Qualification of innovative floating substructures for 10MW wind turbines and water depths greater than 50m

Project acronym	LIFES50+
Grant agreement	640741
	Collaborative project
Start date	2015-06-01
Duration	40 months

Deliverable D8.5 Project flyer

Lead Beneficiary	MARINTEK
Due date	2015-12-01
Delivery date	2015-12-01
Dissemination level	Public
Status	Completed
Classification	Unrestricted
Keywords	Project flyer, Dissemination[Keywords]
Company document number	Click here to enter text.

The research leading to these results has received funding from the European Union Horizon2020 programme under the agreement H2020-LCE-2014-1-640741.

Disclaimer

The content of the publication herein is the sole responsibility of the publishers and it does not necessarily represent the views expressed by the European Commission or its services.

While the information contained in the documents is believed to be accurate, the authors(s) or any other participant in the LIFES50+ consortium make no warranty of any kind with regard to this material including, but not limited to the implied warranties of merchantability and fitness for a particular purpose.

Neither the LIFES50+ Consortium nor any of its members, their officers, employees or agents shall be responsible or liable in negligence or otherwise howsoever in respect of any inaccuracy or omission herein.

Without derogating from the generality of the foregoing neither the LIFES50+ Consortium nor any of its members, their officers, employees or agents shall be liable for any direct or indirect or consequential loss or damage caused by or arising from any information advice or inaccuracy or omission herein.

Document information

Version	Date	Description
0.1	2015-10-01	Initial draft Prepared by Jan Arthur Norbeck Reviewed by Ingvil Snøfugl Approved by Petter Andreas Berthelsen
0.2	2015-10-15	Initial draft for feedback from consortium partners Prepared by Jan Arthur Norbeck Reviewed by Matthias Nowak Approved by Consortium partners
1.0	2015-11-11	Final version for QA Prepared by Jan Arthur Norbeck Reviewed by DC, German Perez Moran and Paul de la Gueriviere Approved by Petter Andreas Berthelsen
		In order to enter a new version row, copy the above and paste into left most cell.

Authors	Organization
Jan Arthur Norbeck	MARINTEK
Matthias Nowak	MARINTEK

Contributors	Organization
Ketil Enoksen	Bennett Reklamebyrå AS

Definitions & Abbreviations	
AST	Administrative Support Team
PC	Project Coordinator
PM	Project Manager
WPL	Work Package Leader

Executive Summary

This document reports on the establishment of the project flyer as one of the dissemination tool for public dissemination throughout the LIFES50+ project.

Contents

1 Introduction 5
2 Requirement 5
3 Design process 5
4 Design description 6
4.1 Format 6
4.2 Layout 6
4.3 Content 6
Annex A Project flyer 7

1 Introduction

The project flyer will serve as a tangible introduction to the project and will be distributed to all LIFES50+ beneficiaries at internal and external project events. It will contain a short description of the project's objectives and mentions the website. The flyer will be printed in at least 500 copies for use at project events and for dissemination by beneficiaries to their contacts; the PDF-file can be downloaded from the project-internal and external website. A poster version and/or rollup that beneficiaries can use for display, will be available internally.

2 Requirement

The flyer serves as an introduction to the project. Therefore the flyer must provide enough information for the readers to catch the interest, if the project is relevant to the reader. This forms the base for the specification given to the designer team working on Task 8.2.

The flyer has to:

- have a title page with the logo, a slogan and acknowledgement of the EC funding.
    - The title page has to be catchy enough for a passer-by to take flyer into his or her own hands.
    - The image should relate to the environmental condition for the placement of the wind turbines.
- have a centre-fold with
    - key facts about the project, a visual representation of the partners symbolizing that the participants come from all over the European Union,
    - details that tell about the content of the project.
- a backside with
    - phrases catching main ideas or actions in the project,
    - listing of project partners,
    - the project logo and reference to the project web site.

The flyer has to contain the logo of the project, the logos of all participants (12), and the four floater concepts which are up to the evaluation in the project.

3 Design process

In order to guarantee a professional design MARINTEK contracted Bennett Reklamebyrå AS. The requirements were presented during the initial meeting. The layout and content were adjusted by an email conversation. All project partners have been involved in the review process of proposals. MARINTEK collected partner's feedback in order to take them into account for the final version of the flyer.

For printing purposes, the logo has to be provided in a vectorised format. So far the LIFES50+ logo had been in a raster-format which required a recreation. Moreover, the original LIFES50+ logo was not suitable for a composition on top of an image due to the colour gradient and the drop shadow. For this purpose a negative image in white was created.

Illustrations showing the four concepts were required in a high resolution lossless format (PNG). Other imageries where bought from image brokers.

4 Design description

4.1 Format

The preferred format by project partners was a flyer in A4 format with 4 pages on glossy paper. This was realized as a double sided print on an A3 paper that gets folded.

4.2 Layout

The layout chosen have been a mixture of text with description of the project objectives, approach, ambitious supporting by images of the environmental condition for the placement of the wind turbines and illustrations of the floater concepts involved in the project. In addition the project logo and partner logos are included in the top and bottom of the project flyer.

4.3 Content

The content of the 4 pages project flyer will be as follows:

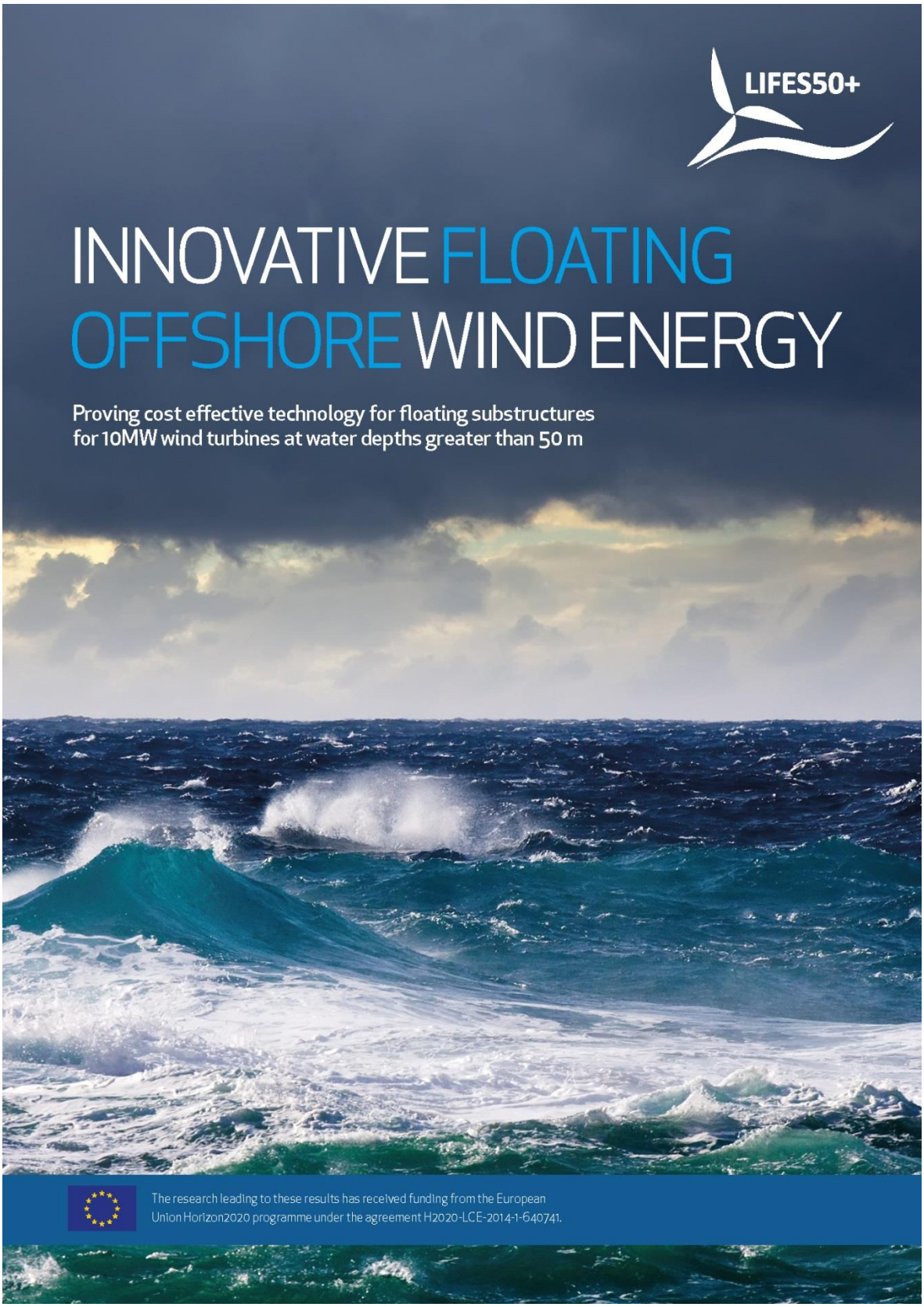
Page 1 (front page): Includes a title page with the project logo, a slogan and acknowledgement of the EC funding and the background image relating to the environmental condition for the placement of the wind turbine.

Page 2 (centre-fold): Includes key facts about the project, a visual representation of the concepts, a map symbolizing partner's location and the project approach supported by text and images.

Page 3 (centre-fold): Includes the objective, focus of work and the challenges related to this in the project. In addition illustrations with a short description of the four floater concepts which are involved in the project.

Page 4 (back side): Summarizes the goals and phrases the main goals and/or outcomes in the project and finally logos of all participants, project logo and reference to the project website for further information.

Annex A Project flyer

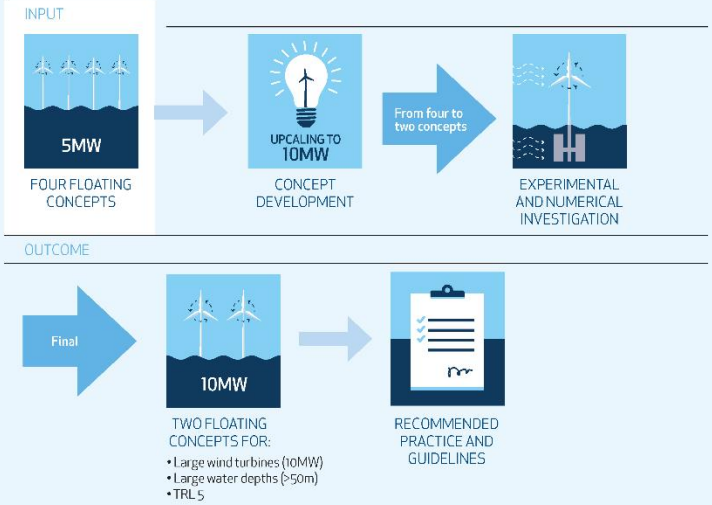


LIFES50+ will develop next generation substructures for floating offshore wind turbines.

The European Horizon-2020-funded programme is led by MARINTEK.

- Total budget 7.3 MEuro
- The project started June 2015 and ends October 2018
- LIFES50+ has 12 partners
  - 4 Design/industry partners
  - 7 Research partners
  - 1 Classification society

APPROACH



CHALLENGE

There is a need for new innovative substructure concepts, including floating platforms, to reduce production, installation and O&M costs for water depths of more than 50m.

OBJECTIVES:

- Optimize and qualify to a Technology Readiness Level - TRL of 5, two innovative substructure designs for 10MW turbines
- Develop a streamlined and KPI (key performance indicator) based methodology for the evaluation and qualification process of floating substructures

FOCUS:

- Floating wind turbines installed in water depths from 50m to 200m
- Offshore wind farms of large wind turbines (10MW) – identified to be the most effective way of reducing cost of energy in short term

CONCEPTS

NAUTILUS	Olav Olsen OO-STAR	IDEOL	IBERDROLA
Semi-submersible	Semi-submersible	Barge	Tension Leg Platform
Steel	Concrete	Concrete	Steel

GOALS

1. Substructure design for very large floating offshore wind turbines (10MW)
2. Methodologies for design evaluation, including LCOE (Levelized Cost of Energy)

To realize these goals, we need:

1. Multi-fidelity numerical tools in the context of qualifying and optimizaing large substructures
2. Experimental techniques specific to floating offshore wind turbines
3. Concept industrialization, as an early focus in the design
4. Uncertainty and risk assessment related to unprecedented large wind turbine substructures

OUTCOME

- Mature floating substructure design synchronized with the expected time-to-market of 10MW offshore wind turbine technology
- Increased scientific and industrial knowledge on numerical and experimental design methodologies and procedures, also enabling more streamlined, KPI based developments
- Ultimately, a considerable LCOE reduction for large floating offshore wind farms

www.lifes50plus.eu

Published January 2016