We are Vale

A global mining company; one of the leaders in iron ore, pellets and nickel.

We also produce manganese, ferroalloys, copper, metals of the platinum group, by-products of gold, silver, cobalt, metallurgical and thermal coals.

We operate logistic systems integrated with mining activities, including railroads, maritime terminals and ports.

We have stakes in energy and steel assets
Our **New Pact** remains steady as we are vigilant and responsive to the needs of **Society**.

### 2030 Commitments

- **Climate change**
  - Reduce GHG emissions by 33% and be carbon neutral by 2050

- **Energy**
  - 100% global electricity consumption of clean energy

- **Forest**
  - Recover and protect +500,000 ha

- **Socioeconomic contribution**
  - Health care, education and income generation

- **Water**
  - Reduce new water collection by 10%

- **ESG gaps**
  - Eliminate main ESG gaps
Our commitment for 2030: reduce 33%\(^1\) of scope 1 and 2 emission

Become a net zero emission company by 2050

Absolute emissions (MtCO\(_2\)e)\(^2\)

- 2017: 14.1 MtCO\(_2\)e
- Gap: 8.9 MtCO\(_2\)e
- Target: 9.5 MtCO\(_2\)e
- 2030: 18.4 MtCO\(_2\)e

Alignment with the Paris Agreement
- Roadmap for 2030 based on NPV+ projects
- US$ 2 bn investments in renewable energy
- Renewable power and forest as competitive advantages

\(^1\) Baseline 2017.
\(^2\) Scopes 1 and 2 trajectory, aligned with the UN Environment “Emissions Gap” range for limiting global temperature rise to 1.5\(^\circ\)-2\(^\circ\)C.
\(^3\) Considering the highest CO\(_2\) emissions level according to Vale’s current production master plan (assuming no actions for reduction of emissions) and the 2030 goal.
The pathway to achieve our commitment by 2030

Marginal abatement cost
(Curve under development)

Goal¹

Main processes

- Mining
- Railway
- Generation and Distribution
- Mill and furnaces

GHG emission reduction in 2030 (MtCO₂e)

- Commercial: mature technologies with proven performance
- Scale-up / Industrial Tests: first industrial use of a technology
- Pilot / Prototyping: full scale prototype inside or outside of Vale
- Proof of Concept: bench scale tests inside or outside of Vale
- Basic Research: theoretical evaluation and studies

¹ The reduction goal is based on the highest CO₂ emissions level according to Vale’s current production master plan (assuming no actions for reduction of emissions) and the 2030 goal, as detailed in the previous slide. Note: Some projects are in early stage of maturity with technologies under development. The assumptions and scenarios could be redefined, and therefore, change the estimates given in the graph.
Vale’s electricity portfolio is already most renewable

VALE’S CURRENT GENERATION PORTFÓLIO

**BRAZIL ASSETS**
- 1,8 GW installed capacity
- 100% RENEWABLE GENERATION
- 21 Hydropower plants (direct and indirect owned)
- 1 wind power plant (indirect owned)
- 1 wind power plant PPA and equity call option

**CANADA ASSETS**
- 70 MW installed capacity
- 80% RENEWABLE GENERATION
- 5 Hydropower plants

**INDONESIA ASSETS**
- 500 MW installed capacity
- 100% RENEWABLE GENERATION
- 3 Hydropower plants

Belo Monte Hydro: 11 GW
Estreito Hydro: 1 GW
Karebee Hydro: 130 MW
Big Eddy Hydro: 30 MW
Hydrogen to replace fossil fuels in the processes

Hydrogen has the potential to be the solution in the low carbon global agenda. Competitiveness is still an issue.

- **Pelletizing Plants** (replacing natural gas)
- **Mineral processing Plants**
- **Mobility** (replacing natural gas, direct reduction)
- **(replacing diesel, bunker, etc)**

**Vale’s Commitment**

**Readiness level**