A close-up photograph of a leaf with water droplets, overlaid with a white border and text. The background is a blurred bokeh of purple and blue light.

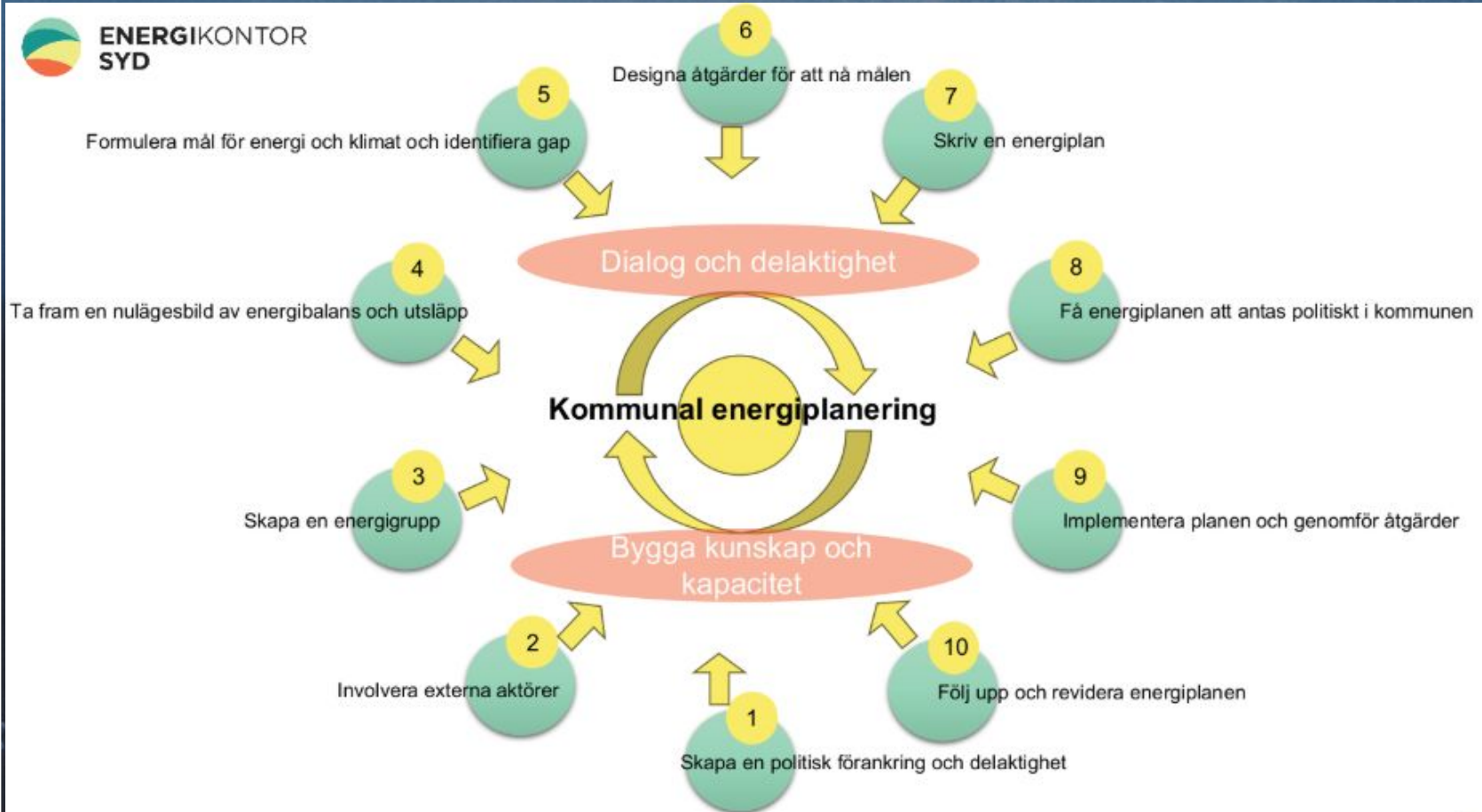
**IMPLEMENTING
MENORCA 2030
ROADMAP TO
DECARBONISATION**

The planning process

The 10 CET steps - to quantify



Reality of planning



Menorca 2030, basic principles

Principles

Supply security
Social participation
Economic viability
Environmental sustainability
Landscape integration

Fields of action

Electric system
Households
Services sector
Land transport

Menorca 2030 objectives

ELECTRIC DEMAND

85 % covering
with renewables

LAND TRANSPORT

50 % reduction
fossil fuel
consumption

THERMAL USES

30 % reduction
fossil fuel
consumption in
services sector,
households and
industrial

PRIMARY SECTOR

10 % reduction
diesel
consumption

RENEWABLES
DEPLOYMENT
PV
Wind
Others

PROMOTION OF SELF
CONSUMPTION IN
URBAN
ENVIRONMENTS

STORAGE
400 MWh

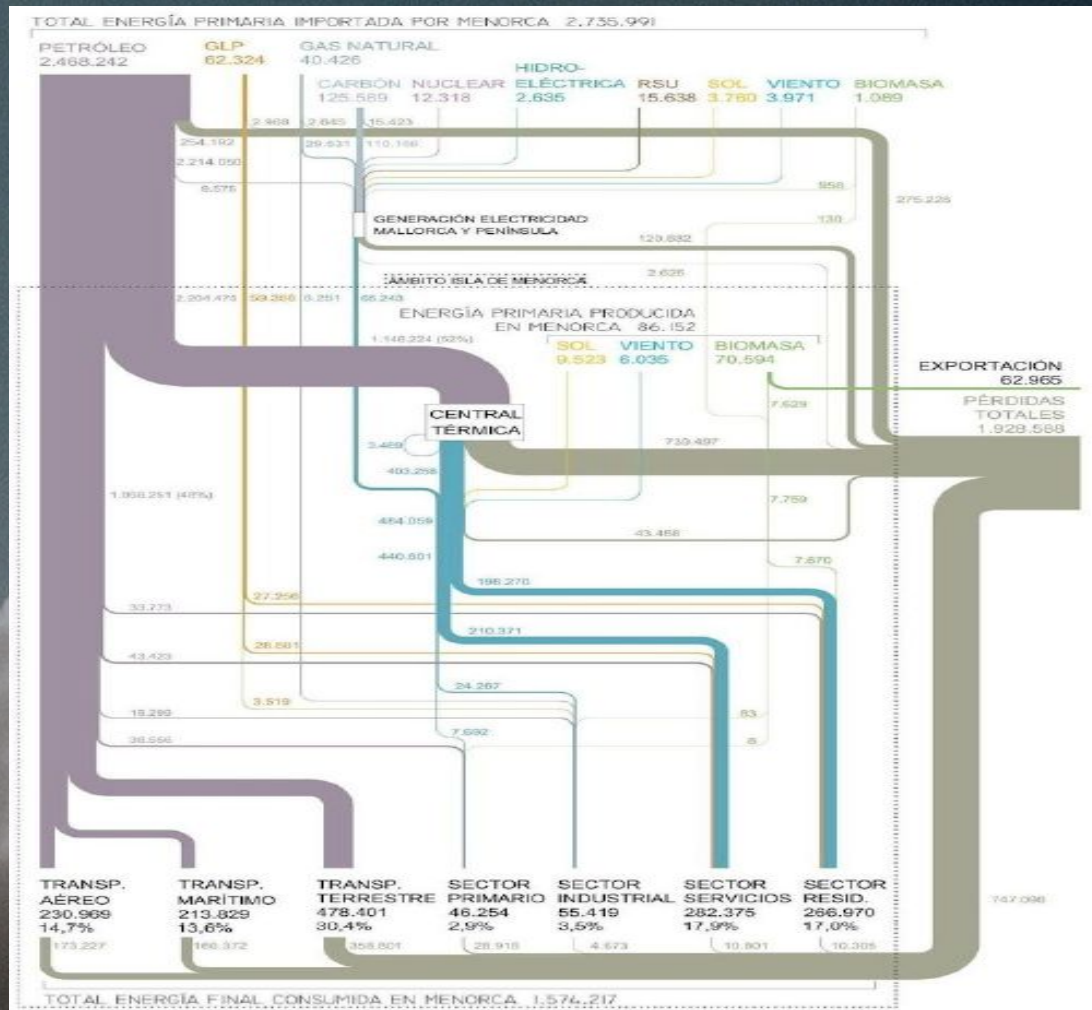
ENERGY SAVING
Households
Companies
Public sector

SUPPORT SYSTEMS

THERMAL
PLANT
(Reserve)

DOUBLE
UNDERWATER
CABLE

Gathering data



TRANSITION AGENDA PROPOSALS

- Renewable generation
- Storage and support
- Land mobility
- Efficiency and demand response
- Smart grids
- Smartmarkets
- Menorca energy community

RENEWABLE GENERATION

2030 SCENARIO

PV PLANTS

261 MWp
402 GWh/year

WIND

16,5 MWp
41 GWh/year

RENEWABLES NEXT TO URBAN ENVIRONMENT

30 MWp
42 GWh/año

OTHER TECHNOLOGIES (BIOGAS, WAVE ENERGY, ...)

4 MWp
7 GWh/year

STORAGE

400 MWh

LAND MOBILITY

2030: 50% Reduction of fossil fuel consumption

Private
vehicle

Taxi and
rental

**ELECTRIC
MOBILITY**

**PUBLIC
INCENTIVES
PLANNING**

**ALTERNATIVE
SYSTEMS AND
INTERMODAL
TRANSPORT**

Last mile
transport

Charging
grid

Incentives
and fiscal
regulation

Collective
public
transport

EFFICIENCY AND DEMAND RESPONSE

HOUSEHOLDS

17% final energy
consumption, 75%
electricity

SERVICES SECTOR

18% final energy
consumption,
74,5 % electricity

INDUSTRY

3,5% final energy
consumption,
44% electricity

PRIMARY SECTOR

2,9% final energy
consumption,
83% diesel

EFFICIENCY AND DEMAND RESPONSE HOUSEHOLDS

PV SELF
CONSUMPTION

ENERGY
REHABILITATION

EuroPACE
EXPERIENCE

FORMATION AND
INFORMATION
SERVICE

ELECTRIC VEHICLE
INTEGRATION AND
SMART MONITORING

HEAT PUMP AND
BIOMASS
Thermal uses

FACILITIES
EFFICIENCY AND
APPLIANCES

EFFICIENCY AND DEMAND RESPONSE SERVICES SECTOR

TOURISM

PUBLIC SERVICES
AND
ADMINISTRATION

PUBLIC
LIGHTING

WATER CYCLE
MANAGEMENT

2030 OBJECTIVES

Services work under efficiency, integral energy management and self generation from renewables.

Those measures create local economy and can be highly replicated

EFFICIENCY AND DEMAND RESPONSE INDUSTRY

Renewable generation in roofs and parking surfaces

Promotion of selfconsumption (shared or individual)

Promotion of PPA

Storage

Biomass

Consumption monitoring

Financing strategies for energy improvements

Insolation improvements

Demonstration projects

EFFICIENCY AND DEMAND RESPONSE PRIMARY SECTOR

Fossil fuels consumption is 19% of total consumption in Menorca, being only 3% of final energy consumption. So we need:

Renewal of machinery

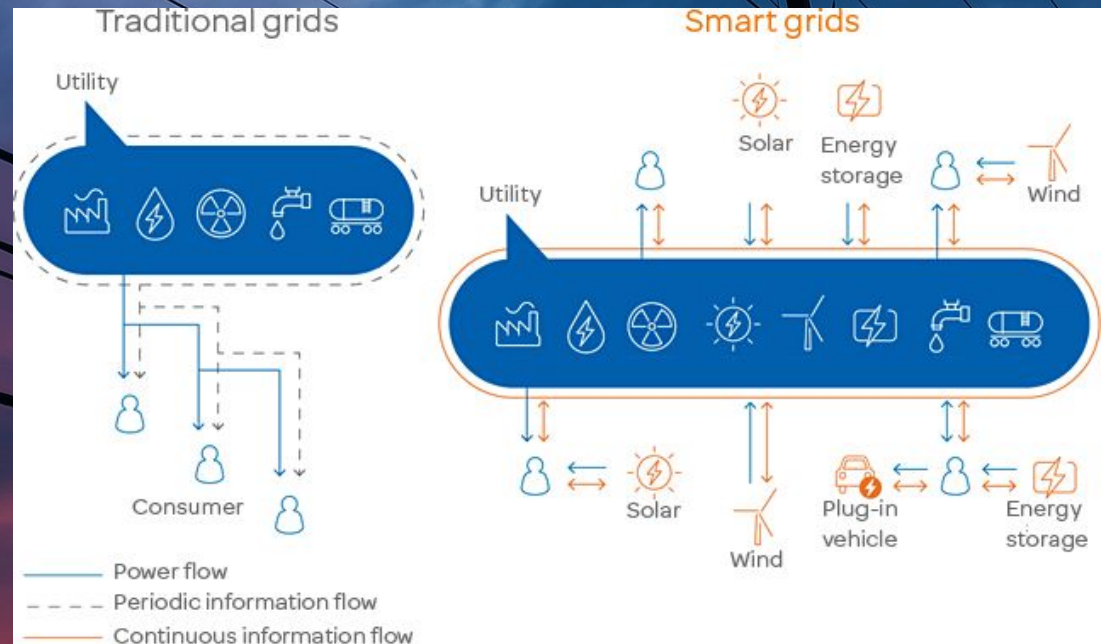
Biomass for thermal uses

SMART GRIDS

Adaptation of actual grids to smart grids is fundamental. So, generation and storage are interconnected by grids which can preview generation, demand and energy flows automatically.

They can give us:

- Reliability
- Interactivity
- Predictability
- Interconnectivity
- Security



SMARTMARKETS



They must allow:

To buy and sell energy in a beneficial way for all parts almost immediately

To buy and sell energy from grid operators (TSO, DSO) to any electric sector agent

Reservation of power at short and medium term

MENORCA ENERGY COMMUNITY

- Citizen participation to involve them in energy transition
- Excellence center in renewable design and implementation
- Bringing the energy transition to higher education
- Promote the creation of companies and associations related to energy services and decarbonisation process
- Citizen assessment
- Personnel forming in all productive sectors
- Demonstrations with citizen participation

TOP10: STRATEGIC MEASURES MENORCA 2030

- 1 Renewable energy generation in Milà
- 2 PV plants
- 3 Storage with batteries
- 4 Self Consumption in buildings
- 5 PV in public parkings
- 6 EuroPACE program (energy efficiency in buildings)
- 7 Electric mobility and charging grid
- 8 Smart Grids
- 9 Local energy markets
- 10 Menorca 2030 office

ROADMAP

STAGE 1
2020

- 1st underwater cable working (35MW)
- 15% renewable energies cover
- Start of developing PV in public parking surfaces
- Start of self consumption in households and companies
- Charging grid

STAGE 2
2025

- Double underwater cable working (100MW)
- 35% renewable energies cover
- 200 MWh batteries storage
- PV in big roofs
- Thermal plant working with natural gas
- Global charging grid
- 15% reduction of fossil fuel in land transport and thermal uses

STAGE 3
2030

- Double underwater cable working (100MW)
- 85% renewable energies cover
- 400 MWh batteries storage
- PV self consumption 100% deployed
- Thermal plant (only support)
- Global charging grid
- 50% reduction of fossil fuel in land transport and thermal uses

IMPLEMENTATION & MONITORING FACTS

1 Reality is not what we planned, and monitoring is essential



STAGE 2
2025

- Double underwater cable working (100MW) **PLANNED BUT NOT WORKING**
- 35% renewable energies cover **16,9 %**
- 200 MWh batteries storage **Only 3,3 MWh**
- Thermal plant working with natural gas: **DIESEL**
- Global charging grid **OK**
- 15% reduction of fossil fuel in land transport and thermal uses **FAR FROM IT**

IMPLEMENTATION & MONITORING FACTS

2 Actions depend on lots of factors we can't control



- Double underwater cable NOT working (100MW): **DEPENDS ON SPANISH GOVERNMENT ANT TSO PLANIFICATION**
- 35% renewable energies cover **16,9 % OK**
- **Only 3,3 MWh** batteries storage: **DELAY ON REGULATION**
- Thermal plant working with natural gas: **STATE REGULATIONS DOESN'T PUSH IT**
- Global charging grid **OK**
- 15% reduction of fossil fuel in land transport and thermal uses **EV PENETRATION SLOWER THAN FORESEEN**

IMPLEMENTATION & MONITORING FACTS

3 Implementing = Constant replanning



- Double underwater cable NOT working (100MW): **WORKING ON FLEXIBILITY WHILE NO CABLE**
- 35% renewable energies cover **16,9 % OK**
- **Only 3,3** MWh batteries storage: **WORKING ON FLEXIBILITY**
- Thermal plant working with natural gas: **CHANGING NUMBERS ON RE TO REDUCE HOURS OF THERMAL PLANT**
- Global charging grid **OK**
- 15% reduction of fossil fuel in land transport and thermal uses: **CAMPAIGN TO PROMOTE EV**

IMPLEMENTATION & MONITORING FACTS

4 Clean energy transition plans must be adaptable



- WE MUST ADAPT THE PLAN TO THE CIRCUMSTANCES
- THE PLANS ARE NOT THE HOLY BIBLE, WE CAN CHANGE WHAT WE NEED OR THE POINTS WHERE WE HAVE FAILED

IMPLEMENTATION & MONITORING FACTS



**DON'T GET FRUSTRATED LATER IF THE PLAN
FAILS, IT'S MUCH BETTER TO HAVE IT THAN NOT
TO HAVE IT**



**THANK YOU FOR YOUR
ATTENTION!!**