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(54) Title: CONVERSION SYSTEM OF OFF-SHORE WIND ENERGY AND ASSEMBLY METHOD

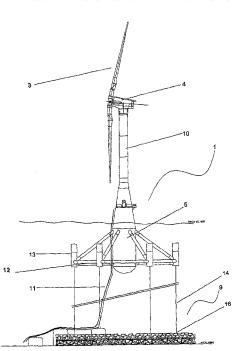


Fig. 1

(57) Abstract: System for converting wind in deep water, stabilised through blocked hydrostatic pressure, comprising a group of rotors with horizontal axis provided with two blades, accommodated in a nacelle, one permanent magnet generator, at least one transformer and at least one rectifier, as well as further auxiliary components, a group for anchoring the system onto the sea floor, a subsystem for transmitting power from the rotor group to the generator and a subsystem for transmitting electrical power from the submerged body to the dry land and characterised in that said electrical energy generator, transformer, rectifier and said auxiliary components are located in a submerged body beneath the water level.





- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))
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International application No PCT/IB2008/002462

A. CLASSIFICATION OF SUBJECT MATTER INV. F03D1/00 F03D1 F03D11/04 F03D1/06 ADD. According to International Patent Classification (IPC) or to both national classification and IPC **B. FIELDS SEARCHED** Minimum documentation searched (classification system followed by classification symbols) F₀3D Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal C. DOCUMENTS CONSIDERED TO BE RELEVANT Category* Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. WO 02/10589 A1 (HANNEVIG CHRISTOFFER [IE]: X 1,2, HANNEVIG THOR DANIEL [IE]) 16 - 19, 7 February 2002 (2002-02-07) 21-23 page 20, line 9 - page 21, line 5 page 23, line 13 - page 24, line 13; claim 3,10-13Υ 15,20,24 102; figures 1,2 X GB 2 378 679 A (OCEAN TECHNOLOGIES LTD 1 [GB]; BONE DAVID [GB] TAMACREST LTD [GB]; BONE) 19 February 2003 (2003-02-19) * abstract figures 1,2 Y WO 2006/038091 A2 (ENERTEC AG [LI]; 3 JAKUBOWSKI MARTIN [DE]) 13 April 2006 (2006-04-13) page 2, lines 50-55; figure 1 -/--X Further documents are listed in the continuation of Box C. See patent family annex. Special categories of cited documents: "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international "X" document of particular relevance; the claimed invention filing date cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such docudocument referring to an oral disclosure, use, exhibition or ments, such combination being obvious to a person skilled in the art. other means document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 30 June 2010 07/07/2010 Name and mailing address of the ISA/ Authorized officer European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Steinhauser, Udo Fax: (+31-70) 340-3016

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INTERNATIONAL SEARCH REPORT

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)						
This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:						
Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:						
Claims Nos.: because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:						
3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).						
Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)						
This International Searching Authority found multiple inventions in this international application, as follows:						
see additional sheet						
As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.						
2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.						
3. X As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.: 1-25						
4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:						
Remark on Protest The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee. The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.						
No protest accompanied the payment of additional search fees.						

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-3, 10-13, 15-25

system for converting wind energy in water deeper than 50 m stabilised by means of blocked hydrostatic pressure

1.1. claims: 1-3, 16-19

conversion system whereby the electrical energy generator, transformer, rectifier and said auxiliary components are located in a body submerged below the sea level;

1.2. claims: 1, 10, 11

system for converting wind energy having hydraulic yaw control means

1.3. claims: 1, 12, 13, 20

system for converting wind energy having a hydraulic power transmission;

1.4. claims: 1, 15

system for converting wind energy having lightning protection means

1.5. claims: 1, 24

system for converting wind energy having means to monitor weather/geographical conditions on the site

2. claims: 1, 4-9, 14

system for converting wind energy having a specific blade root - shaft connection

3. claim: 26

device for mounting and dismounting the rotor of a system for converting wind in deep water

Information on patent family members

International application No
PCT/IB2008/002462

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