

## Possibilities of the “MOOI-tender” for Circular Offshore Windfarms

On 14 February 2020 the Minister of Economic Affairs and Climate has published the so called “MOOI-regeling” (ministerial order for Mission Oriented Research, Development and Innovation). In this paper you are informed about the possibilities of this subsidy instrument for innovation in the field of circular offshore windfarms and some processes related to the tender under the MOOI-tender.

For Offshore Wind the MOOI subsidy tender focuses on subsidizing projects in the middle TRL-range contributing to cost reduction and optimization, integration in the energy system and integration in the environment.

Circularity of offshore windfarms is not a stand-alone theme, but is part of a number of sub-themes:

- **Cost Reduction & optimisation**

Longer life span by development knowledge of degradation processes and use of new materials, communication systems and robotisation.

- **Balance of Plant optimisation**

Development of new monopile technologies (for next generation big windturbines), improved transition pieces and environmental friendly end-of-life decommissioning techniques.

- **Integration in the environment**

Increasing the circularity of wind farms and reduction of CO2 footprint. This part has to do with the above mentioned part of theme 1 adressing development, application and processing of new materials. For problems in the field of circularity connection is sought with MMIP 6 and the KIA Circular Economy.

Life cycle design includes the societal aspects of the use of raw materials and reuse or processing of residual materials after decommissioning (especially composites are a problem).



In a recent workshop with stakeholders it was concluded that solutions have to be found for the recycling problems with present materials (especially blades) and moreover for the question how to prevent massive future recycling problems as a result of the gigantic increase in installed offshore wind capacity.

The following themes were considered as important elements for project proposals for the MOOI-tender:

- Innovative methods for better recycling of existing difficult-to-recycle materials (polyester thermosets) from blades after decommissioning.
- Innovative methods for future circular design and production of blades. This issue encompasses subjects like development of new, circular materials, as well as circular design (possibly modular) and more efficient production methods (automatization instead of manual labour), assembly & logistics, service & maintenance.
- Lifetime extension
- Remanufacturing of components and parts.
- Possibly rare earth materials are also a specific recycling issue.

### **Priorities for the coming months**

#### **Consortium building by:**

- Companies in the offshore wind sector.
- Companies in the composites- and recycling sector,
- Research institutes

#### **Research institutes:**

The following Dutch research institutes are active in the field of circularity:

- TNO
- Technische Universiteit Delft
- Hogeschool Windesheim

These research institutes are involved in the building of consortia to develop project proposals together with companies. The industrial basis in these consortia still needs to be strengthened.

#### **Companies:**

In the consortium building there is especially need for companies representing important parts of the value chain in the offshore wind sector, the composite industry and the recycling industry. Parties are invited to contact the research institutes mentioned above to investigate the possibilities of joining existing initiatives or starting new ones. See below the contact data of these institutes. TKI Wind op Zee (Offshore Wind) is willing to help finding industrial partners and RVO can answer questions regarding the content of the ministerial order for the MOOI-tender.

#### **Planning MOOI-tender:**

First outlines of the project proposal should be submitted to RVO on 18 May 17:00 hours at the latest. An independent advisory committee will advise the consortia about this first outline. Final proposals have to be submitted to RVO on 6 October 17:00 hours at the latest.

**Contact data for consortium building and information on the MOOI-tender:**

TNO: Harald van der Mijle Meijer, [harald.vandermijlemeijer@tno.nl](mailto:harald.vandermijlemeijer@tno.nl)

Technische Universiteit Delft: Friso Lippmann, [f.g.lippmann@tudelft.nl](mailto:f.g.lippmann@tudelft.nl)

Hogeschool Windesheim: Albert ten Busschen, [a.ten.busschen@windesheim.nl](mailto:a.ten.busschen@windesheim.nl)

TKI Wind op Zee: Bram van der Wees, [vanderwees@TKI-Windopzee.nl](mailto:vanderwees@TKI-Windopzee.nl)

RVO: Ruud Oerlemans, [ruud.oerlemans@rvo.nl](mailto:ruud.oerlemans@rvo.nl) (information on MOOI-tender<sup>1</sup>)

**CIRCO-track**

A so called CIRCO-track will be organised by the CIRCO-organisation in order to:

- Map central and connected value chain(s);
- Identify value losses and business opportunities for all relevant stakeholders across these chains;
- Identify and selecting relevant product-design strategies and business models;
- Identify financing needs and bottlenecks;
- Create cohesion between parties and align interests/approach;
- Provide input for among other things the MOOI-tender.

For more information on the CIRCO track and application for the track:

<https://www.circonl.nl/agenda/workshop-track-offshore-wind/>

Contact CIRCO: Bas Hillerstrom, [bas@circo.nl](mailto:bas@circo.nl)

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<sup>1</sup> The information in this flyer contains summarised information about instruments for innovation subsidies. Please note that only official information from the RVO and NWO websites is leading.