



A VIRTUOUS CIRCLE?

OPPORTUNITIES FOR A CIRCULAR OFFSHORE RENEWABLES SECTOR

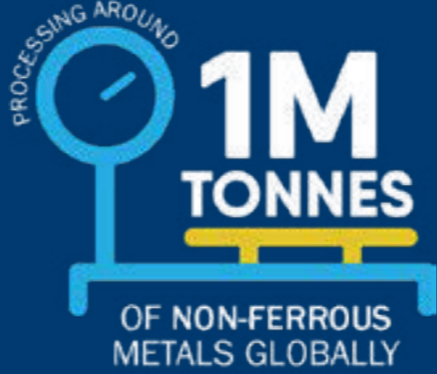
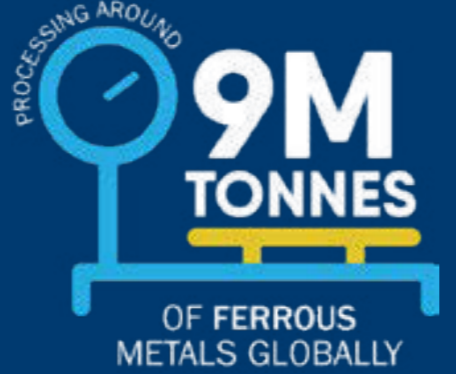


Dr Charlotte Stamper, Energy Infrastructure Lead
17th May 2023 – Decom Week, Aberdeen



FAMILY RUN WITH

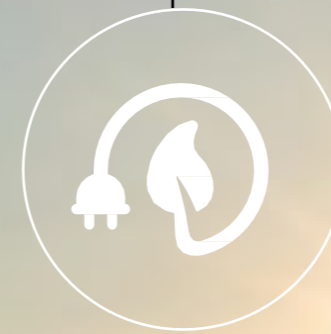
A GLOBAL PRESENCE.



IN THE NEXT FIVE YEARS, GROWTH
IN RENEWABLES

WILL MATCH THE LAST TWO
DECADES VIA

SOLAR **AND** WIND



UNLOCKING THE POTENTIAL

TYPES OF OFFSHORE TURBINES

Fixed bottom offshore turbines



- ▶ Water depths <60m
- ▶ Steel substructures
- ▶ Mass deployment from 2010s
- ▶ Potential for 2% of global oceans

Floating offshore turbines



- ▶ Water depths >60m
- ▶ Steel or concrete substructures
- ▶ Mass deployment from late 2020s
- ▶ Potential 10% of global oceans

UNLOCKING THE POTENTIAL

SCALES OF OFFSHORE TURBINES



UK OFFSHORE WIND

PRODUCED ENOUGH TO POWER

41%

of UK homes in 2022

But to meet net zero targets we need

<140GW OPERATIONAL BY 2050



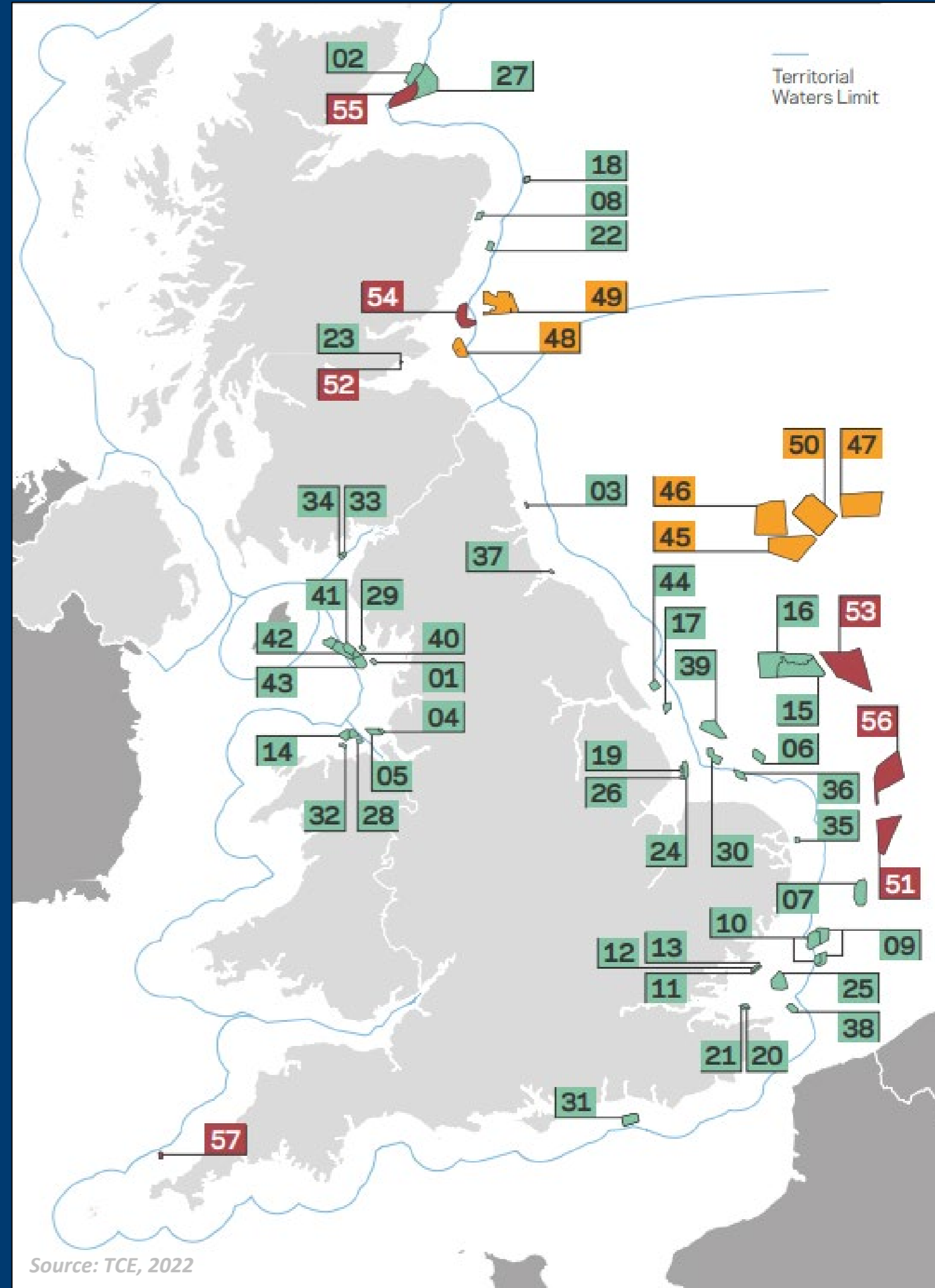
OPERATIONAL
+ COMMITTED



DEVELOPMENT



GAP



GLOBAL OUTLOOK

BY 2050 AN ESTIMATED

2-3TW

OF OFFSHORE WIND WILL BE DEPLOYED

Around 25% could be floating

NO UNICORNS HERE

BUILDING CLEAN TECH
INVOLVES 'DIRTY WORK'



Copper
10t

REE
magnet
10-30t

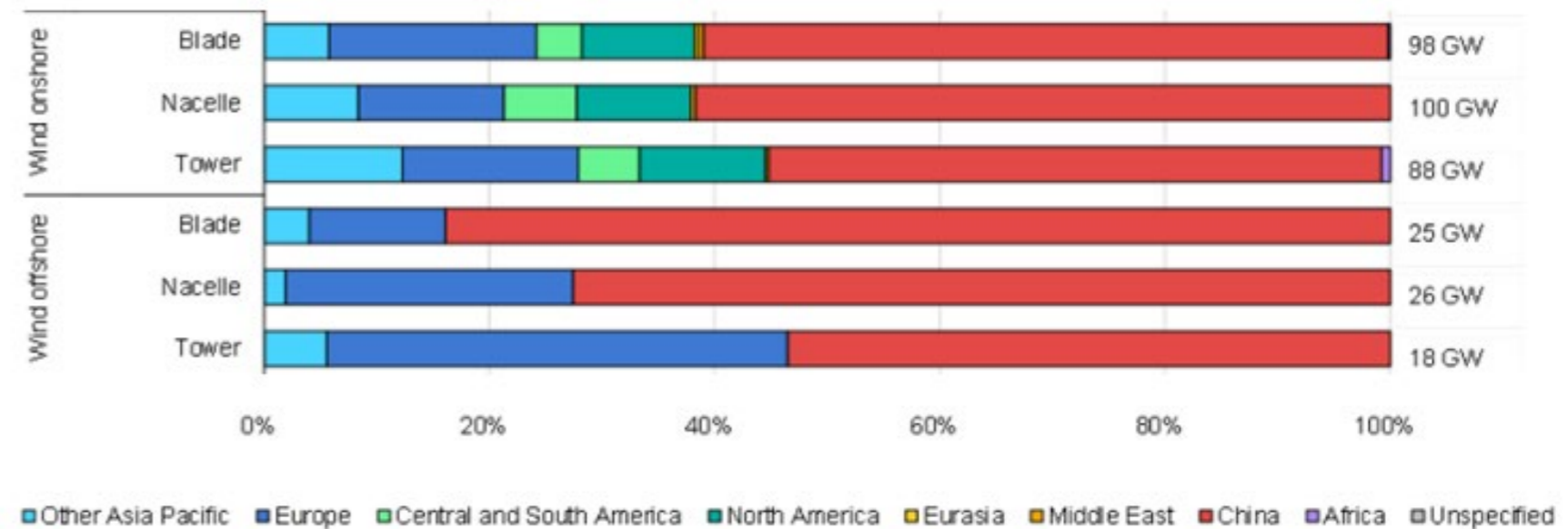
GFRP
15t

Iron
1kt

Steel
4.5kt

Source: OREC, 2021

Figure 2.7 Regional shares of manufacturing capacity for selected mass-manufactured clean energy technologies and components, 2021



Source: IEA, 2023

WHERE ARE THE
IMMEDIATE OPPORTUNITIES
TO CREATE A **CIRCULAR**
OFFSHORE
DECOMMISSIONING
INDUSTRY?

15GW

of the European fleet is
older than 20 years

including 20 offshore wind sites



1

ONSHORE DECOM

ONSHORE WIND DECOM
PROJECTS ARE NOW ARISING,
WITH VOLUME BUILDING
QUICKLY IN EUROPE

Innovation and supply chain ramp up will feed
directly into future offshore activities



2

INFRASTRUCTURE



3

MATERIALS

MATERIAL DEMAND FOR UK
OFFSHORE WIND TO 2050 IS
30Mt STEEL, 16Mt CONCRETE,
AND 150kT COPPER

New projects will need local, traceable, low carbon
material sources to be competitive



4

SKILLS

UK OFFSHORE WIND WILL CREATE
100K JOBS BY 2030

90% of oil and gas jobs have medium-high
transferability to offshore wind



LARGE SCALE OFFSHORE DECOM IS
A FUTURE ACTIVITY...

...BUT THERE ARE OPPORTUNITIES NOW TO
BETTER INTEGRATE O&G DECOM
AND NEW OFFSHORE WIND



70%

of global GHG emissions
are related to material
handling and use





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