



# COAL TO HYDROGEN







Daniel Ozon Brussels, 08.04.2019



### Steel

999

70% of steel is produced using coal
1 ton of steel takes about 700kg
of coking coal

### Coal to steel

To produce one wind turbine about 230 tonnes of coking coal is needed

### Steel grades

Currently there are 3500 different grades of steel with different properties



### Coking coal

Also called metallurgical coal, it is a crucial ingredient for steel production



### Critical for the EU

Coking coal is one
of the EU's 27 strategic
raw materials

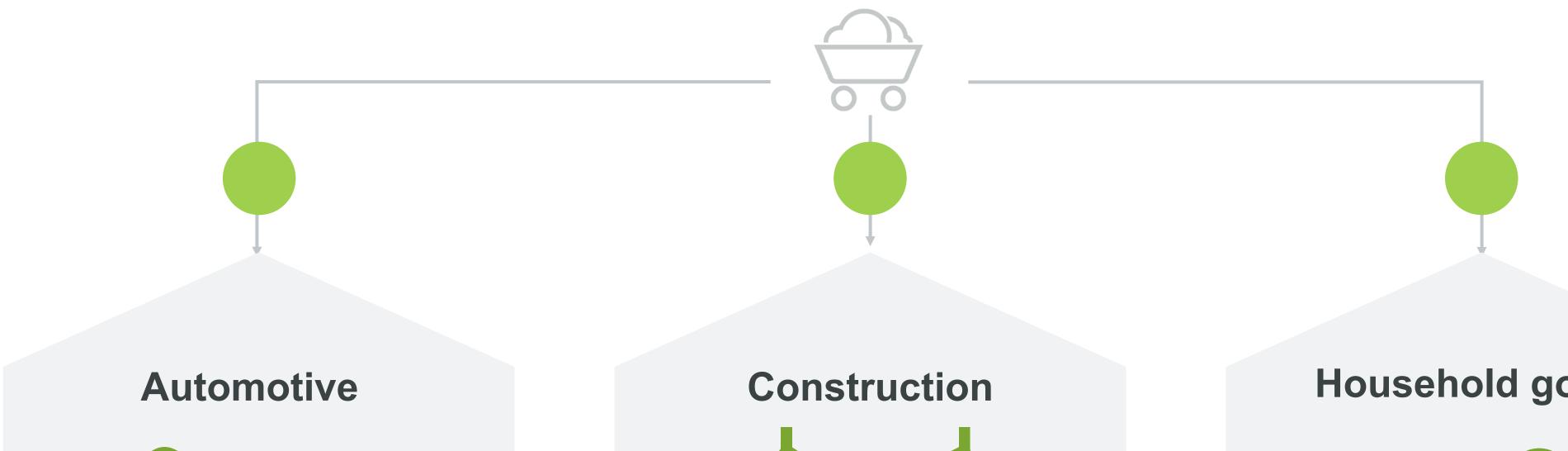


### Recycling

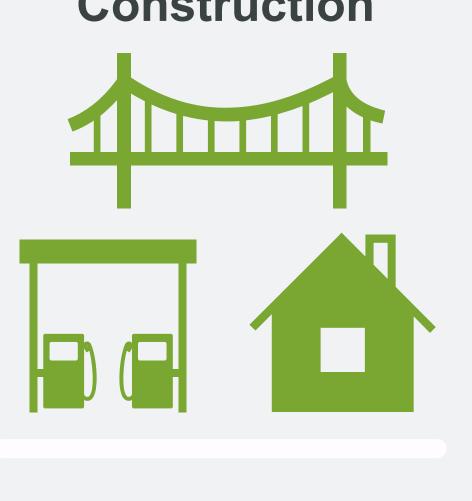
Steel is 100% recyclable

## Industrial usage of coking coal













# Coke-oven gas



### **Carbon Capture**

With application of the CCU/CCS technology coke-oven gas can become a clean energy source





### Hydrogen

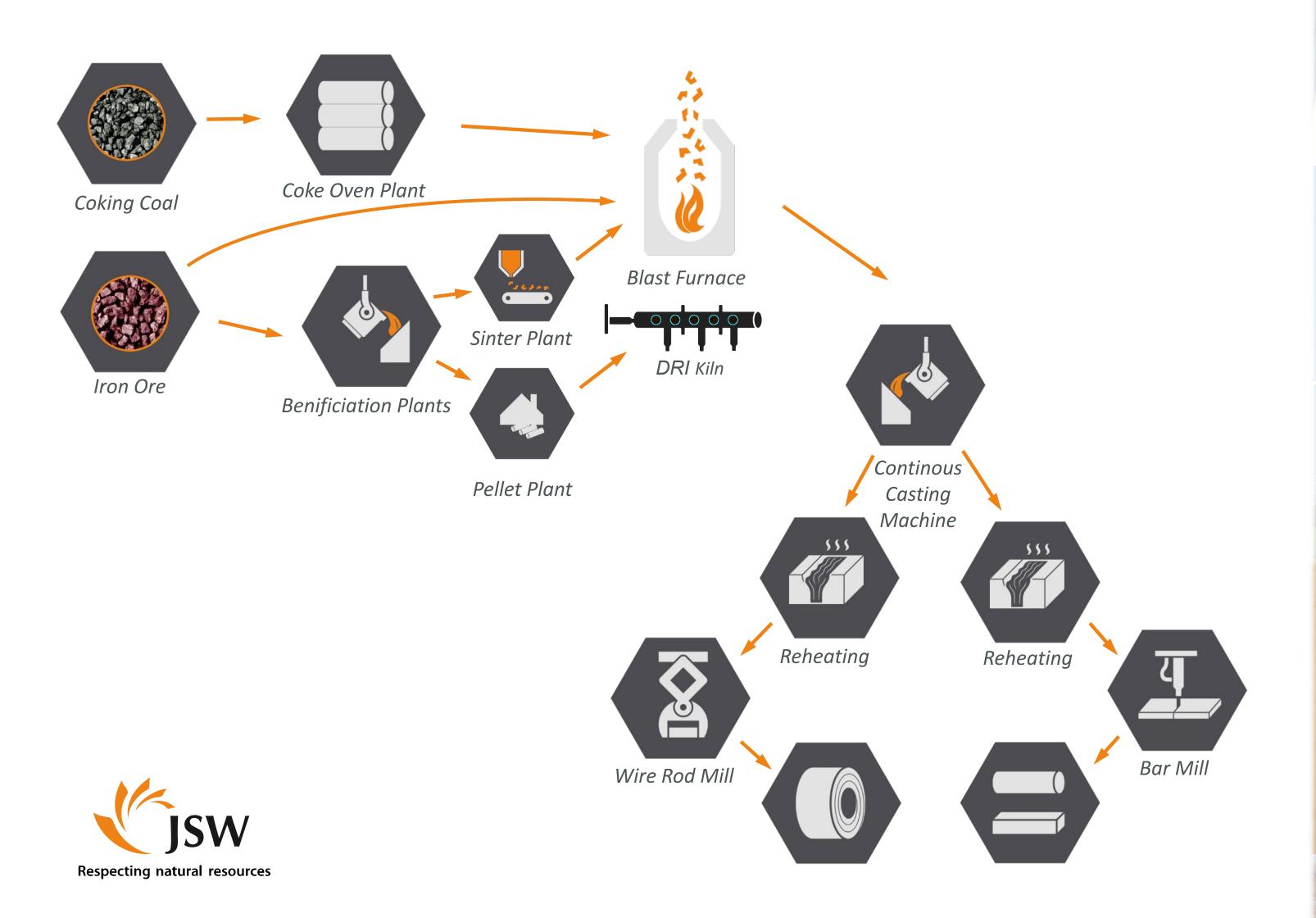
Coke-oven gas contains about 55% of hydrogen



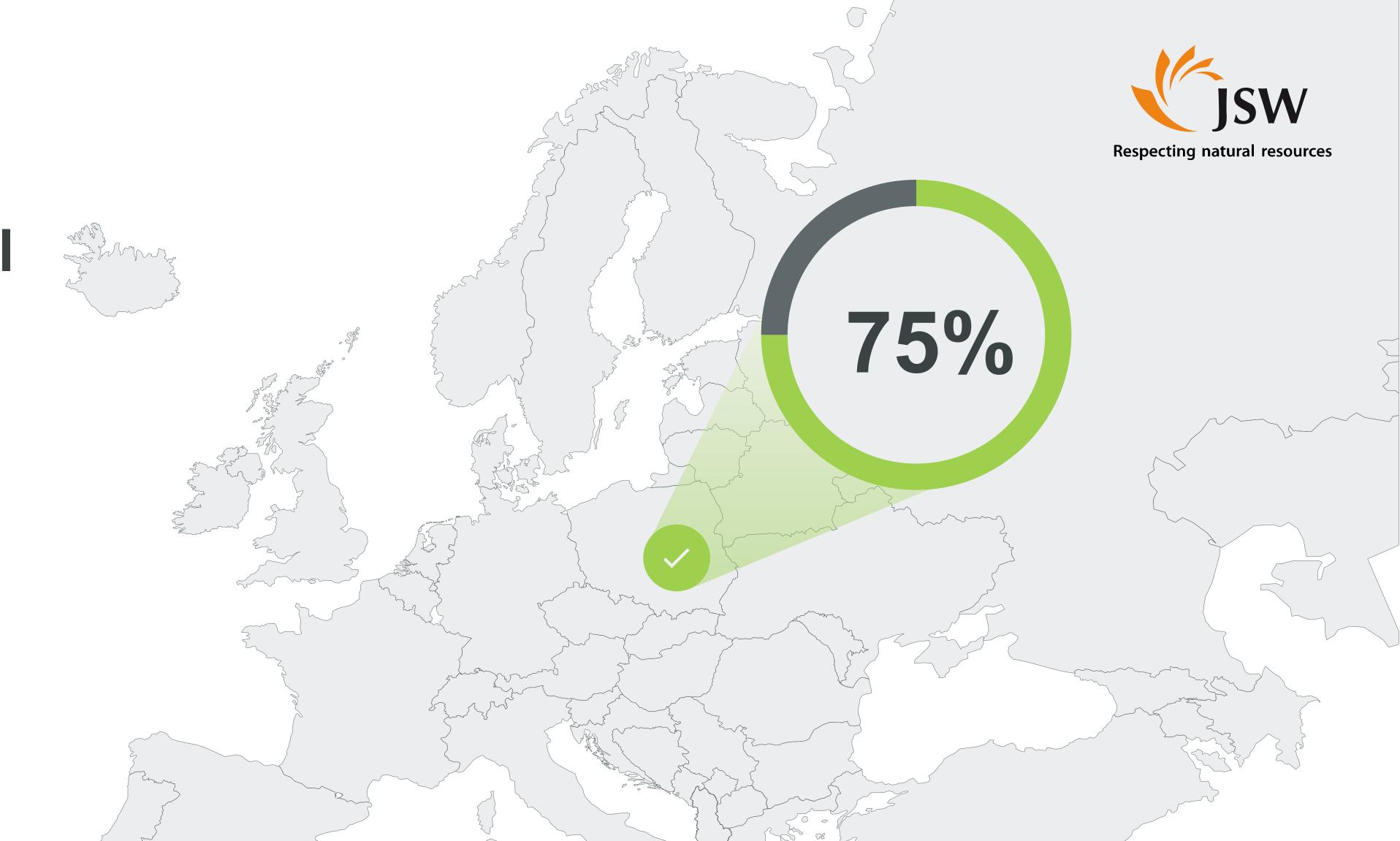
### Fuel cell vehicles

After separtion from coke-oven gas, cleaned hydrogen can be used in the zero-emission vehicles

### Steel making process







### EU Coking Coal Production

75% of the EU's

domestic coking coal

production is from JSW

### EU demand

The estimated EU's import of coking coal in 2017 was 36mt

