

Portugal forging ahead with green energy

Portugal will be home to one of two hybrid energy parks in Europe as part of the Horizon 2020 fund aiming to promote green energy and carbon neutrality.

Researchers from the Institute of Systems Engineering and Computers, Technology and Science (INESC TEC) are part of the project which represents a total investment of €45 million. In a statement, the Porto institute said that the project, entitled EU-SCORES, will contribute to the European Union's goal of achieving zero net greenhouse gas emissions by 2050, by using, for the "first time", the "large-scale potential of solar, offshore wind and wave systems". Funded at €45 million by the Horizon 2020 program, under the European Union's Green Deal programme, the project aims to install two demonstrators, that is, two hybrid parks in Europe, one in Portugal and the other in Belgium. The project, which includes 17 partners, aims to "show the benefits of continuous

energy production, taking advantage of complementary energy sources, including wind, sun and waves", highlights INESC TEC, adding that this hybrid approach "will create a more resilient and stable energy system." and with "greater production capacity at a lower cost per megawatt-hour (MWh)". In Portugal, a 1.2 megawatt (MW) wave energy park of the company CorPower Ocean Lda, will be installed off Aguçadoura, in Póvoa do Varzim (district of Porto), which will allow the researchers "to obtain relevant scientific data for the analysis" taking into account the approach to the Windfloat Atlantic offshore wind farm in Viana do Castelo. Off Viana do Castelo, a hub will also be installed to allow the "possibility of connecting a 10MW wave energy park, taking advantage of the existing underwater infrastructure". In addition to the Portuguese park, the



project will also have a park in Belgium, where an Oceans of Energy 3MW offshore photovoltaic system will be installed in a fixed wind farm.

Francisco Correia da Fonseca, senior engineer at WacEC (one of the three Portuguese institutions involved), points out that the project "presents an excellent opportunity to demonstrate innovative hybrid concepts that could leverage the offshore renewable industry in Portugal and Europe".

João Maciel, EDP's Innovation and Development (R&D) director, also states

that offshore energy production will be a 'key vector for the planet's energy transition and the fight against climate change' and that the project intends to 'show the strength contribution that offshore production can make to the production and consumption of clean energy'.

Bernardo Silva, a researcher at INESC TEC, points out that the hybrid approach will allow the "supply of more reliable and constant electricity" and that the exploration of advanced operating methodologies will bring "benefits in terms of cost reduction per MWh".