VT

ENERGÍAS MARINAS

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Vigilancia Tecnológica

MINISTERIO DE INDUSTRIA, ENERGÍA Y TURISMO
OEPM
inpi instituto nacional da propriedade industrial

Introducción

Las Energías Renovables Marinas constituyen en el presente uno de los conjuntos de fuentes energéticas que, poseyendo un ingente potencial, su explotación se encuentra mínimamente desarrollada. Su origen está constituido por el carácter de inmenso colector de energía que conforman los mares y océanos, que ocupando alrededor del 70% de la superficie del planeta y almacenando sobre 1,3*109 Km3 de agua, son la mayor reserva energética existente en la tierra y además de carácter renovable.

Las Energías Renovables Marinas más relevantes en la actualidad podríamos clasificarlas en energía de las Olas (undimotríz), energía de las Mareas (mareomotriz). Otras fuentes a considerar también en el medio marino son la energía eólica (offshore), la energía de las corrientes marinas (inerciales) y el gradiente térmico oceánico (OTEC).

La Península Ibérica cuenta con una ubicación privilegiada para el aprovechamiento de estas energías lo que constituye una sinergia que no se debe dejar pasar por los agentes institucionales entre cuyos objetivos está proteger e impulsar la innovación y el desarrollo industrial y económico de los países ibéricos, concretamente, las autoridades nacionales en materia de propiedad industrial de Portugal y España.

Contando ya con dos años de vida, este Boletín de Vigilancia Tecnológica (BVT) es el resultado de la colaboración hispano-lusa entre la Oficina Española de Patentes y Marcas (OEPM) y el Instituto Nacional de Propiedad Industrial de Portugal (INPI), y tiene como objetivo proporcionar el seguimiento trimestral de las últimas novedades y publicaciones de solicitudes de patentes internacionales (PCT) en el campo técnico de las Energías Marinas.

En este BVT presenta un listado trimestral de solicitudes internacionales publicadas bajo Tratado de Cooperación en materia de Patentes (Patent Cooperation Treaty PCT) seleccionadas sobre la base de la Clasificación Internacional de Patentes (IPC) y la Clasificación Cooperativa de Patentes (CPC) identificadas con el código F03B13/12 con los que se clasifican a nivel internacional las energías marinas, fundamentalmente las energías mareomotriz y undimotríz.

También se presentan algunas noticias y eventos en este campo técnico en el ámbito península. En este primer BVT de 2015, también se presentan algunos datos estadísticos sobre las publicaciones PCT, que han tenido lugar entre 2010 y 2014.

Este Boletín se publica en portugués y en castellano en las correspondientes páginas web de ambas Oficinas Nacionales.

sumario

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Energía Mareomotriz

Las mareas son una fuente renovable de energía absolutamente predecible cuyo aprovechamiento conlleva grandes retos técnicos y cuyo desarrollo comparado con otros aprovechamientos renovables es claramente incipiente. La Península Ibérica posee una costa apta para el aprovechamiento de la energía mareomotriz y las invenciones en este campo técnico son el medio para optimizar aprovechamiento minimizando al mismo tiempo el impacto ambiental y los costes económicos. A continuación, las publicaciones de solicitudes internacionales PCT en este campo técnico.

#	Publicación	Solicitante	Resumen
1	WO 2014205603 A1 20141231	TIDAL HARNESS LTD	A platform for supporting a tidal turbine comprises at least one hull to which at least one tidal turbine is mountable, a number of ballast compartments within the hull, and a ballast structure within the hull and underneath the ballast compartments. The platform is floatable when the ballast compartments are de-ballasted, and the platform descends to the sea bottom when the ballast compartments are ballasted. The platform reduces tidal turbines deployment, maintenance and retrieval costs.
2	WO 2015000366 A1 20150108	ZHANG CHANG	A multifunctional carrying device for a tidal generator comprises: a long main floating body; carrying frames, horizontally extending towards the left side and the right side from the middle part of the long main floating body, an end part of the carrying frames being used for carrying the tidal generator; the long main floating body has a central floating control pipe with two ends sealed, cable tying positions being disposed at the two ends of the central floating control pipe, a pipe air inlet/outlet and a pipe water inlet/outlet being disposed below the other end of the central floating control pipe. The central floating control pipe is connected to the carrying frames by using orthogonal node components and has an automatic depth fixing and stabilizing parts.
3	WO 2015003963 A1 20150115	VOITH PATENT GMBH	Underwater power station having a generator which has a stator and a rotor, wherein water is located in a gap between the stator and the rotor and water flows around the encapsulated stator, the generator being a reluctance machine.
4	WO 2015013608 A1 20150129	TIDAL FAN LLC	Electrical generation system based on tidal flow includes a reservoir and a fluid inlet tube extending between a tidal source and the reservoir. The inlet tube has at least one inlet turbine generator disposed therein. The fluid inlet tube extends along a first level. A fluid outlet tube extends between the reservoir and the tidal source. The fluid outlet tube has at least one outlet turbine generator disposed therein. The fluid outlet tube extends along a second level vertically lower than the first level. During high tide at the tidal source, tidal fluid flows from the tidal source, into the fluid inlet tube, past the at least one inlet turbine generator, and into the reservoir and during a low tide at the tidal source, the tidal fluid flows from the reservoir, into the fluid outlet tube, past the at least one outlet turbine generator, and to the tidal source.

#	Publicación	Solicitante	Resumen
5	WO 2015013231 A2 20150129	TIDAL FAN LLC	Electrical generation system based on tidal flow includes a reservoir and a fluid inlet tube extending between a tidal source and the reservoir. The inlet tube has at least one inlet turbine generator disposed therein. The fluid inlet tube extends along a first level. A fluid outlet tube extends between the reservoir and the tidal source. The fluid outlet tube has at least one outlet turbine generator disposed therein. The fluid outlet tube extends along a second level vertically lower than the first level. During high tide at the tidal source, tidal fluid flows from the tidal source, into the fluid inlet tube, past the at least one inlet turbine generator, and into the reservoir and during a low tide at the tidal source, the tidal fluid flows from the reservoir, into the fluid outlet tube, past the at least one outlet turbine generator, and to the tidal source.
6	WO 2015028320 A1 20150305	VOITH PATENT GMBH	Underwater hydraulic power plant comprising a water turbine having at least one blade; a generator which is in driving connection with the water turbine; a nacelle for accommodating and/or supporting the generator, a shaft and the turbine; and a support structure which stands on the floor of the body of water or is embedded therein. The underwater hydraulic power plant according to the invention is characterized by the following features: the individual blade comprises a base and at least a film sheathing same; and the film can be peeled off the base.
7	WO 2015035054 A1 20150312	REAL NEWENERGY LLC	Water turbine drive system is described for generating rotational power from a flowing water stream. The water turbine drive system comprises a rotating machine driven by a water turbine disposed remote from the machine, where the machine and turbine are connected together by a tether member adapted to be rotated by the turbine and transmit the rotation and thereby drive the machine. The tether member permits positional movement of the turbine relative to the machine such that the rotational axis of the turbine need not be co-aligned with the rotational axis of a driven rotating member of the machine.

Energía Undimotriz

Las olas de los mares y océanos son una fuente renovable de energía con un alto potencial para las costas atlánticas. Que ya en el siglo XVIII se propusieran invenciones para aprovechar la energía de las olas no le resta perspectiva a las diversas tecnologías que hoy en día se proponen para instalaciones tanto en tierra como en estructuras flotantes. Las invenciones en este campo técnico plantean cada vez mayores rendimientos en el aprovechamiento de la energía undimotriz y un mayor respeto al medio ambiente marino. A continuación, las publicaciones de solicitudes internacionales PCT en este campo técnico.

#	Publicación	Solicitante	Resumen
1	WO 2014205962 A1 20141231	CHAN MAN WAI	Wave powered generating device includes a floating vessel with onboard pendulum mechanism, an anchor with a mooring chain connected with the vessel, a lever arm, an upstanding post having a tip connected with the lever arm and a foot coupled with a universal coupler, a pendulum moveably mounted on the lever arm being erected above a platform deck of the vessel by the upstanding post, a gear mechanism incorporating with a centrifugal flywheel coupled with the universal coupler via a transmission mechanism for delivery of momentum of the pendulum, and a power generating mechanism driven by the gear mechanism. Under undulating waves, the pendulum sways laterally around an axis of the upstanding post, causing the upstanding post to rotate hence delivering the momentum of the pendulum to drive the power generating mechanism.
2	WO 2015001284 A1 20150108	ADKINS NICHOLAS JAMES	Wave energy extraction device comprising a hull and at least one driving mass, supported on the hull by a horizontal pivot, such that the driving mass has no significant tendency to harmonic motion, and at least one energy conversion device, operatively associated with the hull and the driving mass. The vertical velocity of a wave produces a vertical velocity of the hull, this vertical velocity passing to the driving mass via the energy conversion device, the energy conversion means further extracting energy from periodic differences in the velocity of the hull and the velocity of the driving mass, at different phases of the wave cycle.
3	WO 2015001115 A1 20150108	DICK WILLIAM	Wave energy converter which comprises a heaving buoy point absorber having a surface piercing float operably coupled to an adjustable reference mass defining a volume for accommodating sea water therein. The surface piercing float and the adjustable reference mass are configured to move together in response to passing waves. A chamber provided within the surface piercing float is in fluid communication with the sea for trapping a volume of air above an enclosed column of water. The height of the enclosed column of water varies as the point absorber reacts against its surface via an adjustable air-spring. A power take off is configured for being driven by a stream of vented air in communication with the chamber as the heaving buoy point absorber reacts against a trapped volume of air. A control mechanism is configured for tuning one or more operating characteristics of the heaving buoy point absorber.
4	WO 2015003229 A1 20150115	LAMINARIA BVBA	Anchorable wave energy convertor with a floating main body, at least two anchor lines and energy conversion means, wherein the at least one anchor line is adapted to be anchored to the bottom of a body of water at least at two distinct points, wherein the main body is connected to the at least two anchor lines via rotation means, such that a horizontal first movement of the main body with respect to the two points results in a second movement of the rotation means, and wherein the conversion means are adapted to convert the second movement in another form of energy. The wave energy convertor further comprising coiling means for controlling the vertical position of the main body, wherein the coiling means are formed as a differential.

#	Publicación	Solicitante	Resumen
5	WO 2015004333 A1 20150115	SA2P	Device for converting swell movement into energy, which comprises at least one arm supporting a float and swinging about a horizontal axis when the swell moves, and a reverser mechanism including a main gear for rotating an output shaft and onto which, in two diametrically opposed areas, a pair of conical gears mesh that can be rotatably secured to said arm in two opposite directions, respectively. The device includes at least three arms which each support a float and extend radially along at least three directions distributed about the central vertical axis of the carrier, in the shape of a star, wherein said arms are swingably mounted, respectively, about concurrent hinge axes extending through said central axis, and the reverser mechanism includes a single main wheel for rotating the output shaft and, for each arm, a pair of opposite conical gears, each rotatably secured in one direction with said arm.
6	WO 2015005879 A1 20150115	OZDEMIR BERTAN	Wave generator which transfers the kinetic energy and lifting force of sea waves by compressing sea water and air, which stores said compressed sea water and air in closed containers and when necessary, produces electricity from said compressed air. The invention basically comprises a cylinder submerged into the sea, a piston which moves forwards and backwards inside the cylinder, at least one, preferably cylindrical barge which floats on the sea surface, a rope-roller system which transfers the motion of the barge to the piston, a storage tank comprising air and water, a connection pipe which connects the tank to the cylinder, at least a small barge submerged into the sea, which is connected to the cylindrical barge via a rope.
7	WO 2015003261 A1 20150115	KASSIANOFF EDOUARD	A curved body for propelling fluids, crafts and harvesting fluid power, comprises a convex outer leading surface securely connected to a concave inner trailing surface to define an open vessel. Upon oscillation, ambient fluids are accelerated and ejected from the vessel to propel the vessel and the ambient fluids in opposite directions. The oscillating propulsor can be operated directly by a reciprocating motive power source, and indirectly by the reaction momentum imparted to a supporting base.
8	WO 2015008891 A1 20150122	LIM CHE KYUNG	A wave power generator comprises a frame having a bottom portion formed in a wedge structure that is supported on the sea bed and a top portion protruding from the sea surface; a main body disposed on the top portion of the frame; a floating body, which is constrained on one side of the main body and of which the lower portion is placed on the sea surface, and in which pendulum movement is performed about a rotation axis thereof by the wave energy transmitted from the progressing wave of waves, delivered in both directions; a movement force converting unit, provided on the top of the main body with a connection board for converting the pendulum motion of the floating body into rotational force with a gear box connected to a power generator.
9	WO 2015009134 A1 20150122	ZALDÍVAR VELÁZQUES CARLOS EDUARDO	artificial reef which has a ramp, on the upper part thereof, suitably designed to raise the maximum volume of sea water to the maximum possible height, depositing it in the channel of the reef as potential energy or altitude energy, and flows through a horizontal channel to land area. Once it arrives at the weir, it falls on the rotor of a generator, producing electricity which is sent to the distribution network.

#	Publicación	Solicitante	Resumen
10	WO 2015010440 A1 20150129	WENG WEN-KAI; WENG YUAN-YU	Wave power complementary electricity supply apparatus for a wind offshore facility. Comprises a wave power kinetic energy module uses the rise and fall of seawater wave motion to generate kinetic energy coupled by a drive shaft to the power generator. The complementarity of the wind power kinetic energy module and the wave power kinetic energy module enables the drive shaft to sustainably and stably rotate the power generator to produce electricity. The commercial power supply module drives a servo motor and when the rotational speed of the drive shaft decreases, the servo motor is actuated to compensate, increasing the rotational speed of the drive shaft and enabling the power generator to produce sufficient electrical energy.
11	WO 2015012481 A1 20150129	KOREA INST OCEAN SCI & TECH	A method for designing a mooring line for the construction of a floating wave power generation complex and the floating wave power generation system using the same are provided, wherein a mooring line is shared instead of using an anchor between adjacent floating bodies. The mooring line maintains the positions of each of the floating wave power generation devices such that the length of the mooring line to be used is reduced and the use of an anchor is also minimized.
12	WO 2015015245 A1 20150205	NOZAWA TSUKASA	A wave power generating device incorporates a support frame (15); a buoy vertically positioned to rise and fall relative to waves motion being formed with a hollow interior space; a rack and pinion structure operatively connected between the buoy and the support frame such that a pinion element of the rack and pinion structure generates rotating torque by moving along the rack element in response to the buoy rising and falling by the wave motion. A power generator unit operative connected to the rack and pinion structure generates electricity
13	WO 2015014241 A1 20150205	CHEN JIASHAN	Wave energy conversion into high pressure water energy. The water pressure type wave energy converter comprises a rectangular upper surface floating body, a cylindrical shell-shaped lower floating body under water, a first cable, a second cable, a hanging rod, a ball hinged hook, a sea floor anchor pile, and other facilities being underwater. A plurality of water hydraulic cylinders are vertically fixed on two wider sides of the upper floating body. The water pressure converts vertical component and horizontal component of the wave motion into high pressure water energy for impacting a hydraulic generator.
14	WO 2015016457 A1 20150205	INGINE INC	Power conversion device which receives power from a power source floating on the ocean and carries out irregular motion by waves within a predetermined range in the vertical and lateral directions so as to generate intermittent linear power, generates electricity by rotating an output shaft connected to a power generator using some of the power from the power source, and stores the remaining power in an energy storage device such that, after storage, the output shaft is rotated by the stored energy when the power is not transmitted from the power source, thereby improving power generating efficiency.

#	Publicación	Solicitante	Resumen
15	WO 2015024732 A1 20150226	BOSCH GMBH ROBERT	Method for operating a wave energy system for converting energy from a wave motion of a fluid into another form of energy, wherein the wave energy system has a lever arm which is mounted so as to be rotatable about a rotational axis of a rotor and has a coupling body, and an energy converter which is coupled to the rotatably mounted lever arm, wherein in a first operating mode the wave energy system is to be operated in such a way that a rotational speed of the lever arm about the rotational axis of the rotor corresponds when averaged over time over a rotation to an orbital speed of the wave motion, wherein in a second operating mode the wave energy system is operated in such a way that the rotational speed of the lever arm about the rotational axis of the rotor does not correspond when averaged over time over a rotation to the orbital speed of the wave motion, wherein the wave energy system is operated in the second operating mode if a variable which characterises a flow speed undershoots a lower threshold value.
16	WO 2015028182 A2 20150305	DREVET JEAN BAPTISTE	Electricity generator comprising an undulating membrane that undulates in a longitudinal direction; at least one electricity generating module supported by the membrane, each at least one module comprising a stationary frame; a moving frame; a coil and least one permanent magnet supported by one of the frames to generate a voltage during the crinkling of the membrane. The stationary frames are assembled to said membrane and the moving frames are positioned away from a neutral fibre of the membrane such that when the membrane crinkles in the longitudinal direction of same, there is a rectilinear sliding movement of the moving frame relative to the stationary frame in each electricity generating module, so as to generate electric voltages in the coils of said modules.
17	WO 2015040277 A1 20150326	WELLO OY	A gyrating wave power plant, comprising a body floating on water with a main plane which in calm water is substantially vertical. The body is moored in an orientation with the main plane transverse to the propagation direction of waves. The body has its upper and lower sections provided with arched fins. The fins in the body's upper section curve downward when proceeding towards side edges of the body, and the fins in the body's lower section curve upward when proceeding towards side edges of the body. The arched shape of the fins is an oval-shaped spiral with respect to a lateral swaying axis of the body, which is perpendicular to the main plane.
18	WO 2015042346 A1 20150326	BEIN THOMAS W	Ocean wave energy absorbing kite system captures an ocean wave's kinetic energy as a force on a submerged, reciprocating panel that drives the panel back and forth in an oscillating motion. The force applied to the panel is transmitted to a power generator through opposed flexible ropes or lines loaded in tension. Potential energy is captured from the wave as a vertical force when a buoyant volume attached to the energy absorbing panel or kite member rises on a passing ocean wave's peak, and transmits the force through flexible ropes or lines in tension to a power generator. Optionally, the shape of the panel is configurable to limit or restrict absorbed wave energy, thereby preventing damage from larger storm-generated waves.
19	WO 2015040322 A1 20150326	WAVES RUIZ	Wave power station which comprises a semisubmersible platform provided with at least one longitudinal casing which extends from a bow to a stern of the platform, this platform having, at the bow thereof, a stabilizing vane which extends transversally a little back from a lower edge of the casing and, at the stern thereof, a buoyancy beam secured to the casing; a wave power machine mounted on the platform, which comprises a portal frame mounted transversally on the casing of the bow end of the platform, at least one float designed to allow wave energy to be converted into mechanical energy, the float being mounted on an arm mounted so that it can rotate on an axle secured to the portal frame, a converter for converting the mechanical energy of the float into hydraulic energy.

Energías oceánicas diversas

En esta sección figuran las solicitudes internacionales PCT que se refieren a tecnologías que pueden aplicarse tanto a la energía de las olas como de las mareas.

#	Publicación	Solicitante	Resumen
1	WO 2014193281 A1 20141204	MINESTO AB	Submersible power plant comprises a seabed structure with a tether that secures a vehicle comprising at least one wing. The vehicle moves in a predetermined trajectory by means of a fluid stream passing the wing. The power plant comprises at least a first turbine, a second turbine and a third turbine attached to the wing of the vehicle. Each turbine is connected to a corresponding generator.
2	WO 2014192297 A1 20141204	TERAL INC	Rotor for a wind/water power machine that can reduce fluid resistance comprises a hub and blades. In a projected plane perpendicular to a rotational center axis line of the rotor, front edges of the blades protrude, in at least one part, forward and the protruding tips thereof are disposed in positions separated outward in the radial direction of the rotor from the outer peripheral edge of the hub by a length 0.4 to 0.6 times the length of the blade.
3	WO 2015001229 A1 20150108	GEPS INNOV	Device including a marine current turbine and/or a wind turbine and/or coupling means for electromagnetically, electrically or mechanically coupling the marine current turbine and/or the wind turbine to at least one pump, and a wave-energy device including a receptacle which oscillates, when exposed to said movements, about a vertical shaft, which includes at least one peripheral compartment located around a central compartment, placed in fluid communication with same and which the pump supplies with liquid taken from elsewhere, and which contains said liquid which, with the oscillations of the receptacle, flows via the central compartment; and at least one first turbine arranged in the central compartment and coupled with an alternator connected to an electric power supply line of a facility that is external to the device and located remotely.
4	WO 2015012752 A1 20150129	GOX AB	A turbine adapted to extract energy from the velocity of a streaming fluid such as wind, steam, tidal streams and water waves. The invented turbine is arranged with its axis of turbine rotation directed at substantially right angles to the current direction of the streaming fluid and comprising a kind of self- supported blade body which is rotationally symmetric and constructed by rotor blades integrated transversely and supported two by two, allowing the fluid to flow through the turbine with less turbulence compared to other types of turbines equipped with separate rotor blades.

#	Publicación	Solicitante	Resumen
5	WO 2015014523 A1 20150205	VOITH PATENT GMBH	A turbine for a continuous-flow power plant, comprising a hub body which has a shaft for transmitting the torque generated by the turbine; a number of turbine blades supported by the hub body can rotate about the longitudinal axes thereof; an adjusting body is provided in the interior of the hub body, designed in the manner of a spherical link chain, which runs coaxially with respect to the shaft and can be rotated about the shaft axis; a link chain for each blade with two links. The first link has a first end articulated on the adjusting body via a rotary joint. The second link first end is articulated on the second end of the first link via a rotary joint, and the second end is mounted on the hub body such that it can be rotated about the longitudinal axis of the relevant blade.
6	WO 2015016378 A1 20150205	MITSUBISHI HEAVY IND LTD	Ocean current power generation facility equipped with: an ocean current power generation device that is installed floating in the ocean, blades rotated by an ocean current, and generators that generate power due to the rotational force of the blades; a mooring wire, one end of which is connected to the ocean current power generation device, and the other end of which is connected to an oil or natural gas production platform that is anchored or moored to the ocean floor.
7	WO 2015021732 A1 20150219	CHONGQING TONGLI IND COMPANY LTD	A floating pipe type hydroelectric generator comprises a floating pipe accelerating apparatus, a water turbine and a generator. The floating pipe accelerating apparatus consists of a tubular water collector, a work section, and a draft tube. The water turbine is disposed in the work section between a water outlet end of the tubular water collector and a water inlet end of the draft tube. The water turbine (1) is connected to the generator (31).
8	WO 2015037865 A1 20150319	HONG JONG SU	Rotational buoyancy power generator, according to one embodiment of the present invention, comprising a water tank part in which water is filled to a predetermined water level between a circular inner wall and a circular outer wall; a first rotation part which is positioned between the inner wall and the outer wall, has a circular shape to float on the water by buoyancy, and includes a plurality of blades formed on an outer surface thereof; a driving part which is accommodated inside the inner wall and rotates the first rotation part when a gear set rotated by a motor is engaged with an upper part of the first rotation part; a second rotation part of which a central body floats on the water up to a predetermined height inside the inner wall by buoyancy, and which includes a plurality of buoyancy branches having one end connected with the central body and the other end positioned between the first rotation part and the external wall, so as to float on the water by buoyancy; and a power generation part for generating the induced electromotive force when the second rotation part is rotated by the rotational power of the water according to the rotation of the first rotation part. Thus, a small-scale generation device capable of being utilized in a small space can be implemented. In addition, the amount of power generation can be increased by rotating a rotating body floating on the water by buoyancy using the small amount of power.

ESTADISTICAS

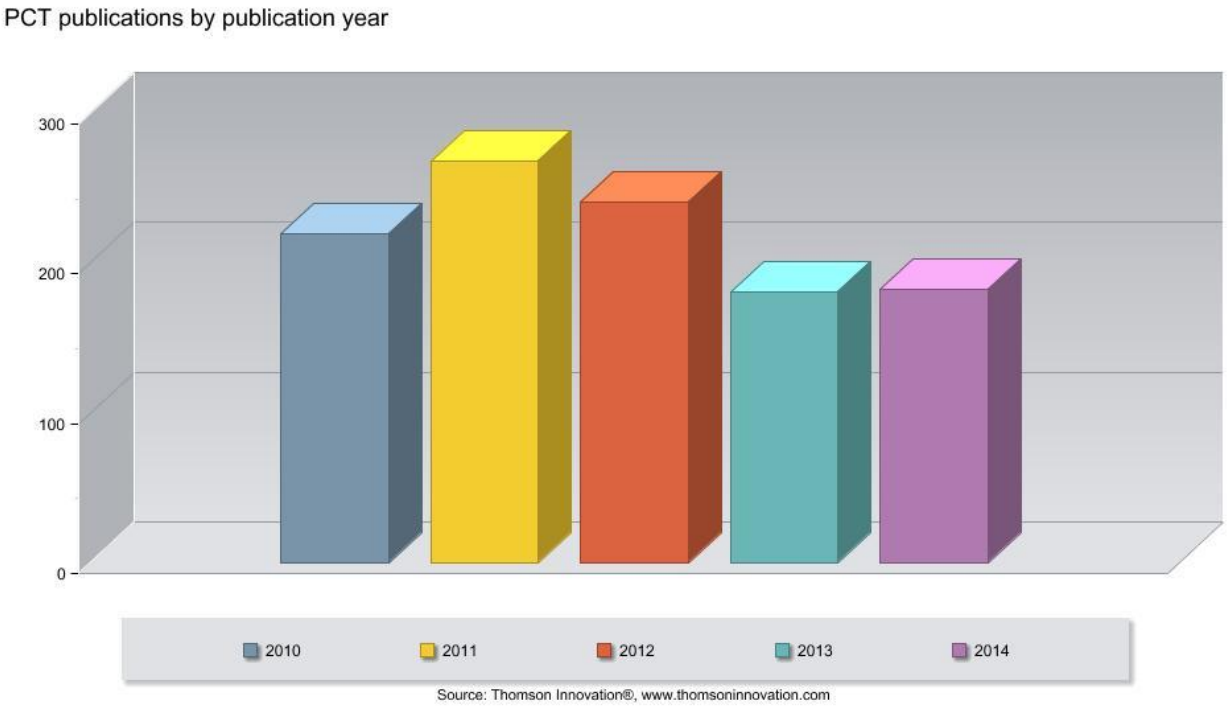
Las estadísticas de este BVT están centradas en las publicaciones PCT relativas a la energía de las olas y de las mareas, de los años 2010 a 2014.

Se presentan datos estadísticos relativos a (1) las Publicaciones PCT por años, (2) las Publicaciones PCT de los 10 solicitantes más frecuentes, (3) de los 10 inventores más frecuentes, (4) de los 10 países prioritarios más frecuentes.

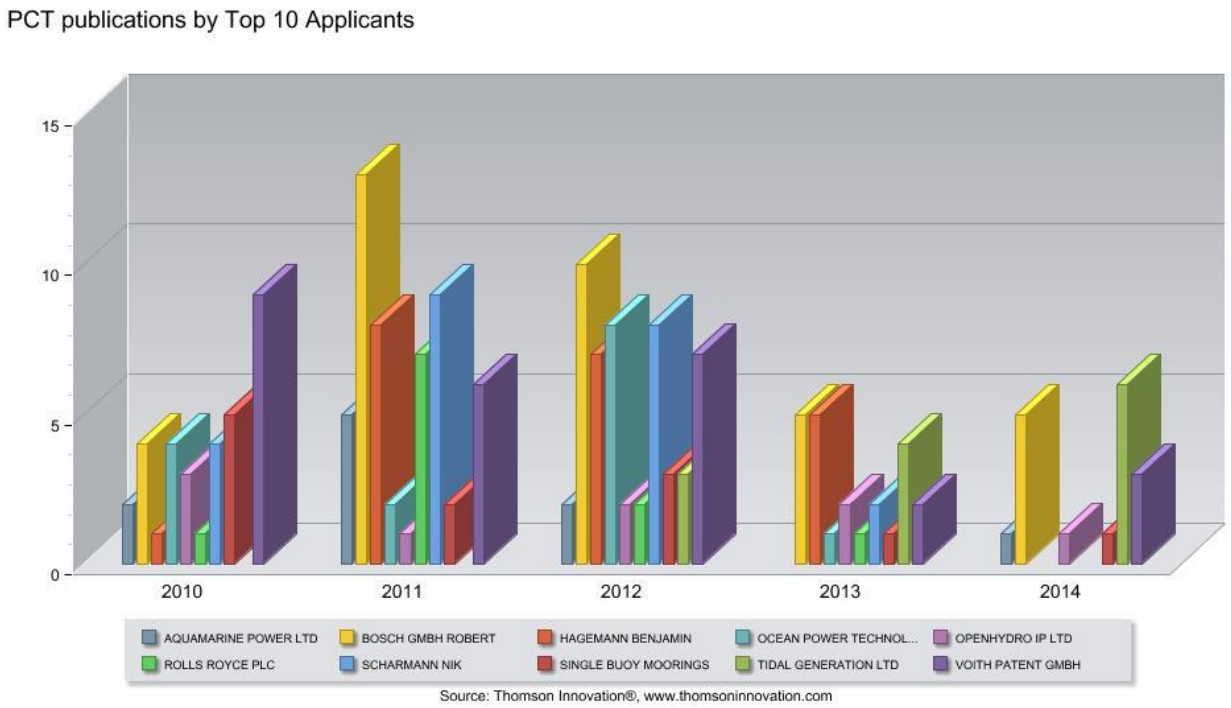
La herramienta utilizada para la producción de estos gráficos (Thomson Innovation) utiliza la clasificación principal de cada publicación. Se observa que en la gráfica relativa a las clasificaciones IPC más frecuentes además de la clasificación más general F03B13/12, que engloba a las energías undimotriz y maeromotriz también se presentan las clasificaciones de áreas técnicas cercanas y, concretamente , las clasificaciones jerárquicamente inferiores que son específicas para las olas y las mareas.

Evolución de las publicaciones de patentes desde 2010

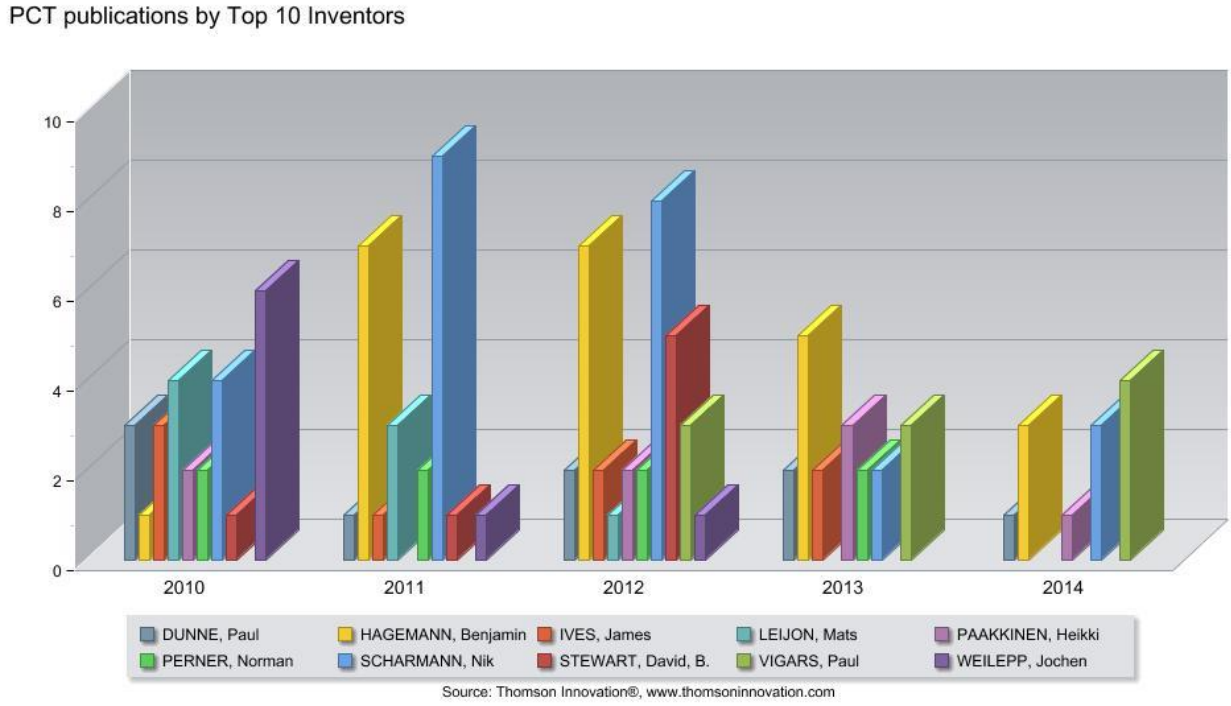
1.- Publicaciones PCT desde 2010



2.- Publicaciones PCT de los 10 solicitantes más frecuentes desde 2010

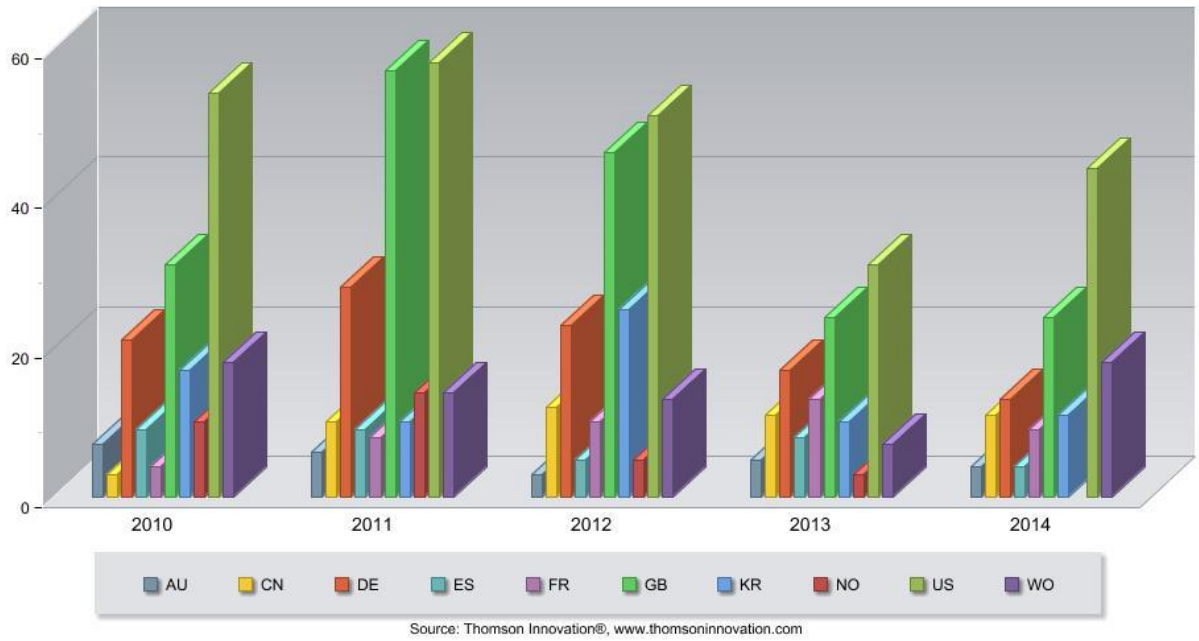


3.- Publicaciones PCT de los 10 inventores más frecuentes desde 2010



4.- Publicaciones PCT de los 10 países de prioridad más frecuentes desde 2010

PCT publications by Top 10 Priority Countries



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Noticias del sector

Bilbao Marine Energy Week, un congreso con historia.

La segunda edición del principal congreso sobre energías marinas del sur de Europa se celebrará del 20 al 24 de abril de 2015 en Bilbao. Se reunirán los principales agentes, empresas, investigadores y líderes en la toma de decisiones involucrados en el desarrollo de las fuentes energéticas marinas.

Desde 2005 Bilbao acoge diferentes jornadas internacionales sobre energías marinas y eólica offshore que, tras casi una década de evolución, han formado lo que hoy es el congreso y la exhibición Bilbao Marine Energy Week. Una semana donde las energías marinas, su evolución y su futuro, son el centro del debate.

Bilbao Marine Energy Week está organizado por la alianza formada por el Ente Vasco de la Energía (EVE), Corporación TECNALIA y Bilbao Exhibition Centre y cuenta con el patrocinio IBERDROLA.

La 2ª Bilbao Marine Energy Week incluye tres días de conferencias, una exposición enmarcada en la feria internacional del sector marítimo SINAVAL-Eurofishing, encuentros empresariales con invitados internacionales y visitas técnicas.

La semana comienza con reuniones sectoriales y de proyectos Europeos relacionados con las energías marinas con talleres, encuentros profesionales y de la Asamblea de la Asociación de Empresas de Energías Renovables.

El segundo día se dedica a la eólica marina, y se darán a conocer los últimos avances en turbinas offshore de la mano de los principales fabricantes mundiales. A continuación, los actores más relevantes de la cadena de suministro presentarán aspectos como la cimentación, el equipamiento eléctrico o los medios de instalación. En esa temática, varias empresas

El tercer día es el "bimep day", jornada científica dedicada al proyecto desarrollado por el EVE en la costa de Bizkaia, a la altura de Armintza, que permitirá la investigación de dispositivos de generación eléctrica flotantes en mar abierto. Se darán a conocer con ponencias orales y posters los principales avances en proyectos de I+D en energías renovables marinas centrados en dispositivos flotantes. Cierra el día una mesa redonda sobre necesidades y prioridades de investigación para acelerar el desarrollo de las energías renovables marinas.

Al final de la semana, el congreso se centrará en las energías oceánicas con una primera sesión para dar a conocer los últimos avances en turbinas de corrientes marinas y otra sesión centrada en dispositivos de aprovechamiento de la energía de las olas. Un debate posterior se centrará en abordar aspectos tecnológicos, de reducción de costes y de tramitación de permisos.

Finalmente la semana termina con una serie de visitas técnicas entre las que destaca la de la planta de energía de las olas de Mutriku y bimep.

Fuente: **Bilbao Marine Energy Week**

Nazaré: Equipo accionado con energía de las olas monitoriza el mar

El Wave Glider, un dispositivo alimentado por energía de las olas, se hará el sábado a la mar en Nazaré para recoger información sobre las áreas potenciales para la implementación del proyecto entre Peniche y São Pedro de Moel.

El equipo, controlado a distancia y que se mueve con la energía de las olas, "es capaz de recopilar datos sobre las olas, las corrientes, las condiciones climáticas y la presencia de aves y mamíferos marinos", dijo Michael Moll, uno de los responsables de equipo que se puso en marcha el sábado.

La misión, presentada hoy en Nazaré, establece que el Wave Glider esté en la costa oeste de Portugal durante un mes, haciendo rutas entre Peniche y São Pedro de Moel, identificando "las áreas con potencial para la realización de proyectos de energías renovables marinas " dijo Francisco Campuzano, coordinador del proyecto en Portugal.

Equipado con hidrófonos, cámara, sensores atmosféricos, equipos de medición de la corriente y sensor de agitación, Wave Glider permite "recoger datos que pueden ser comparados con la información obtenida a través de dos boyas del Instituto Hidrográfico y del satélite Altika", agregó dicho responsable.

Durante la estancia del equipo en el mar la Capitanía del Puerto de Nazaré va a "emitir avisos semanales sobre su ubicación" a los arrastreros dedicados a la pesca para "que no entren en conflicto con la estructura y le causen daños", dijo el capitán del Puerto de Nazaret, Lourenço Gorricha.

"Al ser un dispositivo que se mueve a través del agua se hace necesario prever algunas situaciones, sobre todo en una zona donde hay una intensa actividad pesquera", dijo el comandante del puerto que ya pidió a los responsables del proyecto "un plan de navegación detallado" y que "se compruebe periódicamente que el equipo se identifica visualmente."

Con dos metros de largo por 60 centímetros de ancho, el Wave Glider tiene una composición similar a la de las tablas de surf y pesa alrededor de 150 kilos. La estructura ha costado alrededor de 200 mil euros y el mantenimiento en el mar durante un mes, tendrá un costo estimado de 60 mil euros.

El seguimiento que se realizará en Nazaré y que en pocos días se iniciará también en Escocia es parte del proyecto europeo Turnkey (Transforming Underutilised Renewable Natural Resource into Key Energy Yields) dirigido a el estudio de las Energías Marinas Renovables.

El estudio científico que se está desarrollando tiene seis organizaciones asociadas e involucra a cuatro países: Escocia Portugal, Francia y España. En un principio, sólo los dos primeros tendrán el equipo de monitorización marina.

Fuente: Diariodigital
Fecha: 2015/03/27

HiWave, el dispositivo que palpita con la energía de las olas

Las compañías **Iberdrola** (España) y **CorPower Ocean** (Suecia) han unido esfuerzos para desarrollar HiWave, una boya inspirada en el sistema de bombeo del corazón humano accionada, en su caso, por el movimiento de las olas. El dispositivo, que podría revolucionar la generación de electricidad a partir de la energía undimotriz, ha sido presentado esta semana en Estocolmo.

Ligera, eficiente, fácil de transportar y montar, fiable… La boya HiWave buscar cumplir todos estos requisitos para convertirse en un sistema de generación eléctrica habitual en las costas de cualquier lugar del mundo y capaz de proporcionar electricidad a un coste absolutamente competitivo.

De momento es solo un proyecto, pero su potencial es enorme. Lo están desarrollando las compañías Iberdrola y CorPower (Suecia), con la colaboración del centro de investigación portugués WaveEC y el apoyo del Instituto Europeo de Innovación a través de la comunidad de innovación y conocimiento **KiC Innoenergy**, que financia parte del coste del proyecto, estimado en unos 15 millones de euros.

El concepto en que se basa HiWave no es obra de un ingeniero, como parecería lógico pensar, sino de un médico: el cardiólogo Stig Lundbäck, que ha dedicado más de treinta años de su vida a imaginar y diseñar varias clases de generadores altamente eficientes basados en sistemas de bombeo. Lundbäck, que está ya retirado como médico –que no como inventor– fundó en el año 2009 CorPower Ocean Ab y suma ya casi un centenar de patentes.

Fuente: **Energías Renovables**
Fecha: 05/03/2015

La exploración de la energía de las olas en Peniche puede avanzar en el año 2016

La compañía finlandesa AW Energy anunció hoy en Helsinki, el prototipo ya estudiado y validado para iniciar en 2016 la fase de explotación comercial del proyecto de producción de energía de las olas de Peniche.

Después de probar varios prototipos a lo largo de la playa de Almagreira, en Peniche, desde 2012, de las mediciones de cálculo de potencia y análisis realizados durante 2014, la compañía finlandesa dijo en un comunicado haber encontrado la tecnología adecuada para resistir la fuerza de las olas con más de ocho metros que han sido registradas.

"La respuesta de la estructura a estas cargas fue entonces prevista y se comparó durante las pruebas en el mar el año pasado y ahora se ha confirmado", dijo el comunicado.

Citado en el comunicado, el administrador de AW Energy Tuula Mäki subrayó que "los resultados son valiosos, ya que ayudan a la optimización del proyecto tecnológico.""La garantía de un nivel razonable de seguridad, reduce la incertidumbre en el proceso de modelado y los costes de inversión", añadió.

La validación del prototipo de 350kW permite que los inversionistas avancen en 2016 a la etapa comercial del proyecto de producción de energía a partir del movimiento de las olas. Se trata de una inversión de 25 millones de euros para construir un parque para la producción de energía de las olas.

En octubre, otro de los responsables de la compañía finlandesa, John Lilijelund, ya dijo que "en los períodos en que la instalación estuvo en el fondo del mar, las turbinas nunca se habían detenido y que las pruebas fueron muy exitosas para entrar en la fase comercial del proyecto."

La energía producida con la unidad instalada en el lecho marino es suficiente para alimentar a un pueblo con 120 casas y 360 habitantes. La expansión del proyecto y la eficiencia de la tecnologías lleva a los principales investigadores a predecir una producción de 11,4 GW/ hora al año, suficiente para abastecer 5.500 hogares y 16.500 habitantes, lo que equivale a la mitad del condado Peniche y superior a la población de los municipios como Arruda dosVinhos, Bombarral o Obidos.

Los promotores estiman la hipótesis de proceder a la construcción de unidades con una potencia de 500 KW o incluso 1 MW y, en una segunda fase, "ampliar los objetivos e instalar más unidades", dependiendo del retorno económico.

El objetivo de la empresa AW energía pasa en el futuro por crear un parque de energía de las olas en todo el mundo con una capacidad instalada de entre 50 y 100 MW, una inversión que ascenderá a 100 millones de euros y poner Portugal en la vanguardia de la producción mundial de energía de las olas.

Por primera vez a nivel mundial, en 2007, la tecnología fue probada bajo el mar a cinco millas de la costa hasta que, ya en 2012, la energía producida se inyectó en la red para su venta a cargo de Eneólica.

Fuente: Noticiasaominuto
Fecha: 2015/03/23