

# CPC COOPERATIVE PATENT CLASSIFICATION

## H ELECTRICITY

(NOTE omitted)

## H02 GENERATION; CONVERSION OR DISTRIBUTION OF ELECTRIC POWER

### H02S GENERATION OF ELECTRIC POWER BY CONVERSION OF INFRA-RED RADIATION, VISIBLE LIGHT OR ULTRAVIOLET LIGHT, e.g. USING PHOTOVOLTAIC [PV] MODULES (obtaining electrical energy from radioactive sources [G21H 1/12](#); light sensitive inorganic semiconductor devices [H01L 31/00](#); thermoelectric devices [H01L 35/00](#); pyroelectric devices [H01L 37/00](#); light sensitive organic semiconductor devices [H01L 51/42](#))

|              |  |              |  |
|--------------|--|--------------|--|
| <b>10/00</b> | <b>PV power plants; Combinations of PV energy systems with other systems for the generation of electric power</b>  | <b>40/00</b> | <b>Components or accessories in combination with PV modules, not provided for in groups <a href="#">H02S 10/00</a> - <a href="#">H02S 30/00</a></b>  |
| 10/10        | • including a supplementary source of electric power, e.g. hybrid diesel-PV energy systems ( <a href="#">combinations with gas-turbine plants F02C 6/00</a> )  | 40/10        | • Cleaning arrangements  |
| 10/12        | • . Hybrid wind-PV energy systems  | 40/12        | • . Means for removing snow  |
| 10/20        | • Systems characterised by their energy storage means ( <a href="#">H02S 40/38</a> takes precedence)   | 40/20        | • Optical components   |
| 10/30        | • Thermophotovoltaic systems ( <a href="#">photovoltaic cells specially adapted for conversion or sensing of infra-red [IR] radiation H01L 31/00</a> ; thermoelectric devices <a href="#">H01L 35/00</a> )   | 40/22        | • . Light-reflecting or light-concentrating means ( <a href="#">directly associated with the PV cell or integrated with the PV cell H01L 31/054</a> )  |
| 10/40        | • Mobile PV generator systems  | 40/30        | • Electrical components  |
| <b>20/00</b> | <b>Supporting structures for PV modules</b>  | 40/32        | • . comprising DC/AC inverter means associated with the PV module itself, e.g. AC modules  |
|              | <b>NOTE</b>  | 40/34        | • . comprising specially adapted electrical connection means to be structurally associated with the PV module, e.g. junction boxes   |
|              | Supporting structures also intended for use with solar heat collectors should also be classified in groups <a href="#">F24S 25/00-F24S 30/00</a> or <a href="#">F24S 50/20</a>   | 40/345       | • . . {with cooling means associated with the electrical connection means, e.g. cooling means associated with or applied to the junction box ( <a href="#">cooling means for PV cells H01L 31/052</a> , for PV modules <a href="#">H02S 40/42</a> )} |
| 20/10        | • Supporting structures directly fixed to the ground ( <a href="#">H02S 20/30</a> takes precedence)  | 40/36        | • . characterised by special electrical interconnection means between two or more PV modules, e.g. electrical module-to-module connection  |
| 20/20        | • Supporting structures directly fixed to an immovable object ( <a href="#">H02S 20/30</a> takes precedence)   | 40/38        | • . Energy storage means, e.g. batteries, structurally associated with PV modules  |
| 20/21        | • . specially adapted for motorways, e.g. integrated with sound barriers   | 40/40        | • Thermal components ( <a href="#">H02S 10/30</a> takes precedence)  |
| 20/22        | • . specially adapted for buildings  | 40/42        | • . Cooling means ( <a href="#">cooling means directly associated or integrated with the PV cell H01L 31/052</a> )   |
| 20/23        | • . . specially adapted for roof structures  | 40/425       | • . . {using a gaseous or a liquid coolant, e.g. air flow ventilation, water circulation}  |
| 20/24        | • . . . specially adapted for flat roofs   | 40/44        | • . Means to utilise heat energy, e.g. hybrid systems producing warm water and electricity at the same time ( <a href="#">directly associated with the PV cell or integrated with the PV cell H01L 31/0525</a> )                                     |
| 20/25        | • . . . Roof tile elements   |              |  |
| 20/26        | • . . Building materials integrated with PV modules, e.g. façade elements ( <a href="#">H02S 20/25</a> takes precedence)   |              |  |
| 20/30        | • Supporting structures being movable or adjustable, e.g. for angle adjustment   | <b>50/00</b> | <b>Monitoring or testing of PV systems, e.g. load balancing or fault identification</b>  |
| 20/32        | • . specially adapted for solar tracking   | 50/10        | • Testing of PV devices, e.g. of PV modules or single PV cells ( <a href="#">testing of semiconductor devices during manufacturing {H01L 22/00}</a> )  |
| <b>30/00</b> | <b>Structural details of PV modules other than those related to light conversion (<a href="#">semiconductor device aspects of modules of electrolytic light sensitive devices H01G 9/20</a>, of inorganic PV modules <a href="#">H01L 31/00</a>, of organic PV modules <a href="#">H01L 51/42</a>)</b> | 50/15        | • . using optical means, e.g. using electroluminescence  |
| 30/10        | • Frame structures   | <b>99/00</b> | <b>Subject matter not provided for in other groups of this subclass</b>  |
| 30/20        | • Collapsible or foldable PV modules   |              |  |