

Lundin Energy Decarbonisation Strategy Targets and KPIs: Scope and Calculation Methodology

1. Greenhouse Gas Reporting Boundaries

Lundin Energy reports its greenhouse gas emissions in line with the WRI/WBCSD GHG Protocol Corporate Standard and Corporate Value Chain (Scope 3) Standard. The scope of our greenhouse gas reporting is limited to Norwegian operations.

Organizational and Operational Reporting Boundaries

Material emissions categories	Organizational Boundary Reported	
	Net equity share	Operational control
Scope 1	✓*,#	✓
Scope 2	✓*,#	✓
Scope 3: Business travel		✓ #
Scope 3: Upstream transportation and distribution		✓ #
Scope 3: Downstream transportation and distribution	✓	
Scope 3: Processing of sold products	✓	
Scope 3: Use of sold products	✓	✓

Notes:

* Basis for calculation of Lundin Energy's carbon intensity KPI (**kg CO₂/boe**) – see below for more details.

Included in scope of Lundin Energy's carbon neutral target – see below for more details.

2. Carbon Neutral Target

A core component of Lundin Energy's Decarbonisation Strategy is our goal to become carbon neutral across our operations by 2023.

The **scope** of Lundin Energy's **carbon neutral goal** is:

- Scope 1 and Scope 2 emissions as per the Greenhouse Gas Protocol Standard, on a net equity share basis. We include drilling emissions within our Scope 1 emissions even if these are contracted rigs.
- Certain elements of Scope 3 emissions, related to our operations and measured on a gross (100%) basis, where we can influence change:
 - Corporate business air travel (*GHG Protocol Scope 3 Category no. 6: Business travel*)
 - Helicopter transport to operated sites (*GHG Protocol Scope 3 Category no. 6: Business travel*)
 - Supply chain logistics where we are responsible and where we incur direct costs – supply and stand-by vessels (*GHG Protocol Scope 3 Category no. 4: Upstream transportation and distribution*)

3. Carbon Intensity KPI

In addition to our carbon neutral target, Lundin Energy has set a target to achieve a carbon intensity of **<4 kg CO₂/boe** from 2020, and **~1 kg CO₂/boe** from 2023. We define our carbon intensity KPI as residual carbon emissions, before any greenhouse gas removals.

Carbon Intensity KPI Scope and Calculation

Lundin energy's carbon intensity KPI is calculated in kg CO₂ (the numerator) divided by barrels of oil equivalent (the denominator).

Calculation approach:

$$\frac{\text{Scope 1 net equity emissions (kg CO}_2\text{)} + \text{Scope 2 net equity emissions (kg CO}_2\text{)}}{\text{Net production of barrels of oil equivalent}}$$

Scope of the numerator:

- Greenhouse gases in scope: CO₂
- Assets in scope: All operated and non-operated assets in Norway, including drilling activity
- Net equity emissions of each asset are calculated by quantifying the gross carbon intensity (kg CO₂/boe) of each asset and multiplying this by Lundin Energy's net production from the asset

Scope of the denominator:

- Net production of oil in the reporting period from all operated and non-operated assets, plus
- Net production of gas in the reporting period from all operated and non-operated assets, converted to barrels of oil equivalent¹

4. Key Assumptions

Scope 1 emissions

- Fuel emission factors sourced from the Norwegian Environment Agency
- Conversion factors sources from the Norwegian Petroleum Directorate
- GWP of methane used is 25, as per IPCC Fourth Assessment Report

Scope 2 emissions

- Grid emission factor based on the location-based average grid factor for Norway, sourced from the Norwegian Water Resources and Energy Directorate

Scope 3 emissions

- Fuel emission factors sourced from Norwegian Oil & Gas Guidelines and Wood Mackenzie
- Conversion factors sources from Norwegian Oil & Gas Guidelines
- Supplier emissions (e.g. supply vessels, helicopters, etc.) calculated using primary data (supplier-specific data)
- In calculating emissions from downstream transportation (crude oil):
 - Calculation based on net crude oil sales in the reporting year
 - Emissions calculated based on estimated distance travelled per cargo from pick-up point to customer, and average emission factors of crude tankers (sourced from UK DEFRA)
- In calculating emissions from processing and use of sold products (crude oil and gas):
 - Calculation based on net crude oil and gas sales in the reporting year
 - For crude oil, emissions calculated based on estimated refinery emission intensity, product mix, and hydrocarbon product emission factors (based on data from Wood Mackenzie)
 - For natural gas, emissions from combustion takes into account fraction of gas combusted, estimated at 97%²

¹ 6,000 MSCF gas = 1 BOE

² Based on the 2019 Report from Edvra for the Norwegian Oil and Gas Association, on the Use of Oil and Gas Products in the Industry