carry out preliminary investigations in the given area. Later the applicant has to submit applications for a license to establish and for a license for employment, similar to the tender procedure.

Open-door projects receive a feed-in tariff corresponding to the feed-in tariff for new onshore wind turbines. These are lower than the general winning price of the tendered project. Furthermore an open-door developer has to pay for the transmission of the produced electricity to land, unlike the winner of tender projects.

While tender projects are excempt from local citizens' options to buy wind turbine shares – a minimum of 20% has to be offered – open-door projects are not, except when the open-door projects consist of test turbines, which has often been the case.

Also the clause to pay compensation for the loss of value to owners of real property applies to open-door projects and not to tender projects. In that regard land turbines are considered as real property and presently the Valuation Authority deals with compensation claims regarding wind shadow problems for existing wind turbines due to the establishment of new onshore turbines. The consequences for open-door offshore turbines are not clear.

Basically, it is not necessary to rent land to establish offshore wind turbines. However, there are several conditions to consider within the tendering procedure.



Ideas put forward for substitution of materials offshore



Well visited idea generation day as part of sub-project Substitution of Materials Offshore

Stair turrets, ventilation shafts, grates, boxes and pipes: plastic composites are well suited for many purposes in the offshore sector; only the imagination is the limit. In order to help the imagination along, the sub-project Substitution of Materials Offshore organised a day for idea generation for all interested companies on November 11. Everybody had the chance to contribute and tell suppliers about new ways of using plastic composites in the offshore sector.

The purpose of supplementing steel and other products with plastic composites is to reduce the weight of offshore installations and save space, energy and money.

"You may ask if the offshore sector should tell the plastics industry what they need, or if the plastics industry should come up with ideas themselves. But what's important is that we've now begun the process," says sub-project manager Bente Nedergaard Christensen from Plast Center Danmark. She adds:

"We organised the idea generation day because we know certain needs exist and because we believe we can solve some problems."

Stimulating day

50 participants came up with ideas on the day, which was held at Aalborg University in Esbjerg. Ideas for how to use plastic composites were put up on boards and suppliers, customers and representatives from industry and interest organizations contributed with suggestions for how plastic composites can advantageously be used as a supplement to steel in the offshore sector. Many participants brought home new ideas for their manufacturing and sales departments.

Birgitte Møller Hansen, a specialist in high pressure composite materials from the company Elektro-Isola, said: "We can, for instance, provide our plastic

products with mechanical, electrical or other qualities, but our knowledge of the offshore sector's requirements and standards is limited. So we've turned up here today in the hope of having a dialogue with the offshore sector about their need for new solutions."

The many suggestions for ways in which to use plastics in the offshore sector were registered and systematized and will later be put in an ideas catalogue to be handed to the participants of the idea generation day and to the project partners.