## Challenge 1.1

### Installing large volumes offshore

<table>
<thead>
<tr>
<th>Serial production – analysis of substructure production processes</th>
<th>Short-term</th>
<th>Medium priority</th>
</tr>
</thead>
</table>

**Description and scope**

Today most, if not all, offshore wind projects use custom-made foundations. Developing a North Sea standard for monopiles, piling procedures and gravity foundations will have a significant impact on cost reductions for offshore wind.

**Recommended research actions**

- Drive innovative processes to reduce multicity of designs to a few that use common components.
- Produce a catalogue of alternatives.
- Get approval for new solutions.

**Milestones**

- Common designs to be presented by 2022.
- Designs to be approved by 2024.