

# Strategies Towards Climate Neutrality Goals



## How are LTES used to develop LT Low Emission Development Strategies

PORTUGAL



# Carbon Neutrality Roadmap

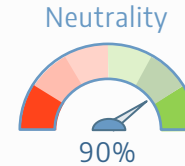
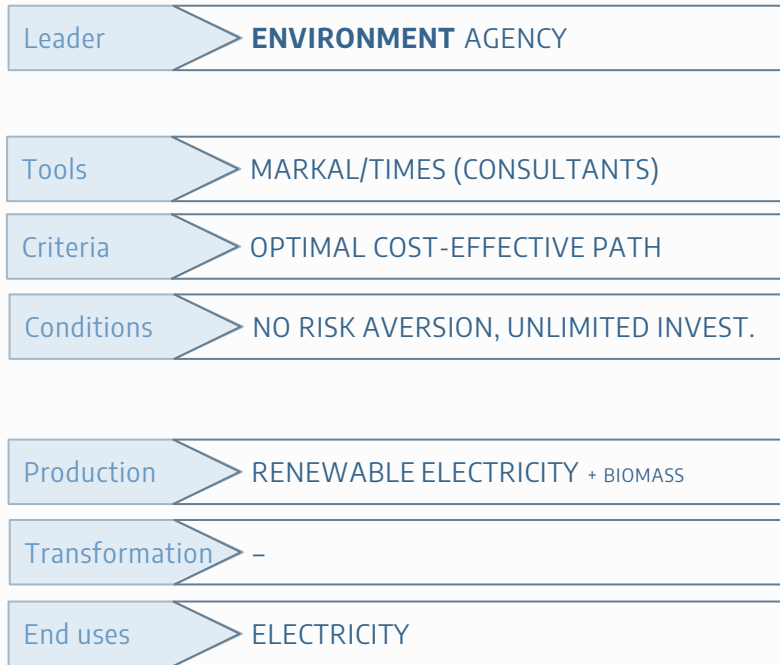


2030

2040

2050

August 2019



SCOPE

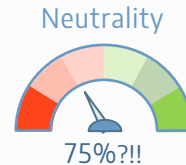
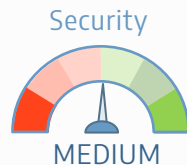
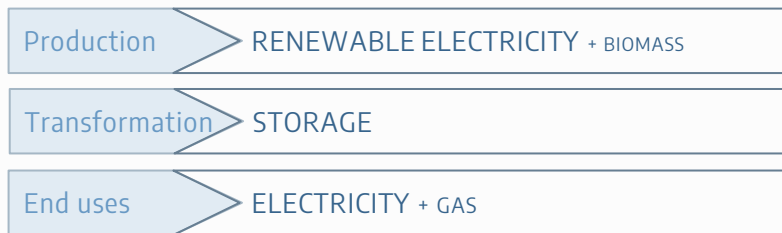
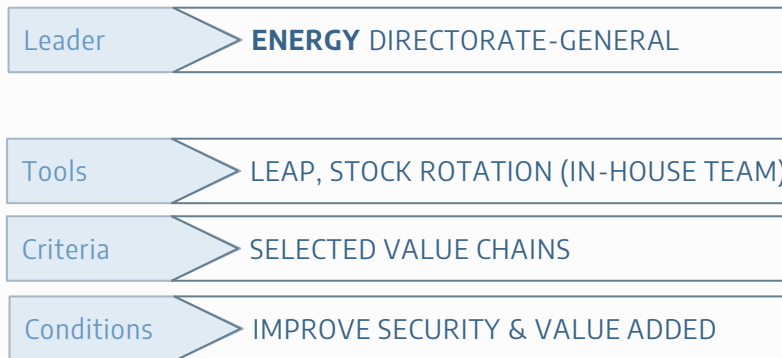
ENERGY

- CHEMICAL FEEDSTOCKS
- INTERN'L AVIATION
- INTERN'L NAVIGATION
- DOMESTIC AVIATION
- DOMESTIC NAVIGATION
- ROAD AND RAIL
- INDUSTRY
- RESIDENCES
- SERVICES
- CONSTRUCTION
- AGRICULTURE ETC
- ENERGY PRODUCTION
- ANIMAL PRODUCTION
- VEGETAL PRODUCTION
- WASTES
- LAND USE
- CARBON BIO-SINKS
- CARBON GEO-SINKS

# National Climate - Energy Plan



2030 2040 2050



SCOPE

ENERGY

- CHEMICAL FEEDSTOCKS
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# National Hydrogen Strategy



HIDROGÉNIO

2030

2040

2050

August 2020

Leader

**ENERGY** DIRECTORATE-GENERAL

Tools

LEAP, STOCK ROTATION (IN-HOUSE TEAM)

Criteria

SELECTED VALUE CHAINS

Conditions

MAXIMIZE SECURITY & VALUE ADDED

Production

RENEWABLE ELECTRICITY + BIOMASS

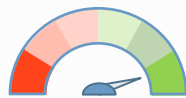
Transformation

STORAGE, HYDROGEN, RFNBOs, CCU

End uses

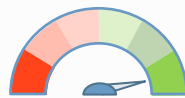
ELECTRICITY + FUELS

Lost Assets



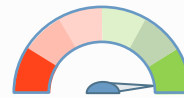
MINIMAL

Security



HIGH

Neutrality



99%

SCOPE

CHEMICAL FEEDSTOCKS

INTERN'L AVIATION

INTERN'L NAVIGATION

DOMESTIC AVIATION

DOMESTIC NAVIGATION

ROAD AND RAIL

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CARBON BIO-SINKS

CARBON GEO-SINKS

ENERGY

In less than one year, ' 2 ½ ' LT-LEDS  
with quite different energy system views



Integrated Climate – Energy planning  
is a concept that makes sense...



...but the implementation requires  
careful communication  
& balanced dialogues



Governments / Environment Agencies  
/ Energy Agencies / LTES modelers

## Case study conclusions

 IRENA  
International Renewable Energy Agency

 LTES  
LONG-TERM ENERGY SCENARIOS