



Acceleration to Net Zero

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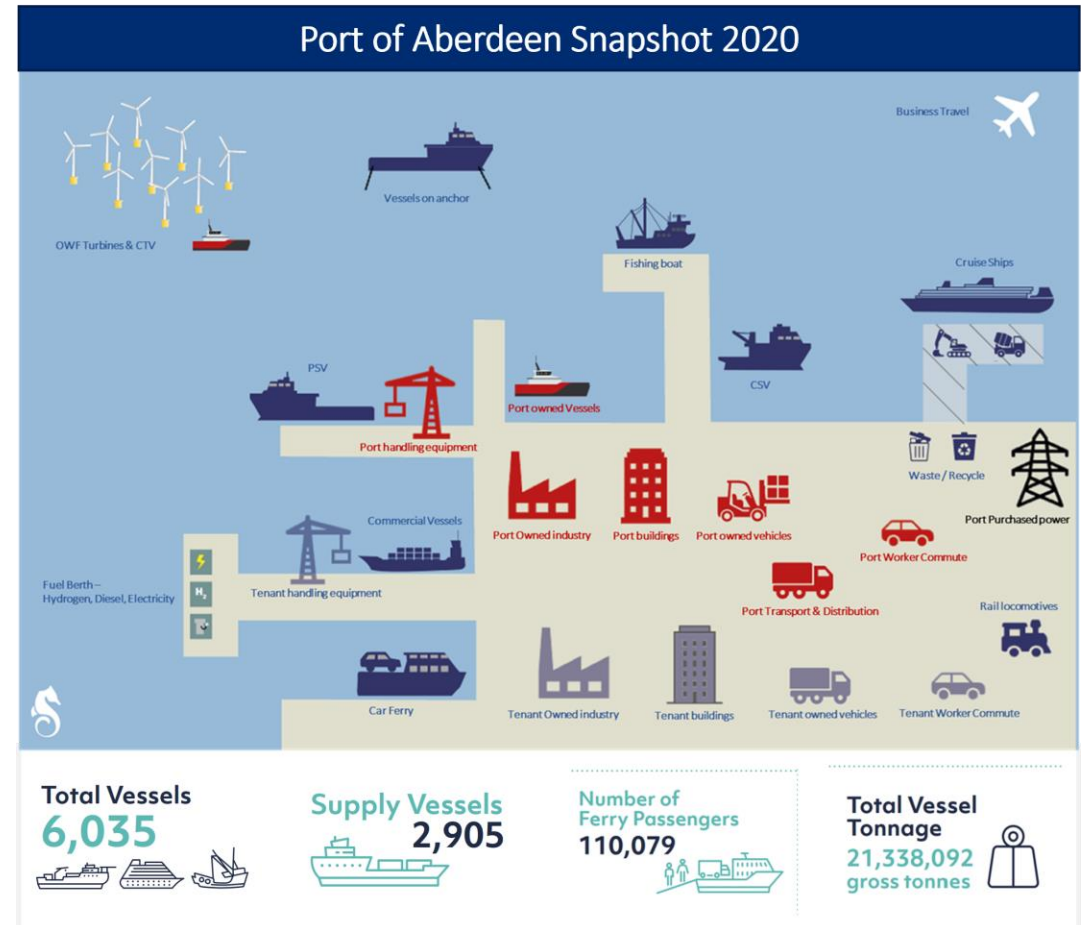
Aim and objective

Objective:

- To establish key focus areas for carbon initiatives through carbon mapping and emission hot spot identification, which will form the Port of Aberdeen's pathway to Net Zero.

Agenda:

- Define what Net Zero means to Port of Aberdeen
- Frame emission scopes 1, 2 & 3
- Identify carbon reporting process
- Present summary of Carbon Emissions for Port Facilities & Marine Traffic YE 2020
- Present and compare last 4 years of Marine Traffic Emissions (YE 19/20/21/22)
- Lookahead



What does net zero mean?



Port of Aberdeen have set their **Net Zero target as 2040**.







In recognition of the significant impact of marine traffic on carbon emissions, this will extend to include **scopes 1, 2 & 3**.

In practical term this means to reduce carbon emissions as much as possible (**80-90%**) from the baseline year and consider offsetting remaining balance.

Presently there is limited guidelines dedicated to Ports and no universal framework for Carbon reporting and reduction associated with scope 1, 2 and 3 emissions.

The table below includes the Net Zero commitments made by other global Ports.

By committing Net Zero across all three scopes, Port of Aberdeen have set a standard as an exemplar Green Port.

Committed to Net Zero Scope 1 & 2 only		Committed to Net Zero Scope 1, 2 & 3	
2030		70% by 2030	
2030		85% by 2030	
2030			
2040			

Scoping emissions



Scope 1

These are direct emissions, which occur as a result of fuel activities. For Port of Aberdeen this includes company owned vessels, fuel used in equipment and machinery and company cars.



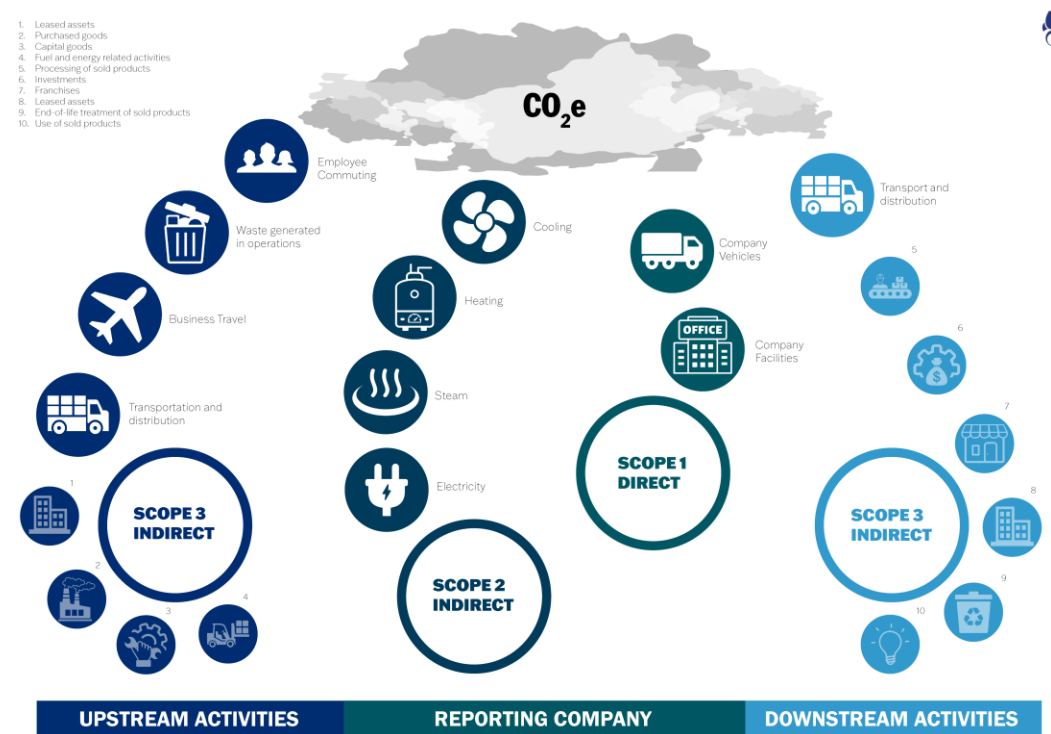
Scope 2

These are indirect emissions from the generation of purchased energy including electricity, heat, steam and cooling.



Scope 3

All other indirect emissions occurring upstream and downstream of the company's supply chain. For Port of Aberdeen this includes water, waste, employee commute, client vessels, business travel, WFH and leased assets.



The carbon reporting process

Define boundaries of:

- Emission scopes
- Source inclusion
- Geographical jurisdiction

Establish reporting period:

- 12-month period
- Usually follows an organisation's financial year

Define intensity ratio:

- Gross tonnage

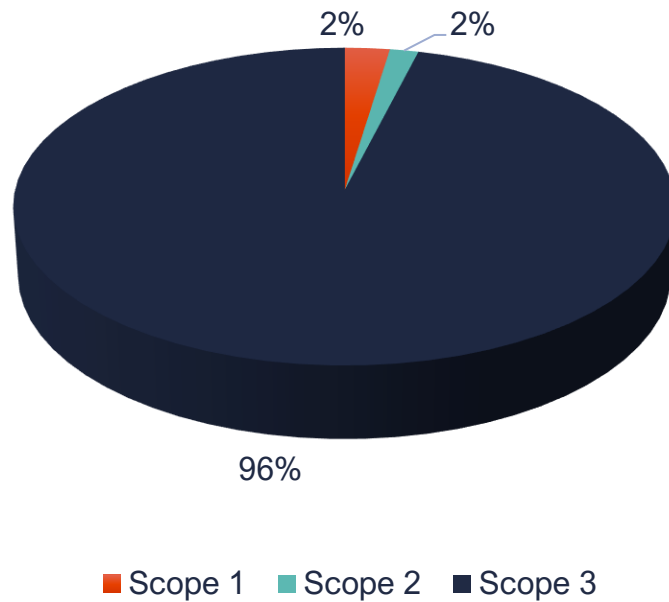
Data collection:

- AIS Data
- Employee commute survey
- Utility bills



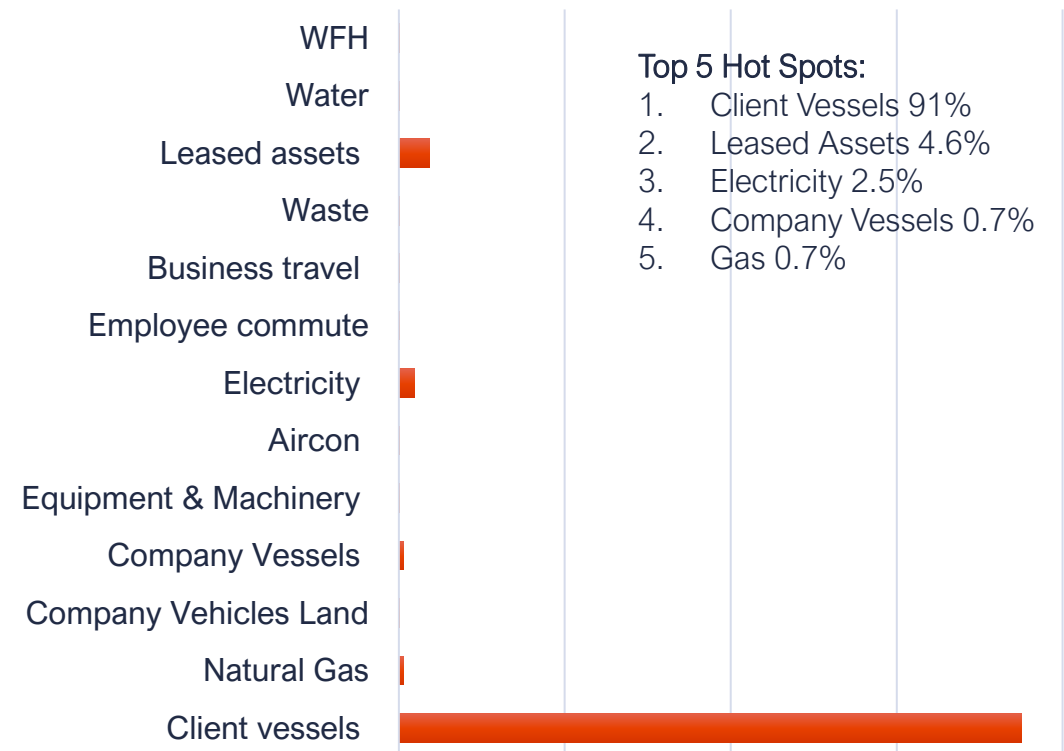
Emission results – 2020

Emission by scope
Breakdown by scope 1, 2 and 3



Scope 3 made up **96%** of the Port's emissions for the reporting.

Emission hotspots
Including vessels

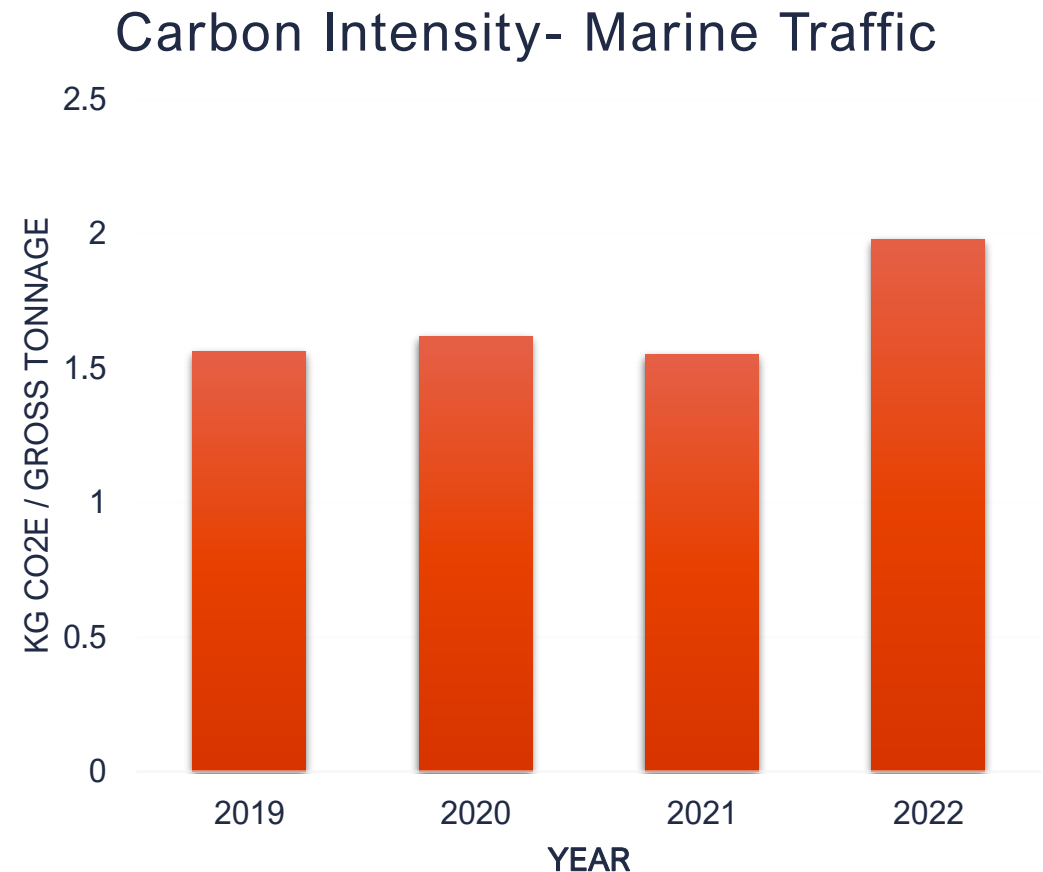


Marine traffic carbon intensity comparison

A Carbon Intensity Ratio is a way of defining emission data in relation to an appropriate business metric, for Port of Aberdeen this was done by **Gross Vessel Tonnage**.

This will allow Port of Aberdeen to track progress once the South Harbour has been fully operational for 12 months.

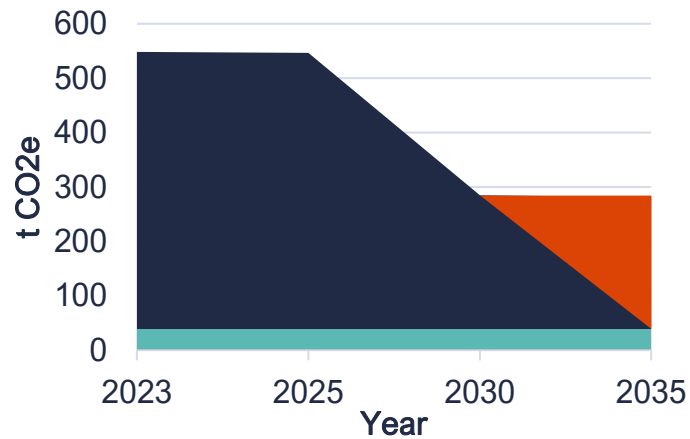
*Note: 2019 Marine Traffic carbon mapping was calculated by Sealand and benchmarked against Buro Happold's baseline report. The results were within 12% across the marine fleet inventory.



Phased approach to net zero

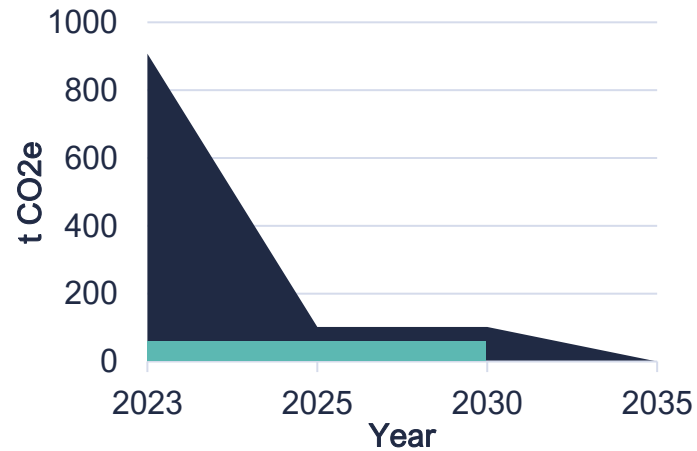


Scope 1



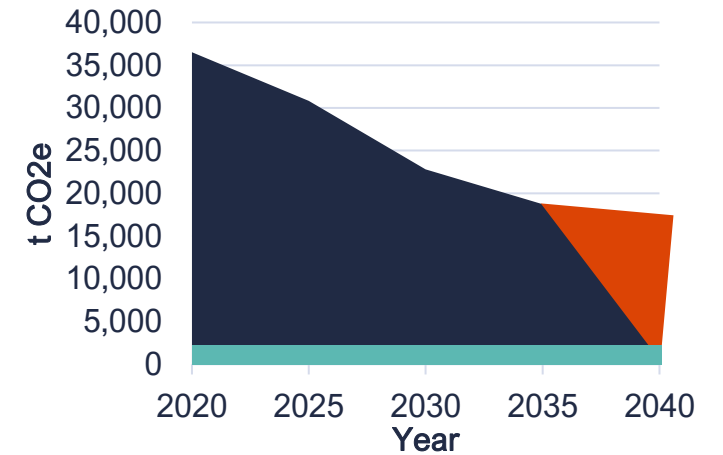
- Short:** HVO testing and company car phase out to electric.
- Medium:** Electrification of equipment and machinery and vessels.
- Long:** Electrification of all assets.

Scope 2



- Short:** Energy audits
- Medium:** Renewable energy tariff
- Long:** Onsite clean energy supply or purchase power agreement.

Scope 3: Shore Power/Alternative Fuels



- Short:** Albert, Mearns, Ro-Ro.
- Medium:** Torry, Clipper, Waterloo.
- Long:** Eurolink, Jamieson, Trinity.

Lookahead upcoming 12 months



HVO TESTING

To target emissions occurring as a result of Port handling equipment and machinery and company owned vessels, 2023 will see HVO feasibility testing and implementation.



ONSITE CLEAN ENERGY

Procurement of a renewable electricity tariff, with initial feasibility and cost-analysis exercises planned for the implementation of onsite clean energy.



SHORE POWER

Implementation of shore power to three preliminary berths, with suitability analysis planned for the phased approach to installation across remaining berths.



ASSET INVENTORY

Accelerate switch to electric company cars. Review plant & machinery of suitability and timeframe of replacement to low carbon alternatives.



SOUTH HARBOUR

When South Harbour has been fully operational for 12 months, Port of Aberdeen will need to re-baseline.



STAKEHOLDER ENGAGEMENT

Engage with stakeholders such as vessel owners, employees and tenants to collaboratively make steps in carbon mitigation.

Lookahead 5 – 10 years



ELECTRIFICATION

Electrification of Port owned and controlled:

- Equipment & machinery
- Vessels
- Cars



ONSITE CLEAN ENERGY

Implementation or a clean energy purchase power agreement for onsite clean energy to service Port controlled buildings, tenant occupied facilities and shore power.



SHORE POWER IMPLEMENTATION

Phased rollout of shore power.



LOW CARBON FUEL ALTERNATIVES

Support carbon abatement by facilitating low carbon fuel alternatives for client vessels.



INNOVATION

Review innovations, technological advancements and promote stakeholder engagement to identify carbon emission reduction opportunities.



STAKEHOLDER ENGAGEMENT

Engage with stakeholders such as vessel owners, employees and tenants to collaboratively make steps in carbon mitigation.

Key takeaway

Port of Aberdeen has set ambitious targets to reach Net Zero by 2040 across scope 1, 2 and 3 emissions. This will set an exemplar standard for other UK ports to follow.

It should not be underestimated the challenge of achieving Net Zero across scope 3 emissions, where client vessels are the primary source of emissions. Port of Aberdeen will be reliant upon adopting a phased approach, where engagement with stakeholders, investors and vessel owners will be key to success.

Scope 1 & 2:

Potential to achieve net zero in window 2030 - 2035.



Scope 3:

Will require significant investment and collaboration from all stakeholders to achieve Net zero by 2040.



THANK YOU

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