water systems	F24J2/02 F24J2/04 F24J2/10 F24J2/22 F24J2/24 F24J2/26 F24J2/30 F24J2/32 F24J2/44 F24J2/46 F24J2/48 F24J2/50
For passive space heating	E04D13/18 E04H14/00
For swimming pools	F24J2/42
Fuel cell	H01M8/00
Fuel from animal waste and crop residues	C10L5/00
Gasification	B09B1/00 C01B3/36 C02F3/28 C10J3/46 C10J3/54 C12M1/107
Genetically engineered organism	C12N1/00 C12N1/12 C12N1/20 C12N5/00 C12N5/02 C12N5/04 C12N5/07 C12N5/071 C12N5/10 C12N5/16
Geothermal	F01K27/00 F03G7/00
Harnessing energy from man-made waste	F23D14/00 F23G7/08 F23J15/00
Hospital waste	B09B3/00 F23D3/00 F23D5/00 F23D7/00 F23D9/00 F23D11/00 F23D14/00 F23G5/00 F23G7/00 F23G7/04
Hydroelectric	E02B9/00 E02B9/08 F01B25/00 F01D17/00 F03B13/18 F03B13/20 F03B13/26 F03B15/00 F03B17/02 F04D27/00
Industrial waste	B09B3/00 F23D3/00 F23D5/00 F23D7/00 F23D9/00 F23D11/00 F23D14/00 F23G5/00 F23G7/00 F23G7/04
Industrial waste anaerobic digestion	C02F3/30
Industrial wood waste	C10L5/00 C10L5/40
Inertial (e.g., turbine)	F02N11/04 F03B13/00 F03B13/18 F03B13/20 F03B13/26 F03B17/02 H02P9/04
Landfill gas	F23D14/00 F23G7/08 F23J15/00
Municipal waste	C10L5/46

Nuclear power—induced nuclear reactions: processes, systems, and elements	A61N5/10 C01B3/06 E21B43/24 E21B43/263 F01K3/18 F24J3/08 G01T3/00 G01V5/10 G21B1/00 G21B1/03 G21B1/13 G21B1/25 G21C1/01 G21C1/02 G21C1/04 G21C1/22 G21C1/24 G21C3/00 G21C3/06 G21C3/10 G21C3/22 G21C3/30 G21C3/32 G21C3/34 G21C3/36 G21C3/40 G21C3/56 G21C5/00 G21C7/00 G21C7/02 G21C7/06 G21C7/30 G21C7/32 G21C7/36 G21C9/00 G21C13/00 G21C15/00 G21C17/00 G21C19/00 G21C19/28 G21C19/42 G21C23/00 G21D5/02 G21D7/00 G21G1/00 G21G1/02 G21G1/06 G21G1/10 G21G1/12 H05H1/02 H05H1/12 H05H1/14 H05H1/16 H05H1/18 H05H1/22 H05H1/24 H05H3/06 H05H6/00
Nuclear power—reaction motor with electric, nuclear, or radiated energy fluid heating means	F03H1/00
Nuclear power—heating motive fluid by nuclear energy, Photovoltaic	G21D5/00 H01L25/00 H01L31/00 H01L31/042 H02N6/00
Refuse-derived fuel	C10L5/46
Solar cells	H01L21/00
Solar energy	B60K16/00 B60L8/00 E04D13/18 F01K27/00 F03G6/00 F03G7/00 F03G7/04 F03G7/06 F24J2/00 F24J2/02 F24J2/04 F24J2/08 F24J2/10 F24J2/12 F24J2/16 F24J2/18 F24J2/22 F24J2/24 F24J2/26 F24J2/30 F24J2/32 F24J2/34 F24J2/36 F24J2/38 F24J2/40 F24J2/42 F24J2/44 F24J2/46 F24J2/48 F24J2/50
Solar thermal energy	B60K16/00 B60L8/00 E04D13/18 F01K27/00 F03G6/00 F03G7/00 F03G7/04 F03G7/06 F24J2/00 F24J2/02 F24J2/04 F24J2/08 F24J2/10 F24J2/12 F24J2/16 F24J2/18 F24J2/22 F24J2/24 F24J2/26 F24J2/30 F24J2/32 F24J2/34 F24J2/36 F24J2/38 F24J2/40 F24J2/42 F24J2/44 F24J2/46 F24J2/48 F24J2/50
Water level (e.g., wave or tide)	E02B9/00 E02B9/08 F03B13/18 F03B13/20 F03B13/26 F03B17/02
Wind	F03B15/06 F03D7/00 F03D9/00 H02J7/00 H02J9/00 H02P9/04 H04B3/00 H04B15/00

B. ENERGY CONSERVATION

DESCRIPTION	IPC
Alternative-power vehicle (e.g., hydrogen)	A63G25/00 B60K8/00 B60K16/00 B60L8/00 B60L9/00
Cathode ray tube circuits	G05F1/00 H05B37/02 H05B39/04 H05B41/36
Commuting, e.g., HOV, teleworking	G07B15/00 G07B15/02
Drag reduction	B60J1/00 B60J7/00 B60J9/00 B60K37/00 B60N2/00 B60N3/00 B61D17/00 B62D35/00 B62D37/02
Electric lamp and discharge devices	H01J1/62 H01J11/00 H01J17/00 H01J17/02 H01J17/04 H01J17/06 H01J17/16 H01J17/18 H01J17/20 H01J17/30 H01J17/42 H01J17/44 H01J17/46 H01J17/48 H01J17/49 H01J17/50 H01J17/54 H01J61/00 H01J61/02 H01J61/04 H01J61/06 H01J61/09 H01J61/12 H01J61/16 H01J61/18 H01J61/20 H01J61/28 H01J61/30 H01J61/35 H01J61/36 H01J61/54 H01J61/64 H01J63/04 H01J65/00 H01K1/00 H01K1/50
Electric vehicle	B60K1/00 B60K6/20 B60L9/00 B60L11/00 B62J6/08 B62J6/12 B65D5/50 G04C13/11 G05D1/00 G05D3/00 G06F7/00 G06F17/00 G09B23/18 G09B25/02 G21D7/02 G21H1/00 H01L41/00 H01R39/00 H01R39/04 H01R39/06 H01R39/08 H01R39/18 H01R39/20 H01R39/24 H01R39/26 H01R39/32 H01R39/36 H01R39/38 H01R39/40 H01R39/42 H01R39/44 H01R39/46 H01R39/52 H01R39/56 H02K1/00 H02K1/02 H02K1/04 H02K1/06 H02K1/10 H02K1/12 H02K1/14 H02K1/16 H02K1/18 H02K1/20 H02K1/22 H02K1/24 H02K1/26 H02K1/28 H02K1/30 H02K1/32 H02K3/00 H02K3/04 H02K3/14 H02K3/16 H02K3/20 H02K3/24 H02K3/34 H02K3/38 H02K3/40 H02K3/46 H02K3/48 H02K5/00 H02K5/10 H02K5/12 H02K5/14 H02K5/16 H02K5/18 H02K5/20 H02K5/24 H02K7/00 H02K7/02 H02K7/06 H02K7/08 H02K7/09 H02K7/10 H02K7/14 H02K7/16 H02K7/18 H02K7/20 H02K9/00 H02K9/02 H02K9/06 H02K9/08 H02K9/20 H02K9/26 H02K9/28 H02K11/00 H02K11/04 H02K13/00 H02K13/02 H02K13/04 H02K13/12 H02K13/14 H02K15/12 H02K16/00 H02K16/02 H02K17/00 H02K17/10 H02K17/16 H02K17/22 H02K17/28 H02K17/30 H02K17/42 H02K17/44 H02K19/00 H02K19/12 H02K19/14 H02K19/20 H02K19/24 H02K19/26 H02K19/36 H02K19/38 H02K21/00 H02K21/04 H02K21/10 H02K21/12 H02K21/22 H02K21/26 H02K21/38 H02K23/00 H02K23/02 H02K23/04 H02K23/18 H02K23/20 H02K23/22 H02K23/24 H02K23/26 H02K23/28 H02K23/30 H02K23/32 H02K23/36 H02K23/40 H02K23/42 H02K23/44 H02K23/46 H02K23/50 H02K23/60 H02K23/64 H02K23/66 H02K27/00 H02K27/02 H02K27/04 H02K27/06 H02K27/10 H02K27/16 H02K27/22 H02K27/24 H02K29/00 H02K31/00 H02K33/00 H02K33/04 H02K33/10 H02K33/14 H02K35/00 H02K37/00 H02K37/02 H02K37/10 H02K37/24 H02K39/00 H02K41/00 H02K41/02 H02K41/03 H02K44/00 H02K47/00 H02K47/08 H02K47/18 H02K47/22 H02K47/28 H02K47/30 H02K49/00 H02K49/02 H02K51/00 H02N1/00 H02N1/04 H02N2/00 H02N3/00 H02N10/00 H02N11/00 H02P15/00
Emission trading, e.g., pollution credits	G06Q40/00
Energy storage or distribution	G05D3/12 G05D5/00 G05D9/00 G05D11/00 G05D17/00 G06F1/00 G06F1/26 G06F1/32 G06F11/30 H02J3/14
Fuel cell-powered vehicles	B60K1/00 B60K6/20 B60K16/00 B60L8/00

Human-powered vehicle	A61G5/10 A61H3/04 A63G25/00 A63G27/00 A63G29/00 A63H33/28 B62B5/06 B62H1/02 B62H1/04 B62H1/06 B62H1/08 B62H5/00 B62H7/00 B62J1/28 B62J7/00 B62J9/00 B62J11/00 B62J11/02 B62J25/00 B62J27/00 B62K1/00 B62K3/00 B62K5/00 B62K7/00 B62K9/00 B62K11/00 B62K13/00 B62K13/06 B62K15/00 B62K17/00 B62K21/00 B62K27/00 B62K27/12 B62L1/00 B62M1/00 B62M1/02 B62M1/04 B62M1/08 B62M1/10 B62M1/14 B62M3/00 B62M5/00 B62M6/00 B62M6/10 B62M6/15 B62M6/20 B62M6/25 B62M6/30 B62M6/35 B62M7/00 B62M9/00 B62M9/04 B62M11/00 B62M13/00 B62M15/00 B62M25/00 B62M27/00 B62M29/00
Hybrid-powered vehicle	B60K6/20 B60K6/42 B60K6/44 B60K6/442 B60K6/445 B60K6/448 B60K6/46 B60K6/48 B60K6/485 B60W10/00 B60W10/04 B60W10/06 B60W10/24 B60W10/30 B60W20/00 F02B37/12 F02M25/08 F02P7/00 F02P17/00 G01F1/32 G01F1/68 G01F9/00 G01F9/02 G01J5/34 G01L1/24 G01L3/00 G01L3/02 G01L3/26 G01L5/13 G01L5/14 G01L5/26 G01L5/28 G01L23/22 G01M9/00 G01M13/02 G01M15/00 G01M17/00 G01M17/04 G01M17/06 G01N15/00 G01N33/22
Incoherent light emitter structure	H01L27/15 H01L29/16 H01L29/18 H01L29/20 H01L29/201 H01L29/207 H01L29/26 H01L31/12 H01L33/00
Land vehicle	B60K1/00 B60K6/20 B60K6/42 B60K6/44 B60K6/442 B60K6/445 B60K6/448 B60K6/46 B60K6/48 B60K6/485 B60K16/00 B60L8/00 B60W10/00 B60W10/04 B60W10/06 B60W10/24 B60W10/30 B60W20/00 B61C3/00
Optical systems and elements	G02B17/00 G02B27/00
Roadway, e.g., recycled surface, all-weather bikeways	E01C3/00 E01C5/00 E01C5/08 E01C5/10 E01C5/14 E01C5/16 E01C5/18 E01C5/22 E01C9/08 E01C9/10
Static structures	A47G1/00 E04B1/74 E04B2/00 E04C1/00 E04C2/32 E04C2/34 E04C2/36 E04C2/54
Thermal	G01K1/00 G01K1/08 G01K3/00 G01K5/00 G01K7/00 G01K7/16 G01K9/00 G01K11/00 G01K11/30 G01K13/00 G01K17/00
Transportation	H01H47/00 H02H7/00 H02H7/06 H02H9/00 H05F3/00
Watercraft drive (electric powered)	B60L11/00 B60L15/20 B63H21/17
Watercraft drive (human powered)	B63H16/00 B63H16/02 B63H16/08 B63H16/16 B63H16/18 B63H16/20
Wave-powered boat motors	B63H19/02
Wind-powered boat motors	B63H9/00 B63H13/00
Wind-powered ships	B63H9/04

C. ENVIRONMENTALLY FRIENDLY FARMING

DESCRIPTION	IPC
Alternative irrigation technique	E02B11/00 E02B13/00 E02B13/02
Animal waste disposal or recycling	C02F3/00 C05B15/00 C05B17/00 C05C9/00 C05D9/02 C05F1/00 C05F3/00 C05F5/00 C05F7/00 C05F9/00 C05F11/00 C05F11/02
Fertilizer alternative, e.g., composting	C05B15/00 C05B17/00 C05C9/00 C05D9/02 C05F1/00 C05F3/00 C05F5/00 C05F7/00 C05F9/00 C05F11/00 C05F11/02 C05F11/08
Pollution abatement, soil conservation	E02B3/04
Water conservation	F16K17/36 F16K31/00 G05B11/00 G05D11/00
Yield enhancement	A01H3/04 A01H5/02 A01N3/02 A01N25/00 A01N25/02 A01N25/04 A01N25/10 A01N25/12 A01N25/16 A01N25/26 A01N25/28 A01N25/32 A01N27/00 A01N29/00 A01N31/00 A01N31/02 A01N31/14 A01N33/00 A01N33/02 A01N33/16 A01N33/18 A01N33/26 A01N35/00 A01N35/10 A01N37/00 A01N37/10 A01N37/18 A01N37/22 A01N37/34 A01N37/36 A01N37/38 A01N37/44 A01N39/02 A01N41/00 A01N41/02 A01N41/06 A01N41/10 A01N41/12 A01N43/00 A01N43/02 A01N43/08 A01N43/10 A01N43/16 A01N43/26 A01N43/32 A01N43/34 A01N43/36 A01N43/40 A01N43/42 A01N43/46 A01N43/48 A01N43/50 A01N43/52 A01N43/54 A01N43/56 A01N43/58 A01N43/60 A01N43/64 A01N43/647 A01N43/653 A01N43/66 A01N43/68 A01N43/707 A01N43/72 A01N43/76 A01N43/78 A01N43/80 A01N43/82 A01N43/84 A01N43/90 A01N47/06 A01N47/10 A01N47/20 A01N47/24 A01N47/28 A01N47/34 A01N47/36 A01N47/40 A01N47/46 A01N47/48 A01N51/00 A01N55/02 A01N55/04 A01N55/08 A01N57/00 A01N57/18 A01N57/26 A01N59/00 A01N59/02 A01N59/04 A01N59/06 A01N59/14 A01N59/16 A01N59/24 A01N59/26 A01N63/00 A01N65/00 A61L9/01 C05F7/00

D. ENVIRONMENTAL PURIFICATION, PROTECTION, OR REMEDIATION

DESCRIPTION	IPC
Biodegradable	B65D30/02 C08K5/00 C08K5/56 C08K11/00 D06P1/52
Bio-hazard, Disease (permanent containment of malicious virus, bacteria, prion)	B09B1/00 B09B3/00 B09B5/00
Bio-hazard, Disease (destruction of malicious virus, bacteria, prion)	A62D3/00
Carbon capture or sequestration	B01D11/04 B01D53/02 B01D53/04 B01D53/14 B01D53/48 B01D53/52 B01D53/56 B09B1/00 B09B3/00 B09B5/00 B09C1/00 B65D90/24 B65F5/00 B65G5/00 C01B17/16 C01B31/20 E02D31/00 G21F5/00 G21F9/00
Disaster (e.g., spill, explosion, containment, or cleanup)	B09B1/00 B09B3/00 B09B5/00 B09C1/00 B65D90/24 B65F5/00 B65G5/00 E02D31/00 G21F5/00 G21F9/00
Environmentally friendly coolants, refrigerants, etc.	C09K5/00
Genetic contamination	A01M1/20 A01N25/00 A61L2/00 A61L2/04 A61L2/08 A61L2/18 A61L2/20 A61L2/24 A61L9/00 A61L11/00 B01J19/00 B08B17/00 C23F11/00 C23F11/02 C23F11/04 C23F11/06 C23F11/10 C23F11/16 C23F11/18
Hazardous or Toxic waste destruction or containment	A62D3/00 B09B1/00 B09B3/00 B09B5/00 B65D90/24 B65D90/50 C02F1/00 C02F11/00 C03B5/00 C03B5/027 C04B18/02 C04B18/04 C21B3/06 E02D3/11 E02D31/00 F23C1/00 F23G5/00 G21F1/00 G21F9/00 G21F9/14 G21F9/16 G21F9/20 G21F9/24 H05B3/00
In atmosphere	B01D19/00 B01D19/02 B01D19/04 B01D45/00 B01D46/00 B01D47/00 B01D47/02 B01D47/04 B01D47/06 B01D47/14 B01D53/14 B03C3/00 B03C3/10 B03C3/14 B03C3/16 B03C3/74
In water	B01D1/00 B01D3/00 B01D11/00 B01D11/02 B01D11/04 B01D15/00 B01D15/04 B01D15/08 B01D17/00 B01D17/02 B01D17/04 B01D17/12 B01D21/00 B01D21/01 B01D21/26 B01D24/00 B01D24/28 B01D24/32 B01D24/36 B01D24/46 B01D29/00 B01D29/62 B01D33/00 B01D33/04 B01D33/048 B01D33/06 B01D33/15 B01D33/17 B01D33/27 B01D33/44 B01D33/46 B01D35/06 B01D35/18 B01D35/22 B01D37/00 B01D37/02 B01D41/00 B01D43/00 B01D61/00 B01D61/02 B01D61/24 B01D65/02 B01J39/00 B01J49/00 B03C1/30 B03D1/00 B03D3/00 B03D3/06 B04B3/00 B04C5/081 C02F1/00 C02F1/02 C02F1/20 C02F1/24 C02F1/26 C02F1/28 C02F1/30 C02F1/32 C02F1/34 C02F1/36 C02F1/38 C02F1/40 C02F1/42 C02F1/44 C02F1/48 C02F1/52 C02F1/68 C02F1/70 C02F1/72 C02F1/76 C02F1/78 C02F3/00 C02F3/02 C02F3/30 C02F3/32 C02F9/00 E02B15/00 G01N33/49 G21F9/04
Landfill	B09B5/00
Nuclear waste containment or disposal	A62D3/00 G21F1/00 G21F9/00 G21F9/14 G21F9/16 G21F9/20 G21F9/24

Plants and plant breeding	A01H1/00 A01H1/02 A01H1/06 A01H5/00 A01H7/00 A01H9/00 A01H11/00 A01H13/00 A01H15/00 C12N15/01 C12N15/05 C12N15/82 C12N15/87
Post-consumer material	B28C5/00 B29B17/00 B29C73/00 B29D24/00 B29D30/54 B32B43/00 C08J11/04 F16L55/16
Recovery of excess process materials or regeneration from waste stream	B22C5/18 B29B17/00 C07C51/00 C07C51/42 C08J11/04 D21C11/00 D21F1/66
Recycling	B01D24/00 B07B13/00 B23P17/04 B23P19/04 B28C5/00 B29B17/00 B29C45/00 B29C47/00 B29C49/00 B29C73/00 B30B9/32 B32B43/00 C22B1/00 D01F13/00 H01B15/00 H02G1/12
Smokestack	F23J11/00 F23J15/00
Soil	A62D3/00 B08B5/00 B09B1/00 B09B3/00 B09B5/00 B09C1/00 B09C1/02 B09C1/04 B09C1/06 B09C1/08 B09C1/10 B65D90/24 B65F5/00 B65G5/00 E02D31/00 F23G7/14 G21F5/00 G21F9/00
Toxic material cleanup	A01N1/00 A01N1/02 C10G32/00 C12C1/15 C12C7/06 C12M1/00 C12M1/02 C12M1/09 C12M1/10 C12M1/107 C12M1/12 C12M1/14 C12M1/21 C12M1/22 C12M1/24 C12M1/26 C12M1/33 C12M1/34 C12M1/36 C12M1/38 C12M1/42 C12M3/00 C12M3/04 C12M3/06 C12M3/08 C12N1/00 C12N5/00 C12N5/02 C12N5/04 C12N5/07 C12N5/071 C12N5/10 C12N5/16 C12N15/00 C12N15/01 C12N15/02 C12N15/05 C12N15/06 C12N15/07 C12N15/08 C12N15/74 C12N15/75 C12N15/76 C12N15/77 C12N15/82 C12N15/86 C12N15/87 C12N15/88
Toxic material permanent containment or destruction	A62D3/00 A62D3/10 A62D3/11 A62D3/115 A62D3/13 A62D3/15 A62D3/17 A62D3/172 A62D3/174 A62D3/176 A62D3/178 A62D3/19 A62D3/20 A62D3/30 A62D3/32 A62D3/33 A62D3/34 A62D3/35 A62D3/36 A62D3/37 A62D3/38 A62D3/40 B09B1/00 B09B3/00 B09B5/00 B65D90/24 B65D90/50 C02F1/00 C02F11/00 C03B5/00 C03B5/027 C04B18/02 C04B18/04 C21B3/06 E02D31/11 E02D31/00 F23C1/00 F23G5/00 G21F1/00 G21F9/00 G21F9/14 G21F9/16 G21F9/20 G21F9/24 H05B3/00
Using microbes or enzymes	A62D3/00 A62D3/02 B09B3/00 B09C1/10