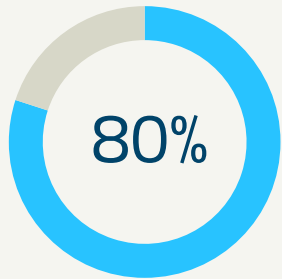


Transformation towards a sustainable future

Stefan Savonen

Senior Vice President energy & climate

Europe's leading mining and minerals group



LKAB mines around 80 % of all iron ore within the EU

1890

LKAB is one of Sweden's oldest industrial companies and is owned by the Swedish state

48.8

Net sales of SEK 48.8 billion in 2021

12

The group is present in 12 countries

3.4

Approximately SEK 3.4 billion investments towards carbon-free processes and products in 2021

4 500

Average number of employees

27

27 million tonnes iron ore products were delivered in 2021

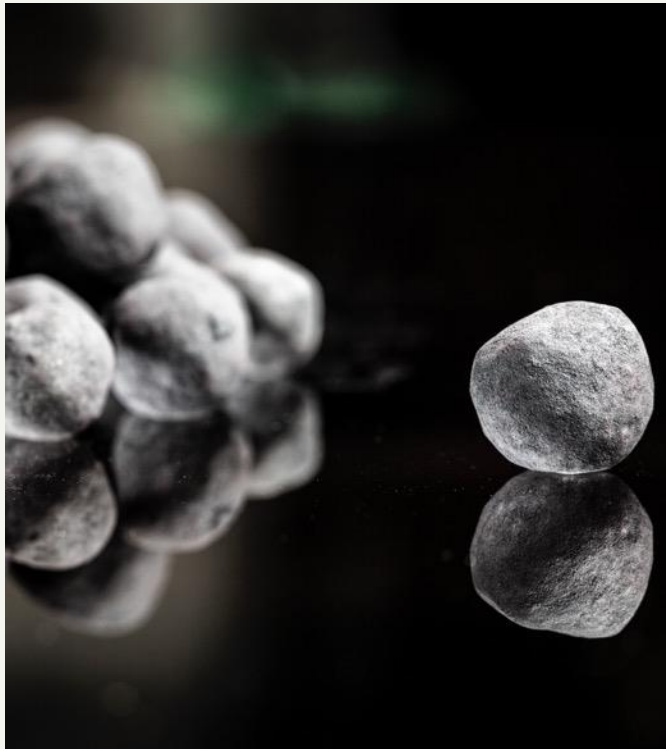
Based in the Swedish orefields



Our iron ore products

Climate-efficient high-grade iron ore products for the global steel industry

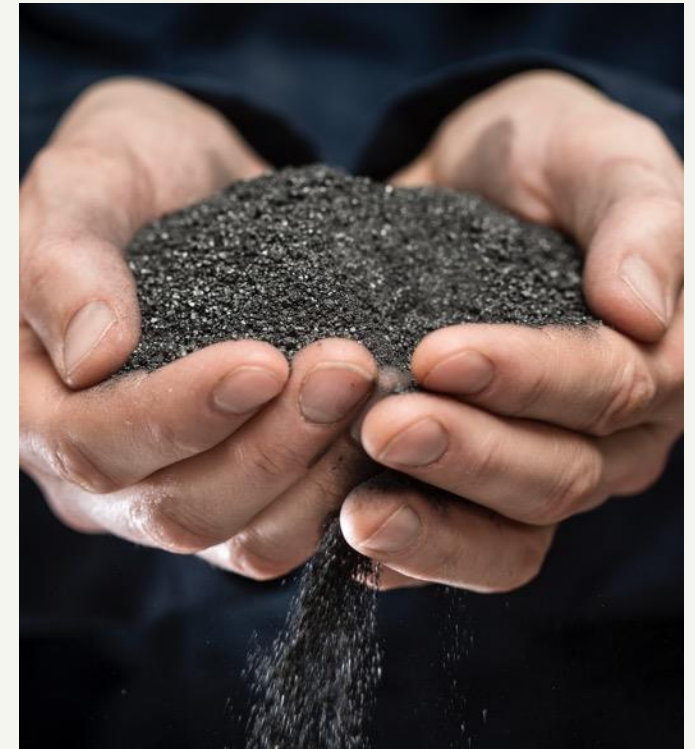
Blast furnace pellets



Direct reduction pellets



Fines





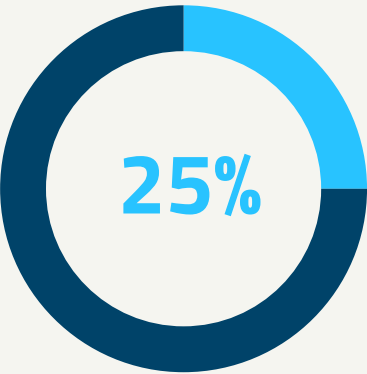
The industry's climate impact today

2.6 billion

Tonnes carbon dioxide
totally from the iron and
steel industry

7%

Of all carbon dioxide
emissions globally

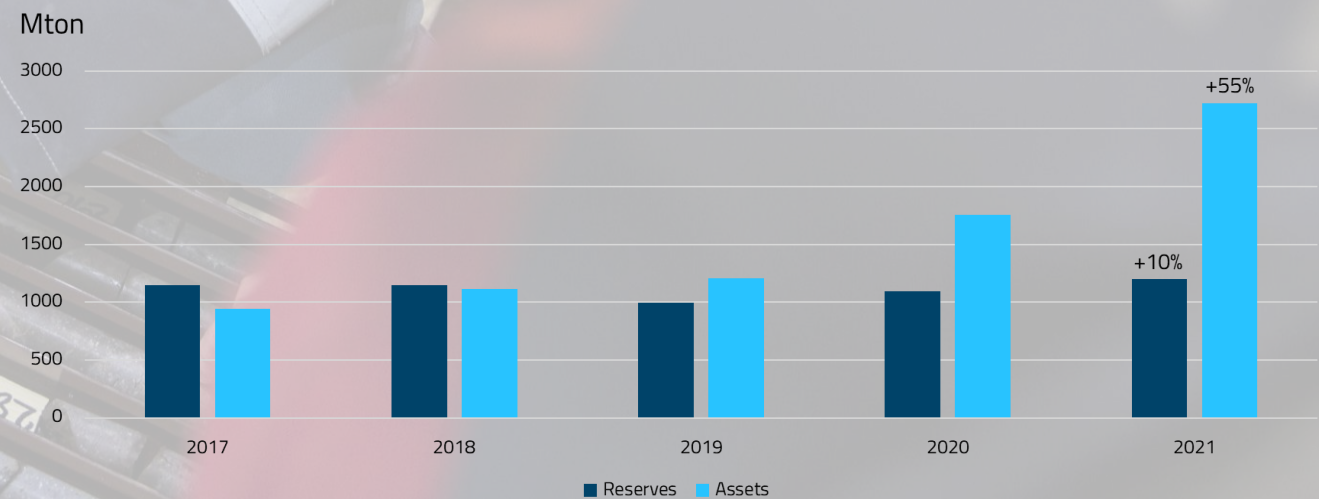


25% of global industry
carbon dioxide emissions

Mining beyond 2060

Major exploration confirms continued increase in mineral resources

Mineral reserves och mineral assets



Three important areas are leading the transformation



**New world standard
for mining**

**Fossil-free sponge iron
with hydrogen technology**

**Extract critical minerals
from mine waste**

Our strategy enables reduced emissions and increased sales

> 40 million tons

Reduces carbon dioxide emissions by 40-50 million tonnes at global customers

≈ 100 %

This corresponds to nearly all of Sweden's current greenhouse gas emissions

X 3

Will triple our revenue through higher value added



New world standard for mining

New technology and strategic partnerships

New world standard
for mining

Digitalisation

Automation

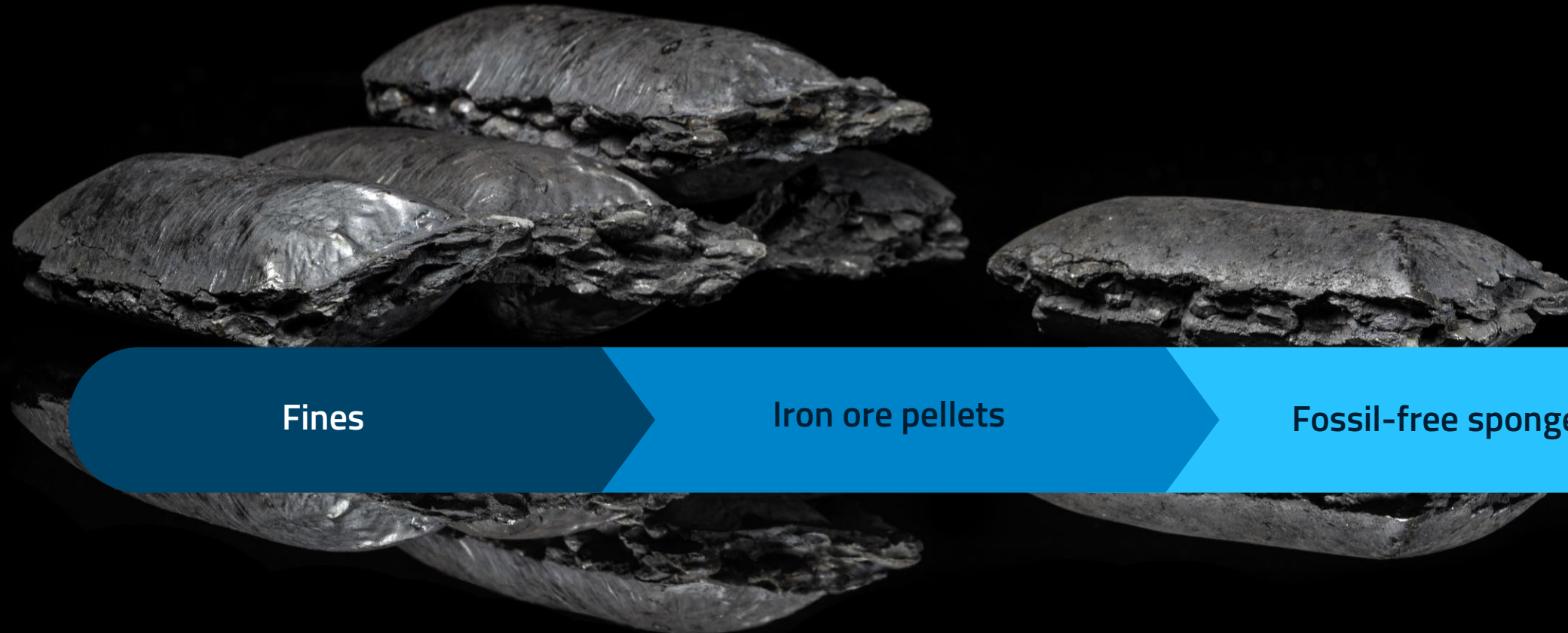
Fossil-free



We take a step forward in the value chain

From iron ore pellets to fossil-free sponge iron

Fossil-free sponge iron
with hydrogen technology

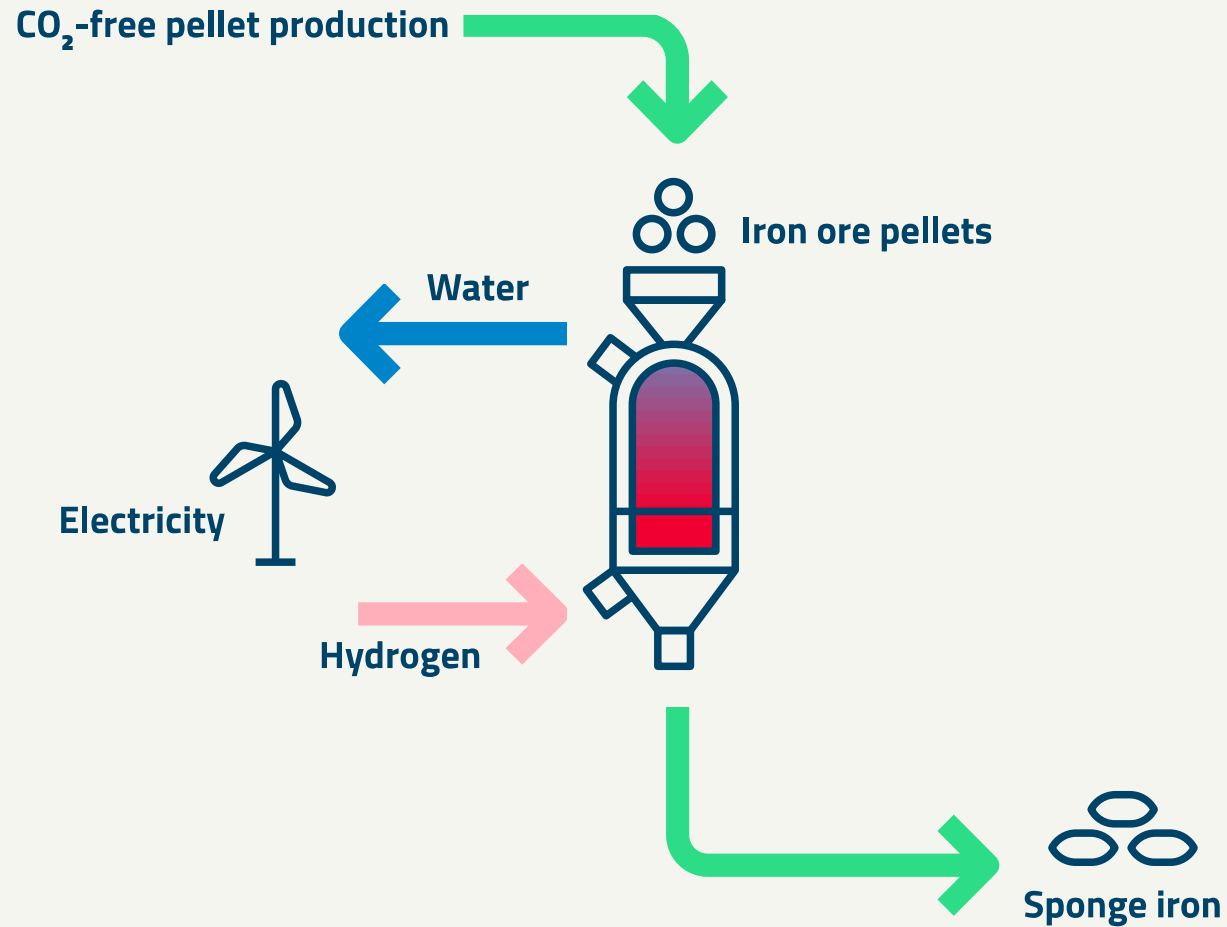


Fines

Iron ore pellets

Fossil-free sponge iron

A future supplier of fossil-free sponge iron



A completely new industry from today's mine waste

We are broadening our business by extracting critical minerals

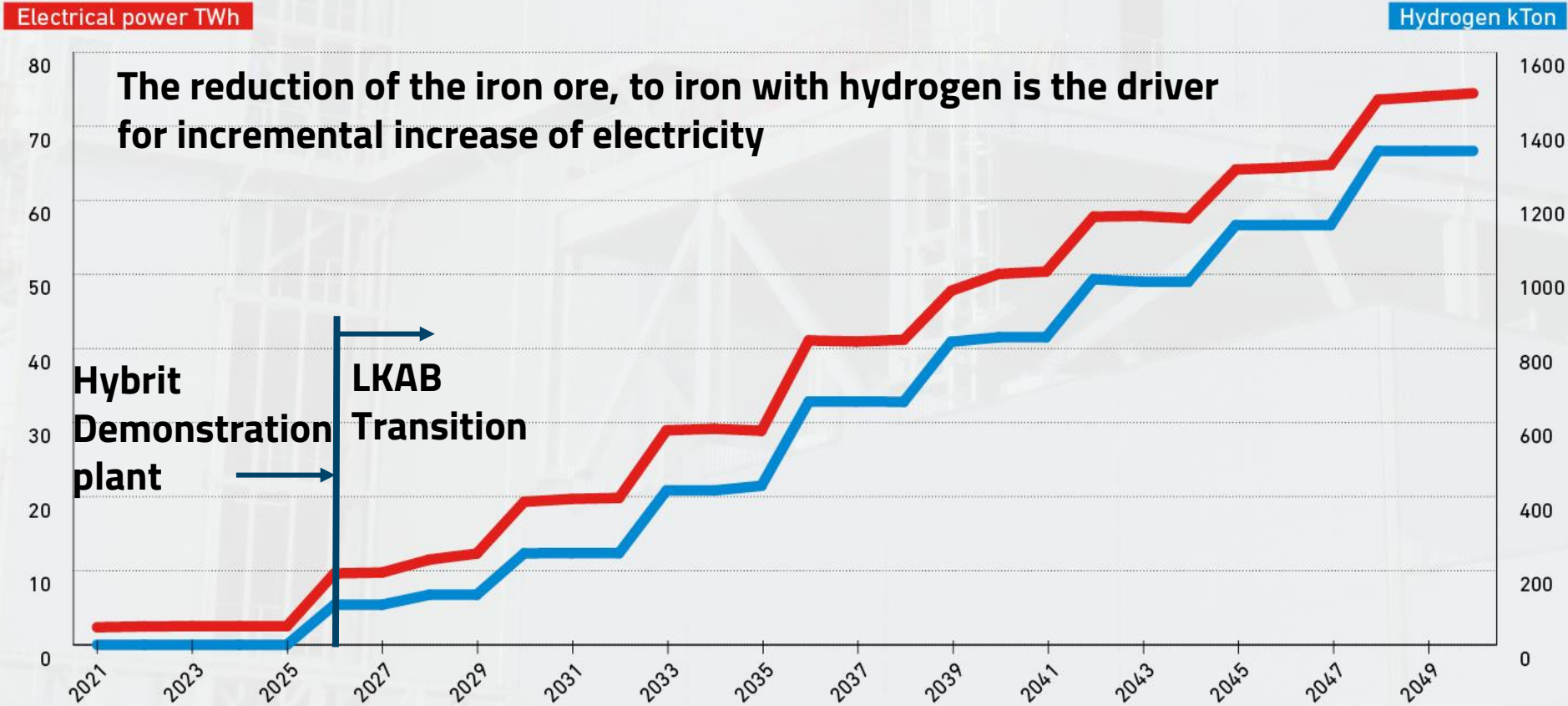
Extract critical minerals from mine waste

5 times Sweden's need of phosphorus mineral fertilisers

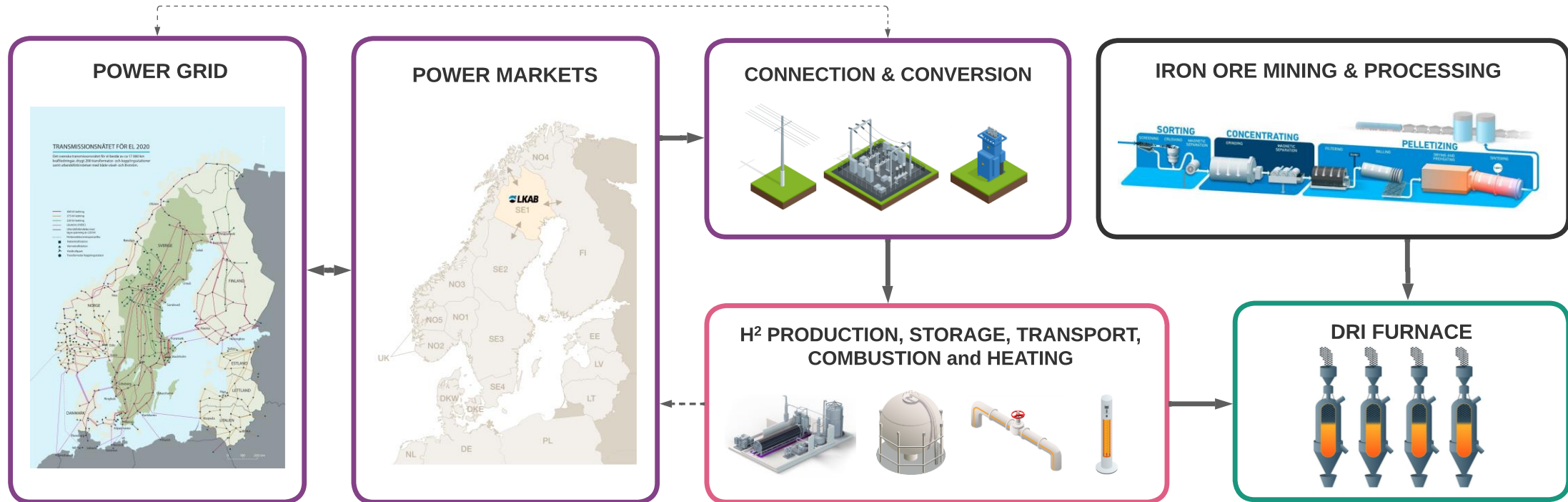
30 percent of EU need of rare earth elements

Sweden's entire need of gypsum for construction

ELECTRICITY NEEDS AND HYDROGEN PRODUCTION



High-level view modelling & optimizing



Why are we optimizing?

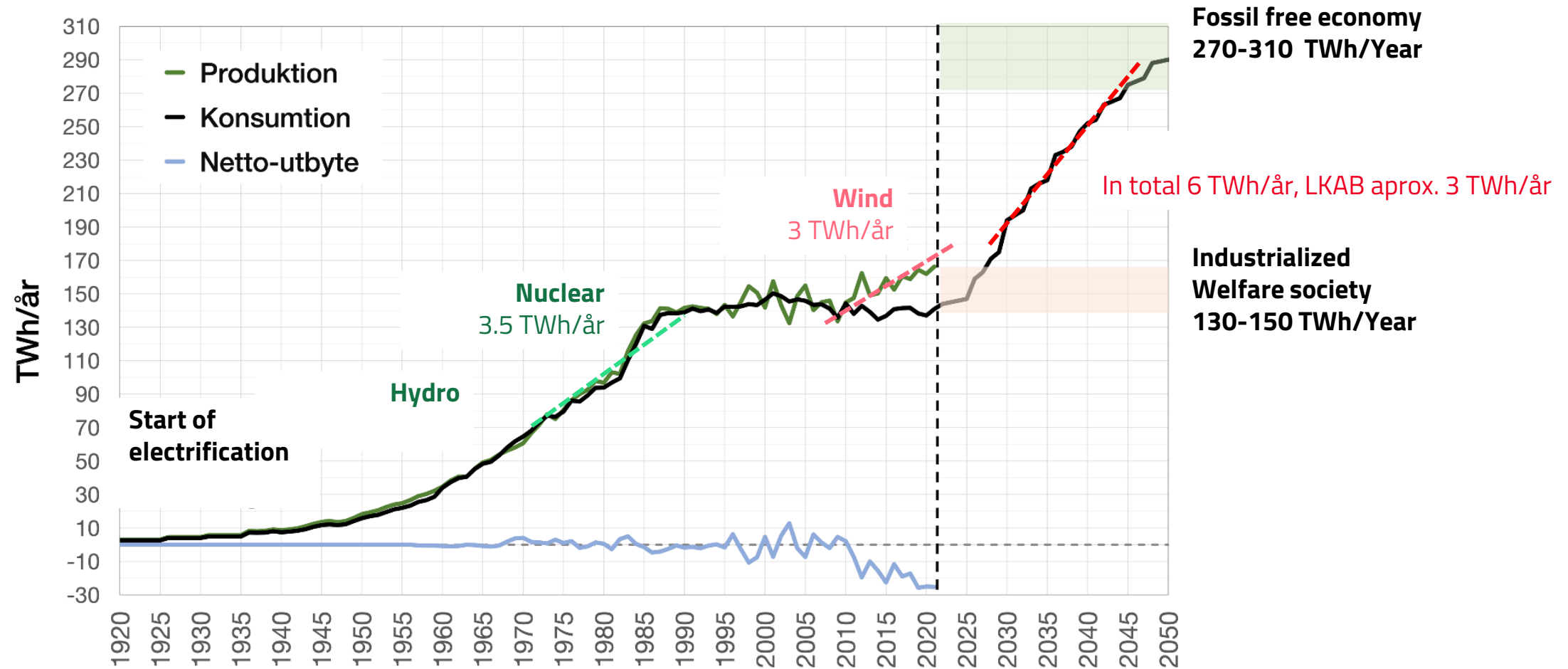
Required to:

- Minimize costs & risks while maximizing profits
- Choose the capacity of components to be procured
- Define the best “strategy” of operation

In practice, answer the question:

- How much should we invest in “flexibility resources” that leads to lower total costs?

Need of new power production



Challenges to overcome

**Permit
processes**

**Mining at
great depths**

**Capacity on the
Ore Railway**

**Skills
supply**

**Access to fossil free
energy**

A photograph of two LKAB miners standing in a dark tunnel. They are wearing red helmets with headlamps and high-visibility yellow-green jackets with reflective stripes. The woman on the left is also wearing large earplugs. The background shows the rough rock walls of the tunnel and some industrial equipment.

**Learn more about
our future
investments on
lkab.com**