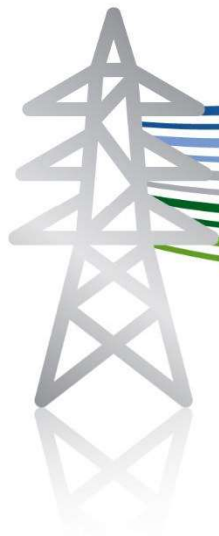


Public

INCENTIVE Show and tell



ofgem



Innovate
UK



nationalgridESO



OWA partners

EnBW



Orsted

RWE



VATTENFALL



Scottish & Southern
Electricity Networks

TRANSMISSION

Motivation

Public



TODAY



Mission: bring a suite of technology solutions to commercialisation that will allow offshore wind farms to provide inertia stability to the onshore networks. This in turn will enable an accelerated rollout of offshore wind whilst maintaining system stability, ensuring energy security, and keeping system costs down.

To achieve this requires technical, market, regulatory and commercial innovation*.

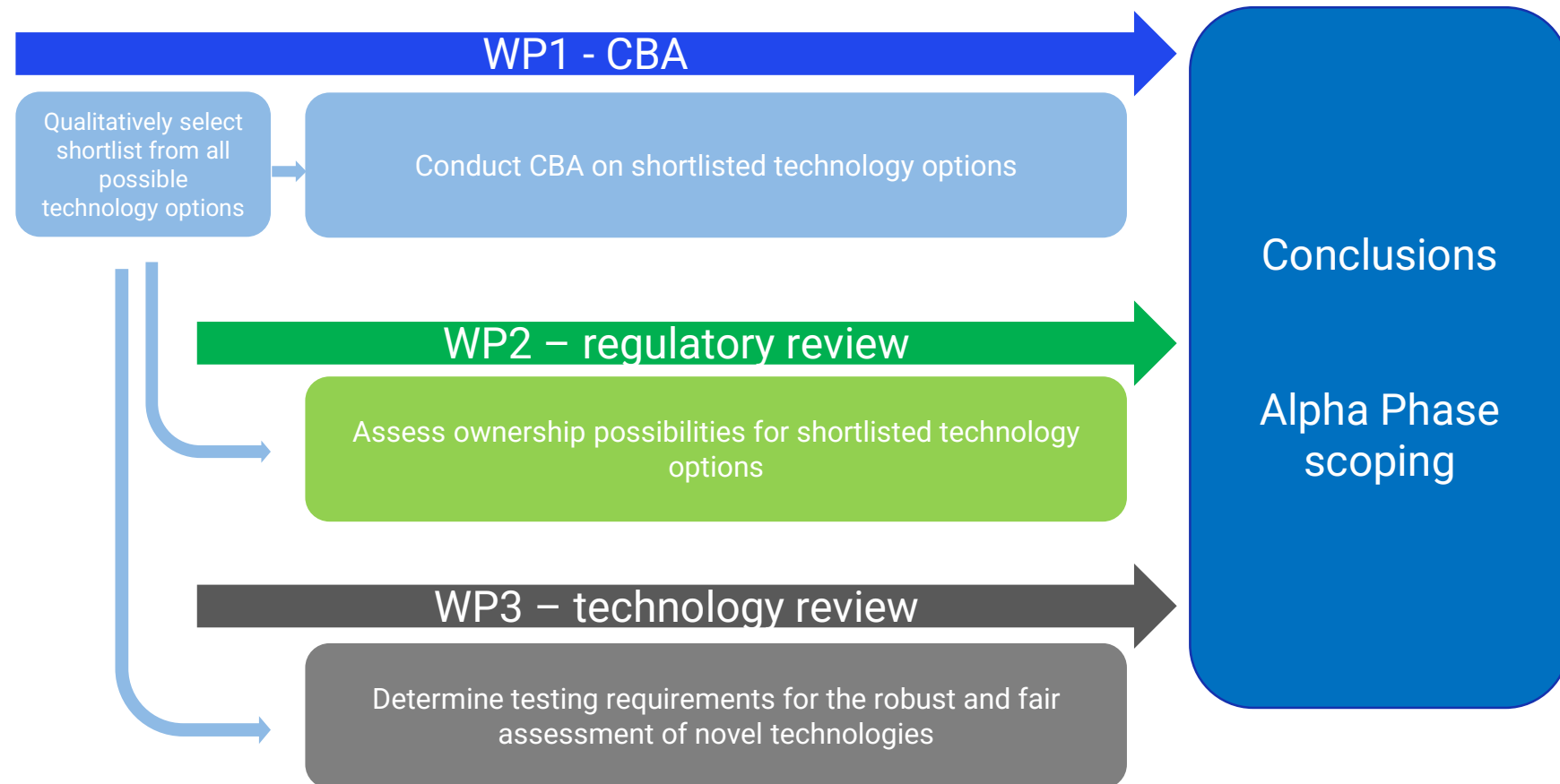


FUTURE



*<https://www.carbontrust.com/resources/energy-storage-for-offshore-wind-with-innovative-converter-control>

Discovery Phase scope



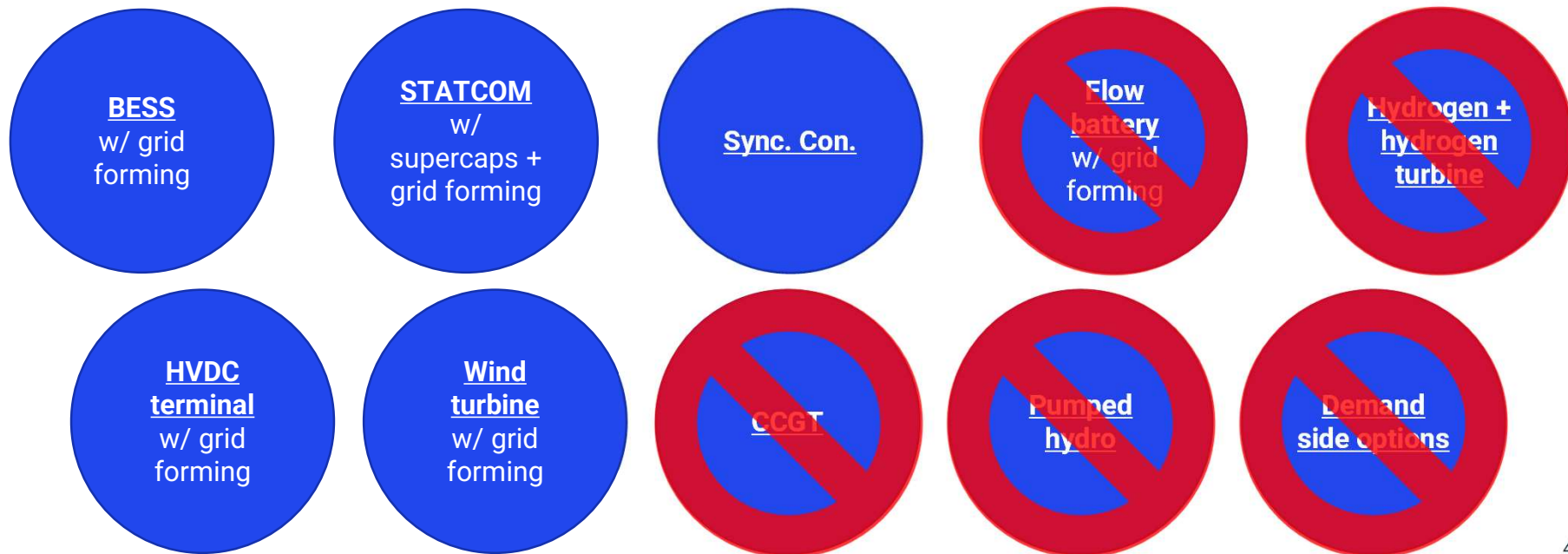
Technology shortlisting

Public



Longlist

All technologies capable of providing inertia



Technology shortlisting

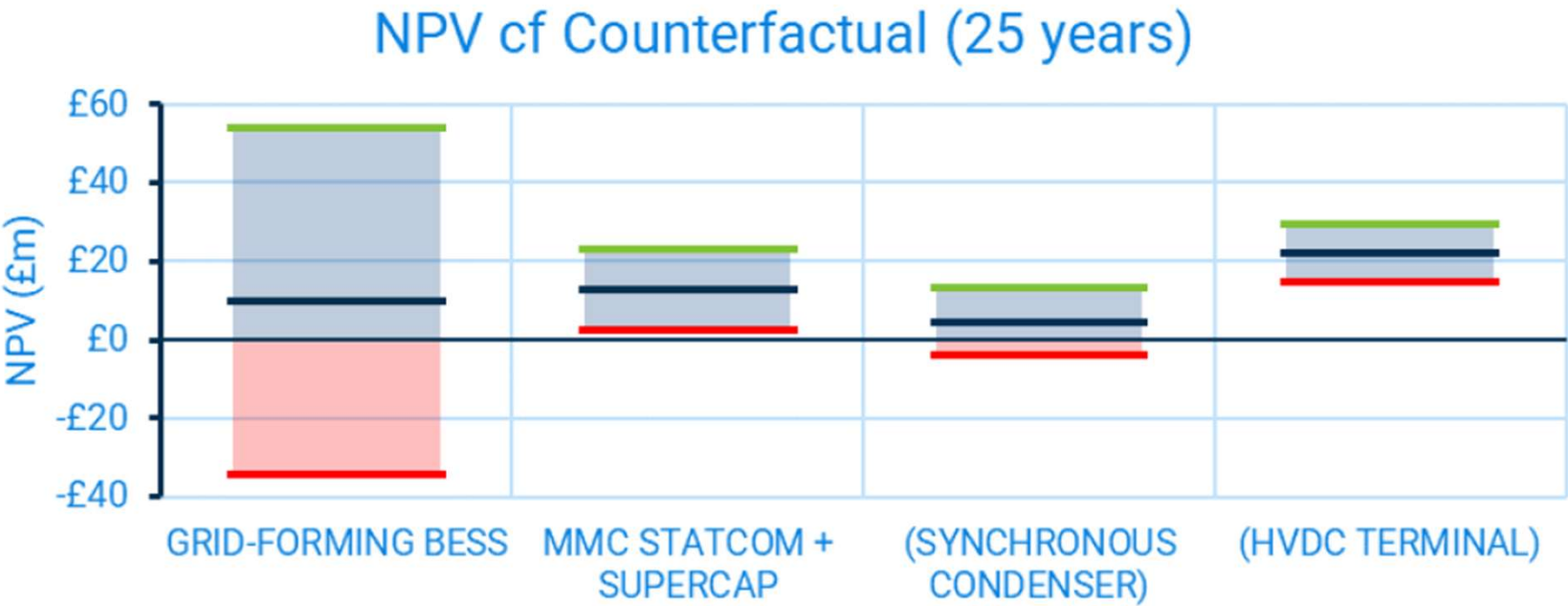
Shortlist

Technologies for study in Discovery Phase



Outcome of CBA

Public



Outcome of ownership analysis

Public



<u>Regulated network company ownership</u>	Significant regulatory barriers	Some operational and regulatory complexity	Low operational and regulatory complexity	Low operational and regulatory complexity	Ownership not feasible
<u>INCENTIVE technology</u>	<u>BESS</u> w/ grid forming	<u>STATCOM</u> w/ supercaps + grid forming	<u>Sync. Con.</u>	<u>HVDC terminal</u> w/ grid forming	<u>Wind turbine</u> w/ grid forming
<u>OWF owner ownership</u>	Some operational and regulatory complexity	Some operational and regulatory complexity, but less than BESS	Low operational and regulatory complexity	Ownership not feasible	Low operational and regulatory complexity

Outcome of testing requirements

Increasing understanding of performance and system effects of INCENTIVE technologies

Commercial
confidence

Generic simulation

Use generic
models of
INCENTIVE
technologies
and OWFs.

Site-specific simulation

Use generic
models of
INCENTIVE
technologies
with models of
specific OWFs.

Technology- specific simulation

Use specific
models
provided by
INCENTIVE
technology
suppliers

Control hardware in the loop

Use control
hardware
provided by
INCENTIVE
technology
suppliers

Full hardware

Could be scale
test or field trial
of one
INCENTIVE
technology
supplier

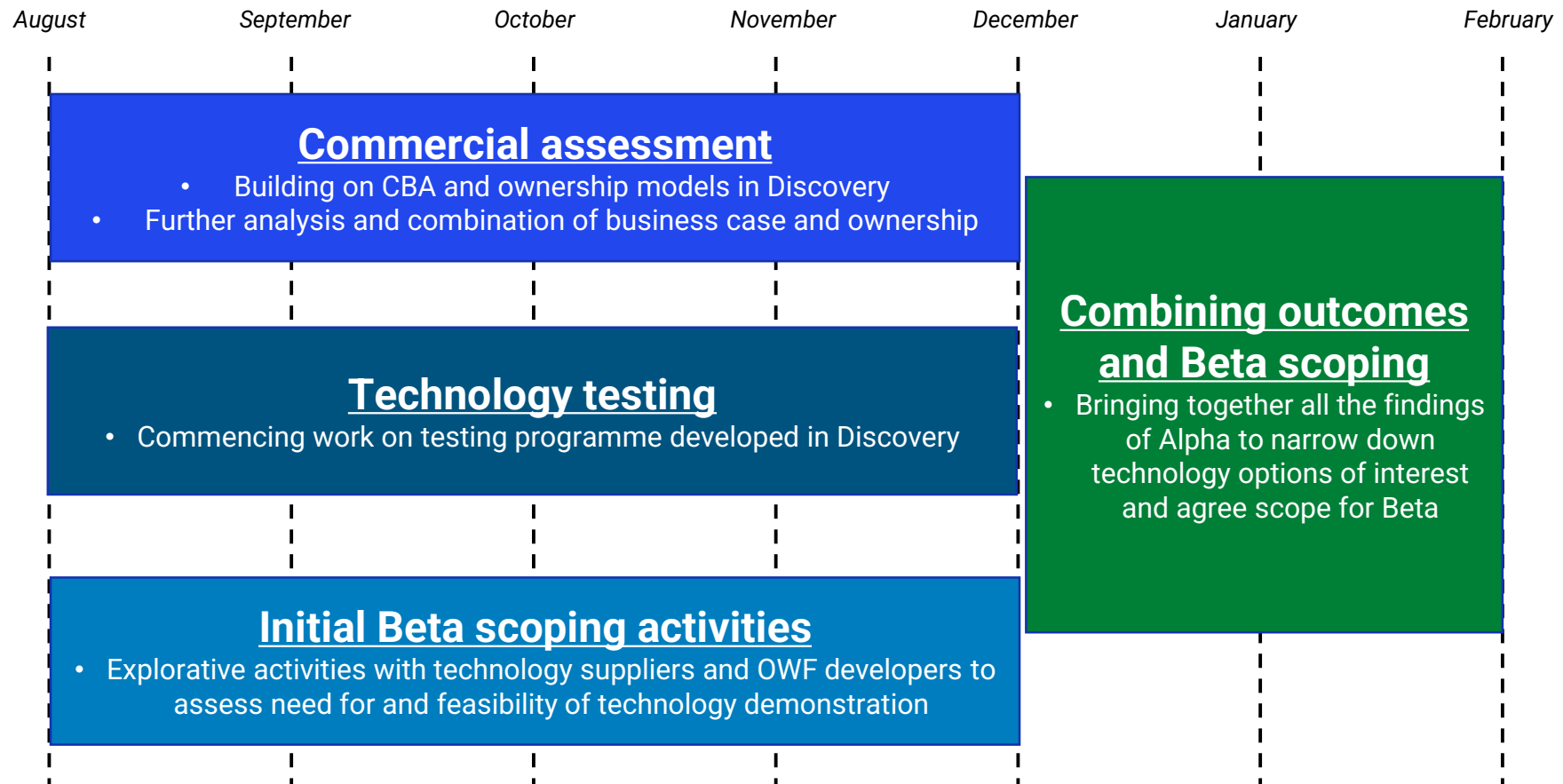
Public



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Alpha Scope

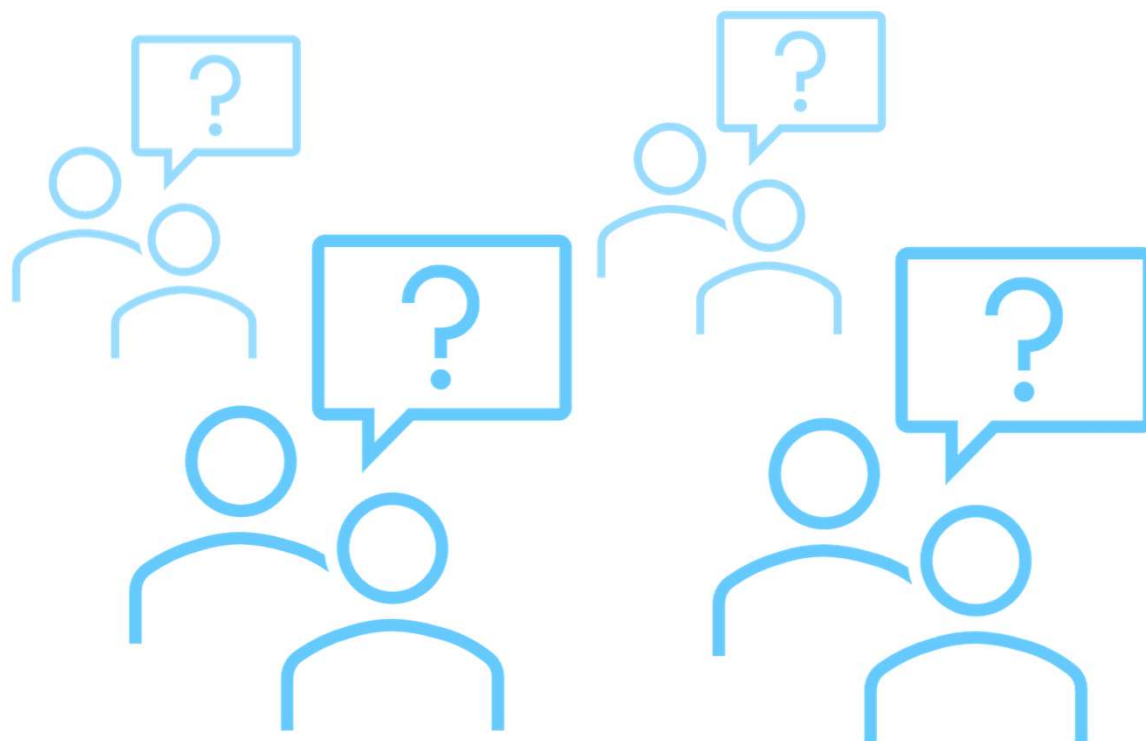


Any questions?

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