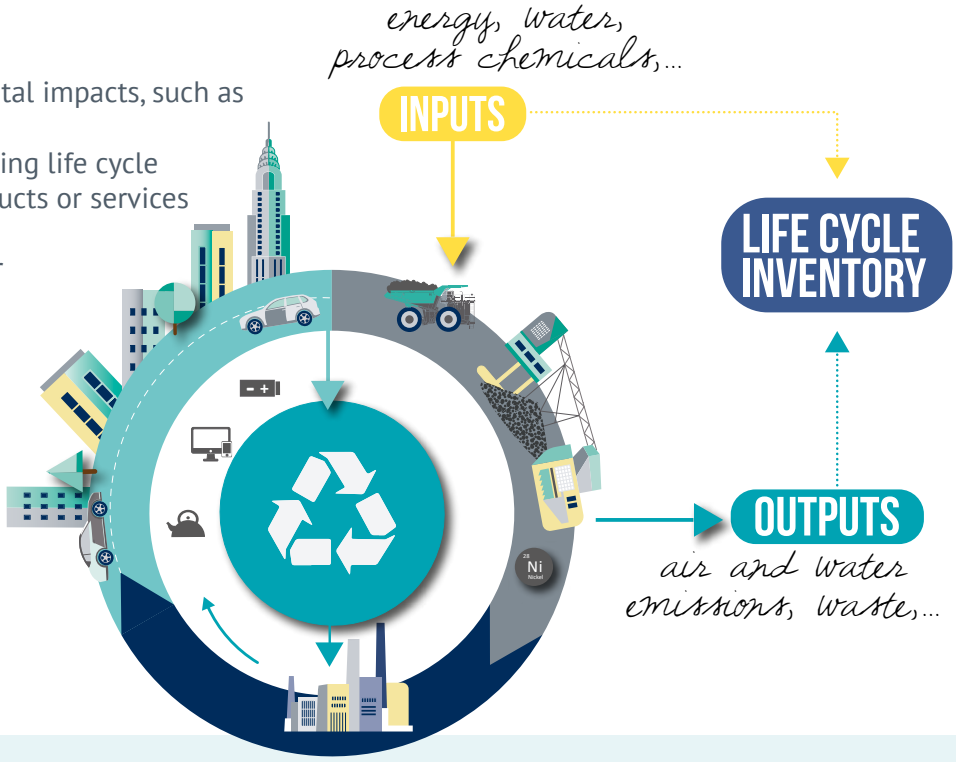
Nickel metal
LIFE CYCLE DATA

Member companies of the Nickel Institute updated their life cycle data for nickel metal in 2018 and 2019. These producers are committed to provide stakeholders with the most recent life cycle data showing important parameters such as global warming potential, primary energy demand, or water demand for the production of different nickel products.

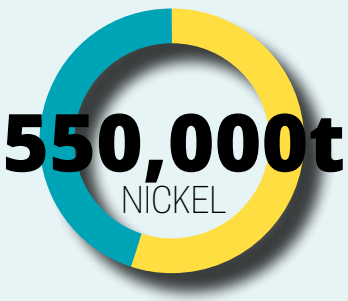
LIFE CYCLE DATA comprise all production stages of nickel and nickel products. The basis is the LIFE CYCLE INVENTORY (LCI), where inputs and outputs of each of the production stages are gathered. The inventory is used to conduct the LIFE CYCLE IMPACT ASSESSMENT (LCIA).

The LCIA calculates various environmental impacts, such as Global Warming Potential (GWP).
These impacts are the basis for conducting life cycle assessments (LCA), which compare products or services from an environmental perspective.
Nickel life cycle data flows into LCAs for many nickel-containing products, such as stainless steel pipes or batteries for electric vehicles.

The data collected by the nickel industry are compliant with the requirements of ISO 14040 standard series and have undergone an independent critical review.



WHAT IS COVERED BY THE LIFE CYCLE ANALYSIS ?



52% of global nickel metal production in 2017
= 550,000t nickel assessed

+

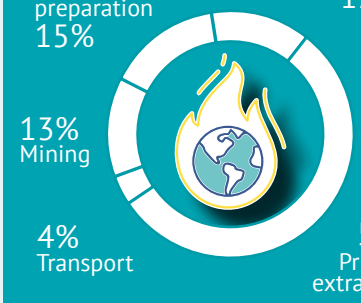
Nickel Institute member companies' production sites from 9 countries globally

+

All major pyro- and hydrometallurgical processes are covered

+

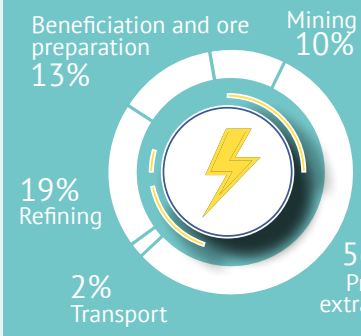
73% nickel metal from sulphidic ores and 27% from lateritic ores



GLOBAL WARMING POTENTIAL

13 kg CO_2 / kg Ni

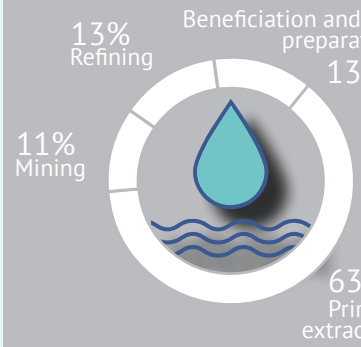
13 kg CO_2 / kg nickel with primary extraction as process stage with highest carbon footprint



PRIMARY ENERGY DEMAND

236 Mj / kg Ni

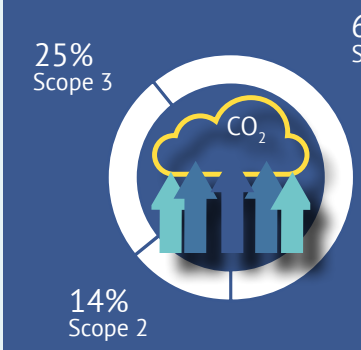
Primary extraction accounts for 56% of the Primary Energy Demand of nickel metal



BLUE WATER CONSUMPTION

106 kg / kg Ni

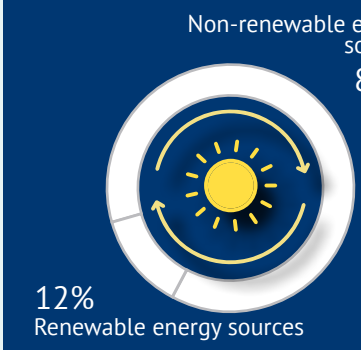
44kg water / kg nickel are returned to the system through waste water treatment



SCOPE 1-3 EMISSIONS

13 kg CO_2 / kg Ni

Onsite electricity production in scope 1 emissions accounts for 35% of all Greenhouse Gas emissions



ENERGY SOURCES

Renewable versus non-renewable

12% from of energy used from renewable sources

More detailed information and the full life cycle data set for nickel metal, ferronickel and nickel sulphate as well as the critical reviewer statement are available upon request.

Nickel INSTITUTE
knowledge for a brighter future

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