



**MONEYTODAY** 





**Klarna** 

**iZettle** 





















































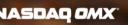
Handelsbanken

































## SOCIETAL CHALLENGES





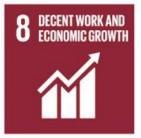


































# INNOVATION PARTNERSHIP PROGRAMS

- Green Transition of Industry
- Digital transformation of Industry
- Health & Life Science
- Skill Supply & Life Long Learning





## FOSSIL-FREE STEEL

Hydrogen Breakthrough Ironmaking Technology HYBRIT

Joint Venture between Swedish industries

Steel Mining Energy





## +

# The HYBRIT technology



#### **BLAST FURNACE**

#### HYBRIT – SSAB, Vattenfall & LKAB

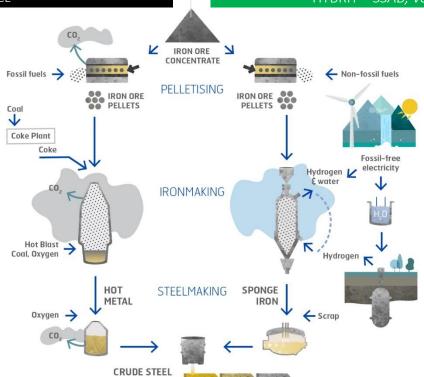
Production intensity per tonne of crude steel











25 kg CO<sub>2</sub>

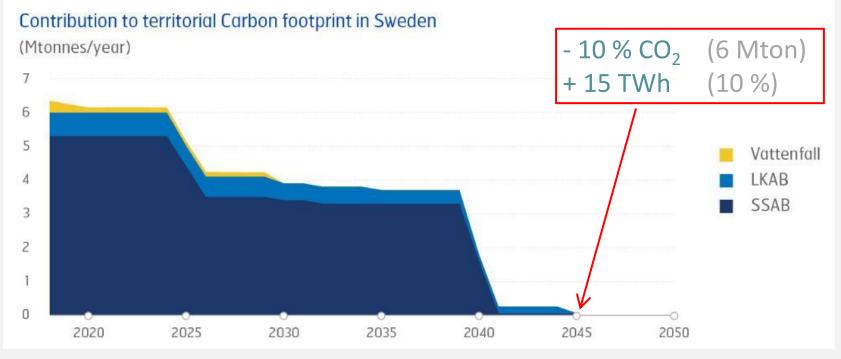






### +

## HYBRIT Initiative reduces CO<sub>2</sub>-emissions by 10% in Sweden





**Pre-feasibility Study** 

Feasibility Study Pilot plant trials

**Demonstration Plant Trials and transformation** 

2025 – 2040

2016 - 2017

#### 2016

Prefeasibility study with support from the Swedish Energy Agency

4-year R&D project with Support from the Swedish Energy Agency

#### 2017

A joint venture company formed between SSAB, LKAB and Vattenfall

#### 2018

Decision for pilot phase with support from the Swedish Energy Agency

#### 2018-2021

Fossil free pellets trials

2018 - 2024

#### 2020-2024

Hydrogen based reduction and melting trials

#### 2021/22-2024

Hydrogen storage trials

#### 2025

Transformation - BF to EAF at SSAB Oxelösund

#### 2025

Demonstration plant - first fossil free steel on market by 2026

#### 2030-2040

Industrial plants for HYBRIT

#### 2030

Transformation - BF to EAF at SSAB Raahe (step 1)

#### 2040

Transformation - BF to EAF at SSAB Raahe (step 2) & SSAB Luleå

2045

SSAB, LKAB, Vattenfall Fossil-free



## CO2 NET-ZERO 2045



# Industry Roadmaps for Fossil Free Competitiveness:

Aviation - Cement - Concrete -

Construction - Digitalisation - Food

Retail - Forest - Heating - Heavy

Haul - Maritime - Mining - Steel

http://fossilfritt-sverige.se/

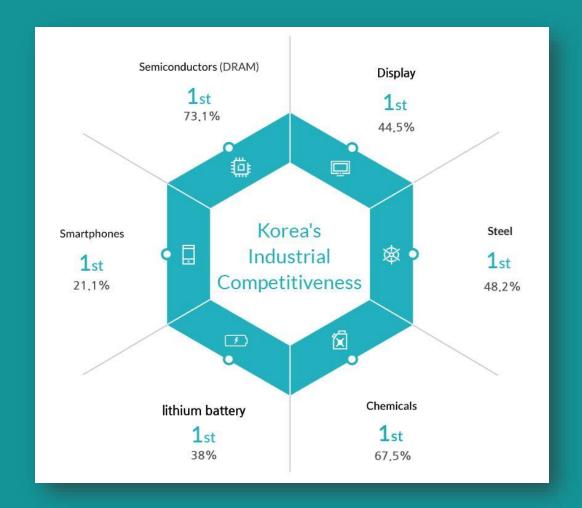
### **Innovation**



### **Modification**



**Adoption** 





## LEADERSHIP GROUP



#### Contribute on

- Hard to abate industries
- Providing toolkit of policy frameworks, mechanisms, roadmaps for how government and industry can work together

#### Also

- help scaling industry transitions up and out
- speed up technology innovation
- a platform for countries and industries to come together in transition



# «NEVER LET A SERIOUS CRISIS GO TO WASTE»

- Innovation for societal challenges
- Cross-Sectional Industrial Innovation in PPP
- Projects that sits well with political, technological & economical priorities

