ENERGY

LOSING CONTROL

Requirements of the stakeholders of offshore wind energy projects

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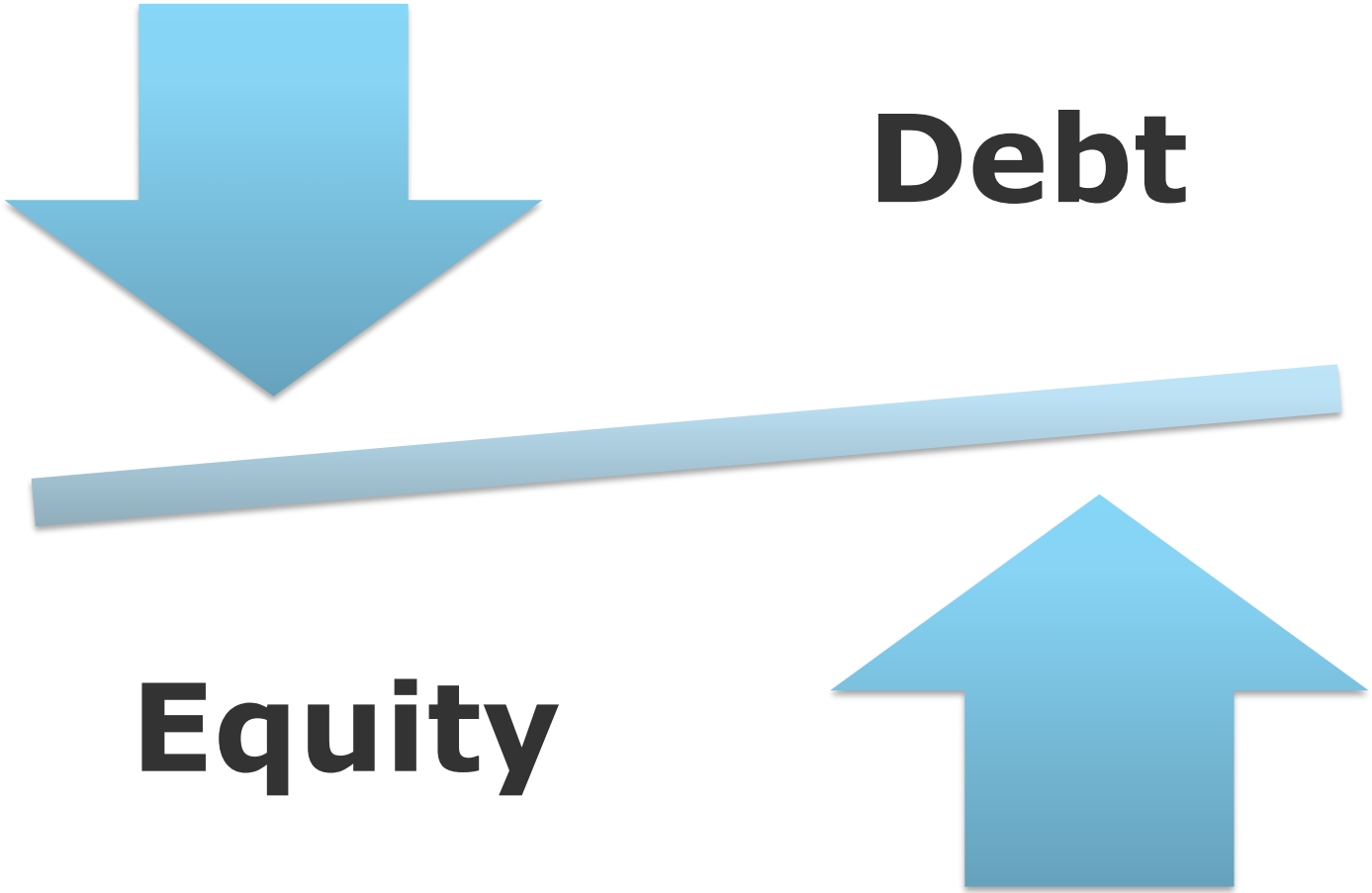
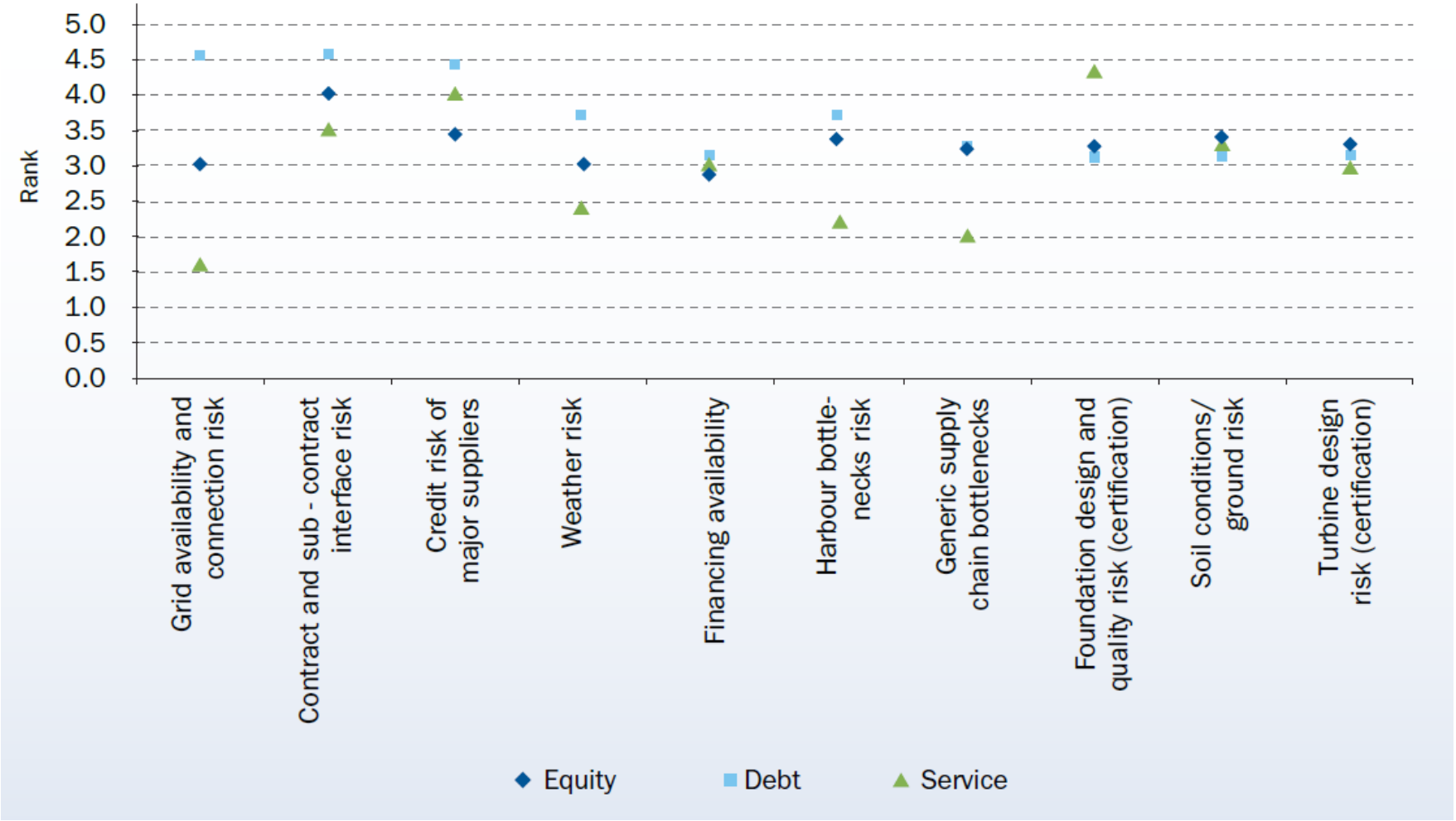
01 October 2019

SAFER, SMARTER, GREENER

CONTROL
when all comes with a cost



CONTROL
same risks, diffrent perceptions



Source: EWEA, Offshore Wind Survey 2013

PARTNERS
"nothing extraordinary"

"I just need someone to explain me the regulatory framework and path towards the construction permit"

Repeating threads:

- *having a clear overview of the legal scheme*
- *well established measurement campaign*
- *normal due diligence*
- *third-party verification*
- *sensibility of scheduling assumptions*
- *language issues*
- *???*

PARTNERS
have a common language

彰化海上風力專案，台灣

設計基礎 "V0"

中興工程顧問股份有限公司

DNV·GL

台灣彰化風力發電場專案

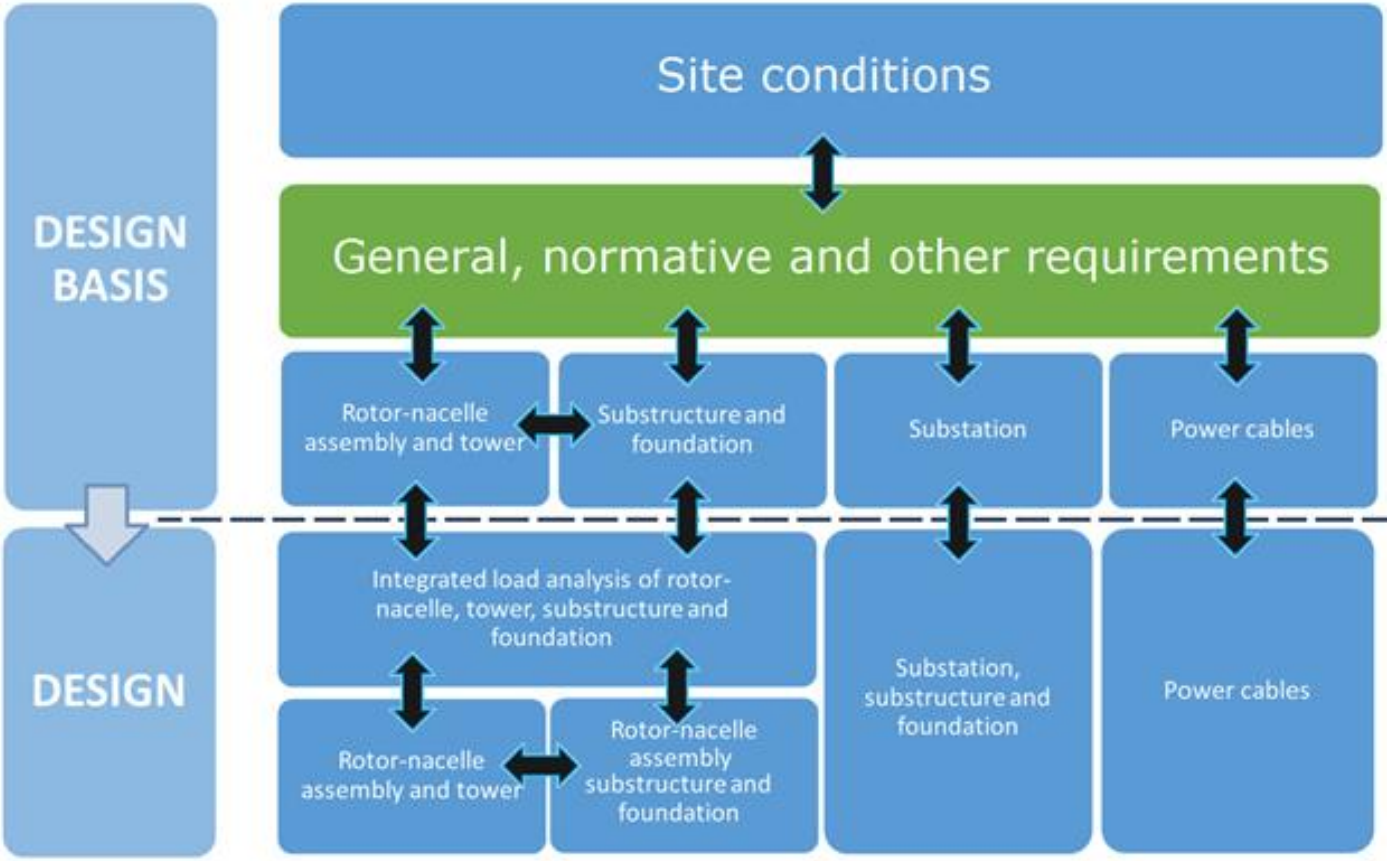
專案認證評估報告

中興工程顧問股份有限公司

報告編號：[GLGH 4257 16 13732-04-R-0001]修正[版本 A]
日期：2016-04-15

PARTNERS
have a common language

Requirements depends on the regulations and expectations, but also overall environment and project's conditions.



PARTNERS
predict the unpredictable

"(...) well prepared measurment campaing and validated LiDAR"

Wind affects it all:

- income and costs
- risk and certainty
- value of the project
- bankability

PARTNERS
give me one good photo (or some certificate)

"It's not how you built it, it's how you sell it"

DNV·GL

STATEMENT OF COMPLIANCE

Statement No.:
DB-DNVGL-SE-0190-[ID with 5 digits]-[rev.]

Issued:
[YYYY]-[MM]-[DD]

Issued for:

Design Basis

of

<Wind Power Plant>

Comprising:

<Wind Turbines, Substation, Power Cables, Control Station>

Specified in Annex 1

Issued to:

<Wind Power Plant Developer>

< Address line >
< Address line >

According to:

DNVGL-SE-0190:2015-12 Project certification of wind power plants

Based on the documents:
CR-DB-DNVGL-SE-0190-[ID]-[rev.] Design Basis Certification Report, dated yyyy-mm-dd

Changes of the design basis are to be approved by DNV GL.

Place, yyyy-mm-dd

For DNV GL Renewables Certification

[Name of SLL for "Cert. decision"]
[Function]

DAkkS Deutsche Akkreditierungsstelle D-ZE-11053-01-00

By DAkkS according DIN EN IEC/ISO 17065 accredited Certification body for products. The accreditation is valid for the fields of certification listed in the certificate.

Place, yyyy-mm-dd

For DNV GL Renewables Certification

[Name of PM "doing it"]
[Function]

The accredited certification body is Germanischer Lloyd Industrial Services GmbH, Brooktorkai 18, 20457 Hamburg.
DNV GL Renewables Certification is the trading name of DNV GL's certification business in the renewable energy industry.

LENDERS
"typical stuff" (but certain point of view)

"We want to understand the project, as any other party engaged, but also review it and evaluate from our perspective"

Common tropes:

- *Actually it is not about the money…*
- *Are the timescales reasonable and comprehensive?*
- *What might affect the timing?*
- *Performance it terms of production and availability.*
- *Environmental and social issues in the center of attention.*

- *Likely interest in every aspect of the Project.*

LENDERS
"typical stuff" (but certain point of view)

"We want to understand the project, as any other party engaged, but also review it and evaluate from our perspective"

- *Various risks exposure for short and medium term stakeholders.*
- *Diffrent perception of several risks classes.*

1.2 Summary of project characteristics

Table 1-4 summarises and evaluates the characteristics of the Project; Table 1-3 provides a key to the categories used.

△△	△	○	▽	▽▽
Excellent	Good	Acceptable	Challenging	Potential show stopper

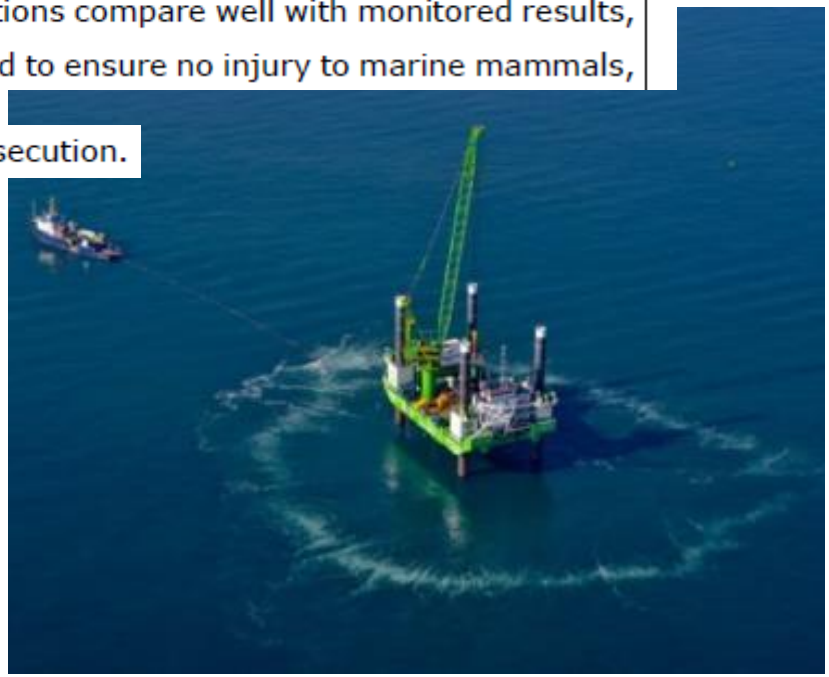
LENDERS
environmental aspects

Identify, adhere, adapt.

maximum hammer energy was exceeded with a peak at [redacted] kJ (for one blow)

> As outlined in Section [redacted] the project is required to suspend pile driving until a) repeat noise monitoring is carried out and a report submitted to the [redacted] and b) the [redacted] and its statutory advisors have reviewed the report and can advise whether noise predictions compare well with monitored results, and c) whether any additional mitigation measures are required to ensure no injury to marine mammals,

worst case there may be a financial penalty and a criminal prosecution.



LENDERS
social aspects

Identify, communicate and manage your stakeholders.

Take care about the interfaces.

10 Planning and environmental	Construction – Common risks to all assets	Two minor risks have been identified. Whilst [redacted] has managed commercial fisheries interests well and state that all agreements have been secured, there will always remain a residual risk of disruption from previously unknown or un-cooperative fishermen. The Employer must provide unrestricted access under any Construction Agreement (CA), therefore, breaches in Employer obligations could lead to claims for extension of time and cost. The CA longstop date is [redacted] and the construction contingency for employer related delays is [redacted] and therefore the CA is sufficient to cover any potential delays from fisheries disruption.

LENDERS
risk management framework

Determine, asses and manage environmental and social risks as part of responsible risk decision-making.

Equator principles	The project falls under Category B – 'Projects with potential limited adverse environmental and social risks and/or impacts that are few in number, generally site-specific, largely reversible and addressed through mitigation measures'.

INSURERS
a game of probabilities

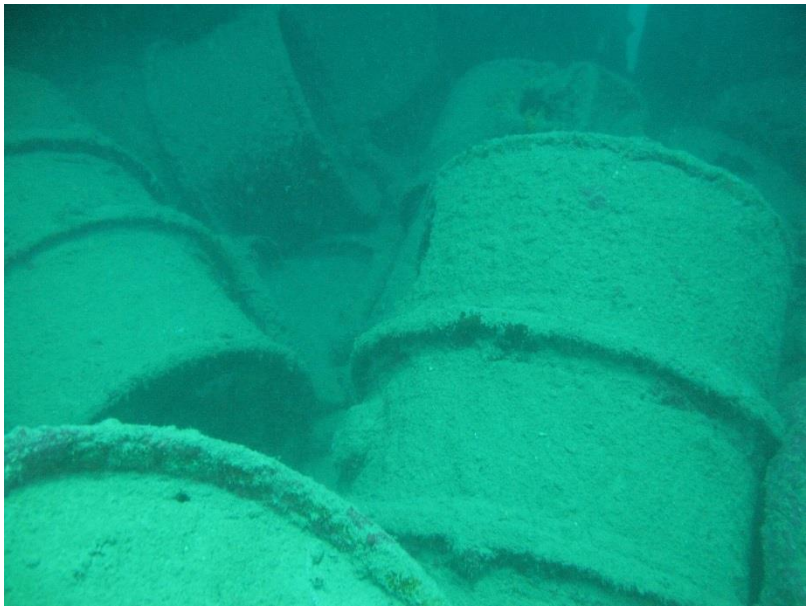
"Asset, to be worthy of an insurance policy, is interesting to an insurer whenever the risk of insuring that asset and collect fees in excess of the risk can be adequately estimated"

Common tropes:

- *Risk management!*
- *What could happen and how likely it is.*
- *What the loses could be.*
- *Value of the asset now and then.*
- *Prove certainity.*

INSURERS
from development…

What lies beneath?



INSURERS
…through construction…

Safety!

INSURERS (et al.)
...to operation

Performance and reliability (warranties and limitations)

ALL
managing this risks

Be aware but do not reinvent the wheel

Where to look information:

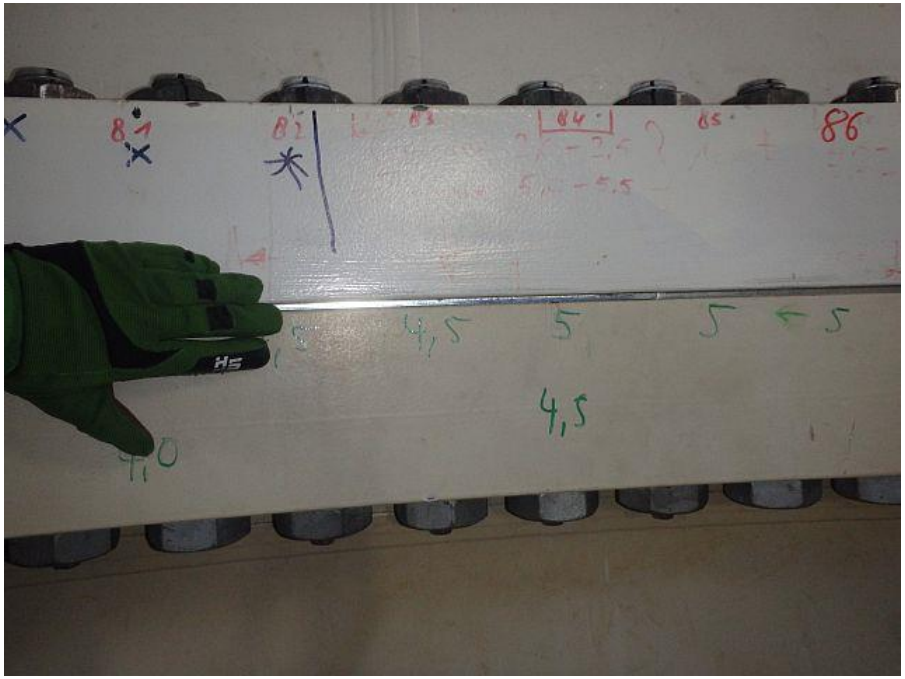
- risk registers
- common practises and guidelines
- benchmarking and data exechange

ALL
managing this risks

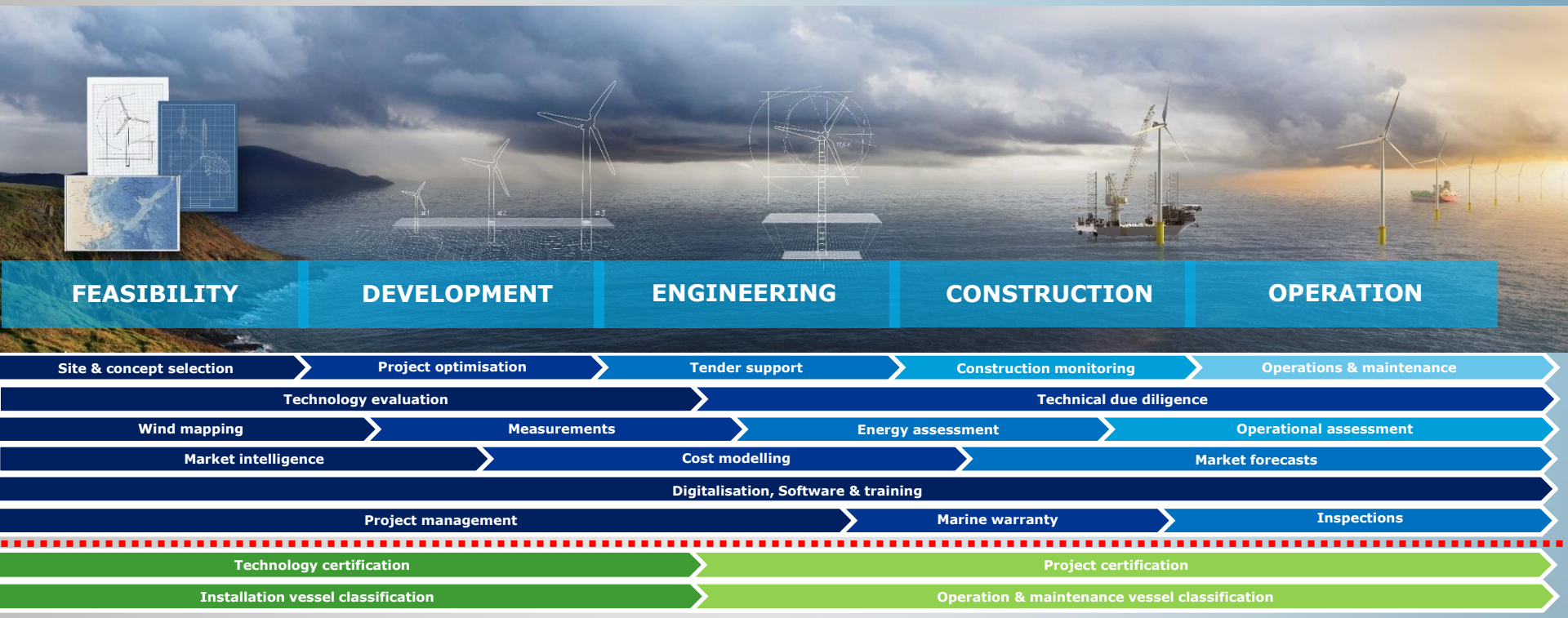
Do not leave (too large) gaps and loose ends

Where to look information:

- expirienced partners for support and execution
- third-parties for verification and supervision
- knowing and managing the stakeholders



DNV GL
seamless support from offshore wind feasibility to operations



We believe success relies on understanding the dependencies between different parts of the offshore wind value chain – this is why we take a full lifecycle approach to managing risks and reducing costs.

LINKING CONTRADICTORY INTERESTS

DNV GL
assisting companies and society in solving the energy trilemma

Thank you very much for your attention!

In case of further questions please get in touch with:

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