

Scientists hope to harvest oceans in biofuel bonanza

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SCOTTISH scientists are set to embark on an ambitious study to find a solution to the global energy crisis – by developing biofuels from the world's oceans.

An international research team, led by experts at Aberdeen University, believe the answer to society's fuel demands could lie in the seas and oceans.

They are planning to develop a new range of biofuels from the microscopic algae found in the seas across the globe.

Dr Oliver Ebenhoeh, from Aberdeen University's Institute of Complex Systems and Mathematical Biology, is co-ordinating the research project which is being backed by £3.46 million in European Union funding.

He said the current system of creating biofuels from crops and land-based vegetation was not sustainable. "We need to find efficient ways of supplying our energy demand in a way that doesn't compete for valuable resources like arable land or fresh water," he said.

"We can't just put corn in our car's tank because it's being used to feed millions already – it

won't be sustainable. This is one of the key motivations to look into marine microalgae.

"Cultivating algae using water that can't be used for irrigation, like salt water or brackish water, makes sense because it's so vast – it's all around us and there's no competition to use the land to grow other things."

As part of the four-year study – known as the AccliPhot project – researchers will try to understand more fully how plants and microalgae respond to changes

in light and other conditions, and use that information to make new products.

While the main focus will be on biofuels, the study team hope the pioneering research could also yield breakthroughs in antibiotics, nutritional supplements or even produce chemical compounds used in the cosmetics industry.

Dr Ebenhoeh said: "We're hoping to understand the prin-

ciples that guide these changes to environments and then see if this can be scaled up to industry scale. If that is successful then the applications are enormous because then you can really look into targeted pharmaceuticals or precursors for the chemical industry.

"One of our unique points is our multi-disciplinary approach. We have theoreticians with a background in mathematics and physics, working together with biologists and biochemists, and three of our partners perform industrial research.

"This unique composition will help us form a tight connection between academic and industrial research. We hope to make a considerable contribution to the understanding in this field."

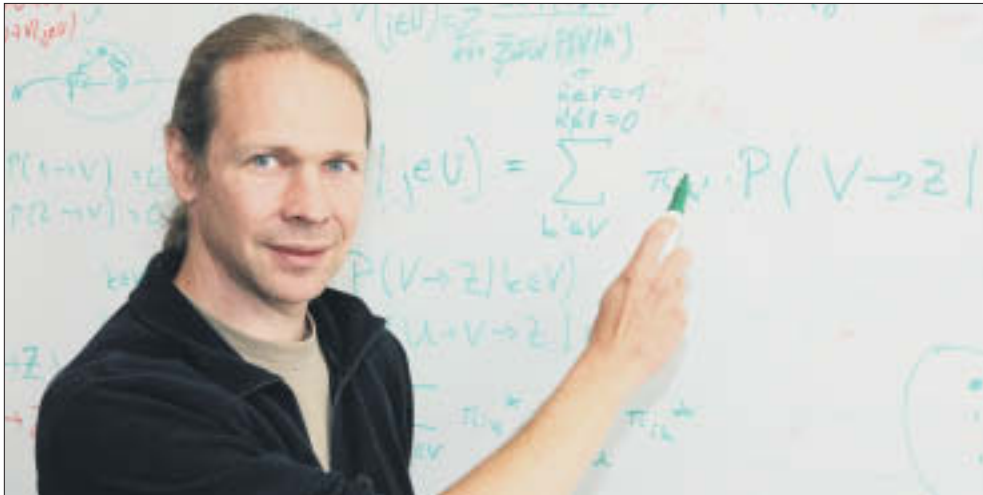
First Minister Alex Salmond praised the initiative which will involve 12 research centres across Europe.

He said: "Scotland is leading the way in the energy sector, with our world class oil and gas industry now allied to a vibrant renewables sector that is harnessing the power of our boundless wind and water resources to bring jobs and investment to our country and ensure we can power our nation on a sustain-

able basis.

"The AccliPhot project could herald another exciting development in Scotland's energy story."





Dr Oliver Ebenhoeh hopes to crack the formula that will provide a breakthrough in harvesting algae

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