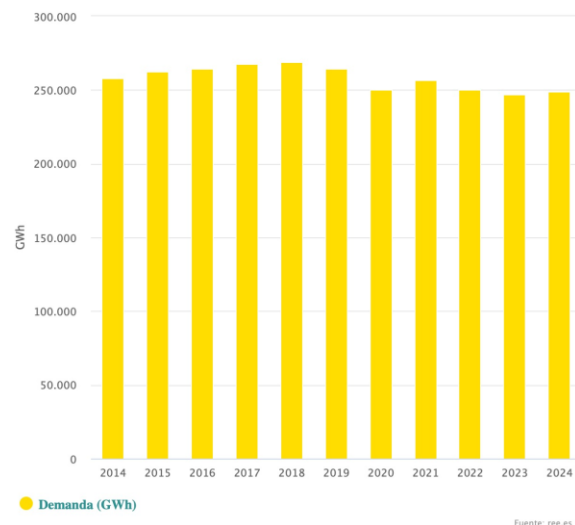


REGULATORY INNOVATIONS TO INCENTIVISE GRID INVESTMENTS



27 de Maig de 2025

ELECTRIC DEMAND



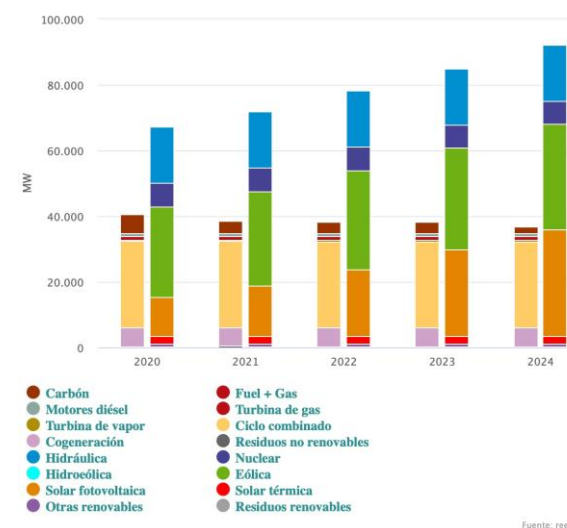
- No growth of Demand. -0,5%
- Instal·lation 8 GW Self consumption

ELECTRICAL NET

PRESSURE
ON THE NET



PRODUCTION



Increase Generation - 19%
 Increase PV Plants - 176%
 Increase PV/Generation 232%
 DC international connection

Demanda (MW) a las 12:10 - 28/04/2025

25.367

Real

23.331

Prevista

24.873

Programada

0.03

Emissiones (t CO₂)

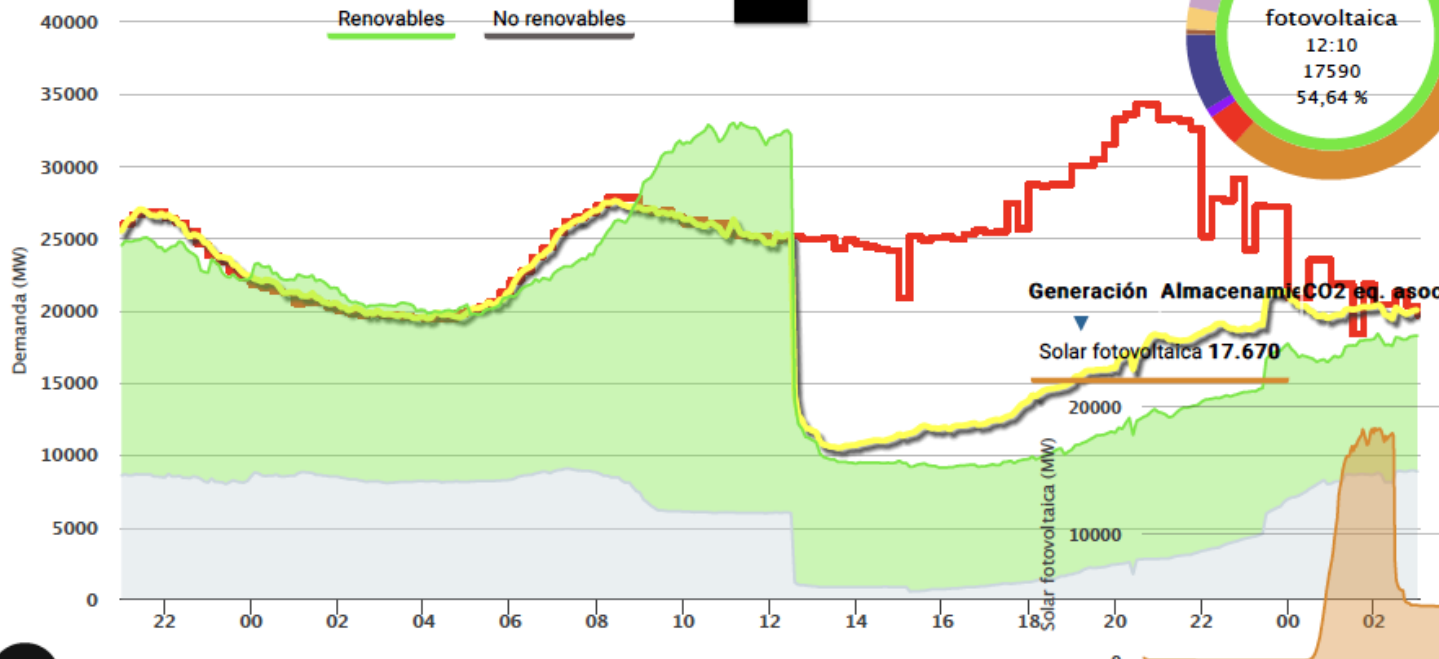
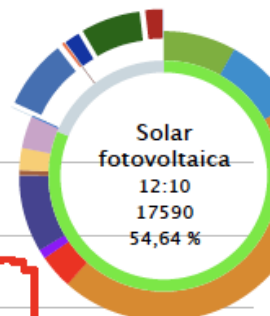
26.155

Renovables

6.012

No renovables

Estructura de generación y almacenamiento (MW)



PV ENERGY
OVER GENERATION 54 %
OVER DEMAND 68%

INTERCONNECTION FRANCE

7% OVER DEMAND

Demanda (MW) a las 19:35 - 23/05/2025

26.861

Real

22.614

Prevista

27.236

Programada

0.048

Emissiones (t CO₂)

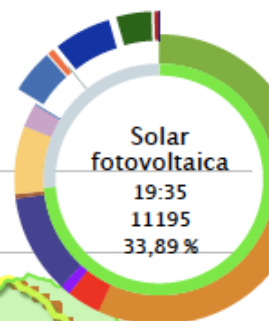
24.402

Renovables

8.621

No renovables

Estructura de generación y almacenamiento (MW)

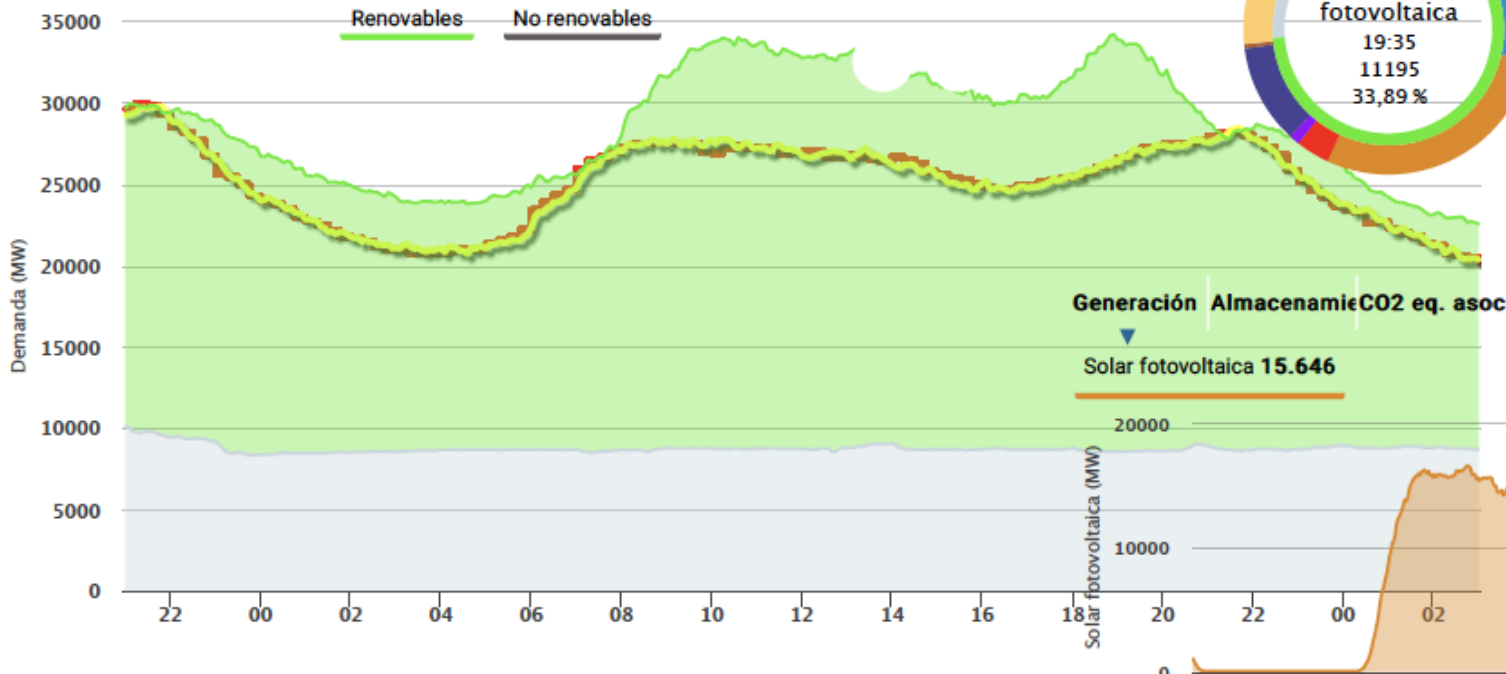


PV ENERGY
OVER GENERATION 54 %
OVER DEMAND 68%

INTERCONNECTION FRANCE

7% OVER DEMAND

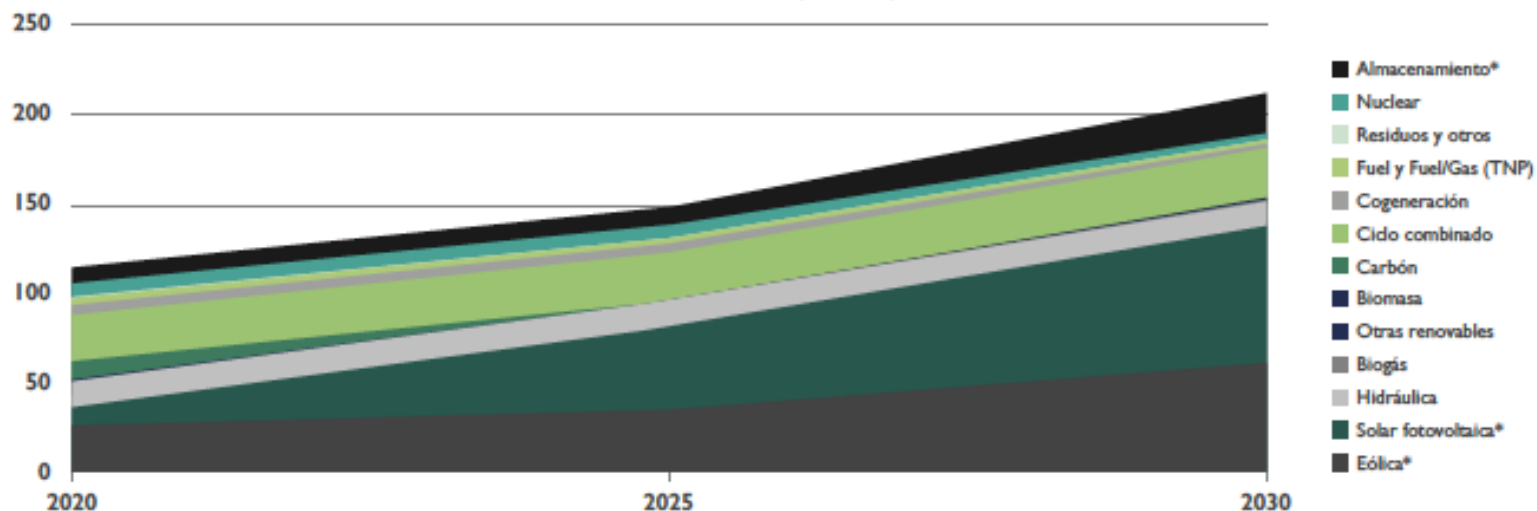
INCREASE COST
15 €/MWh
SECURITY SISTEM



- +105 GW potencia instalada renovable, hasta 160 GW
- 81% de generación eléctrica renovable
- 22,5 GW de almacenamiento energético
- 19 GW de autoconsumo

- 12 GW de electrolizadores
- Cese de la actividad del carbón en 2025
- 3,2 GW de nuclear

Potencia instalada (GW)



TARGETS

EOLIC 62 GW
PV PLANTS 76 GW

STORAGE 22 GW
HYDROGEN 12 GW

DEMAND INCREASE 31%
SELF-CONSUMSION 19 GW

INCREASE NOT REGULATED ENERGY
INCREASE POWER ELECTRONIC
GENERATION + INTERNATIONAL
CONNECTIONS
GENERATION CONNECTED TO DSO

ENERGYBALANCE
VOLTATGE STABILITY

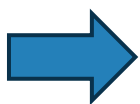
GRID MUST
CHANGE TO
ADDAPT

GRID INVESMENT

52,3 MM€

LAYER 1

CONVENTIONAL
GENERATION



RENEWABLE
GENERATION

ENERGY BALANCE

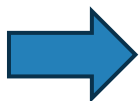
GREAT AMOUNT ENERGY
TIME - MINUTES - HOURS
PREDICTABLE

GRID ROLE

ENERGY TRANSMISSION
PASSIVE ROLE

LAYER 2

ANALOGIC -
PHYSICAL DYNAMIC
SYSTEM



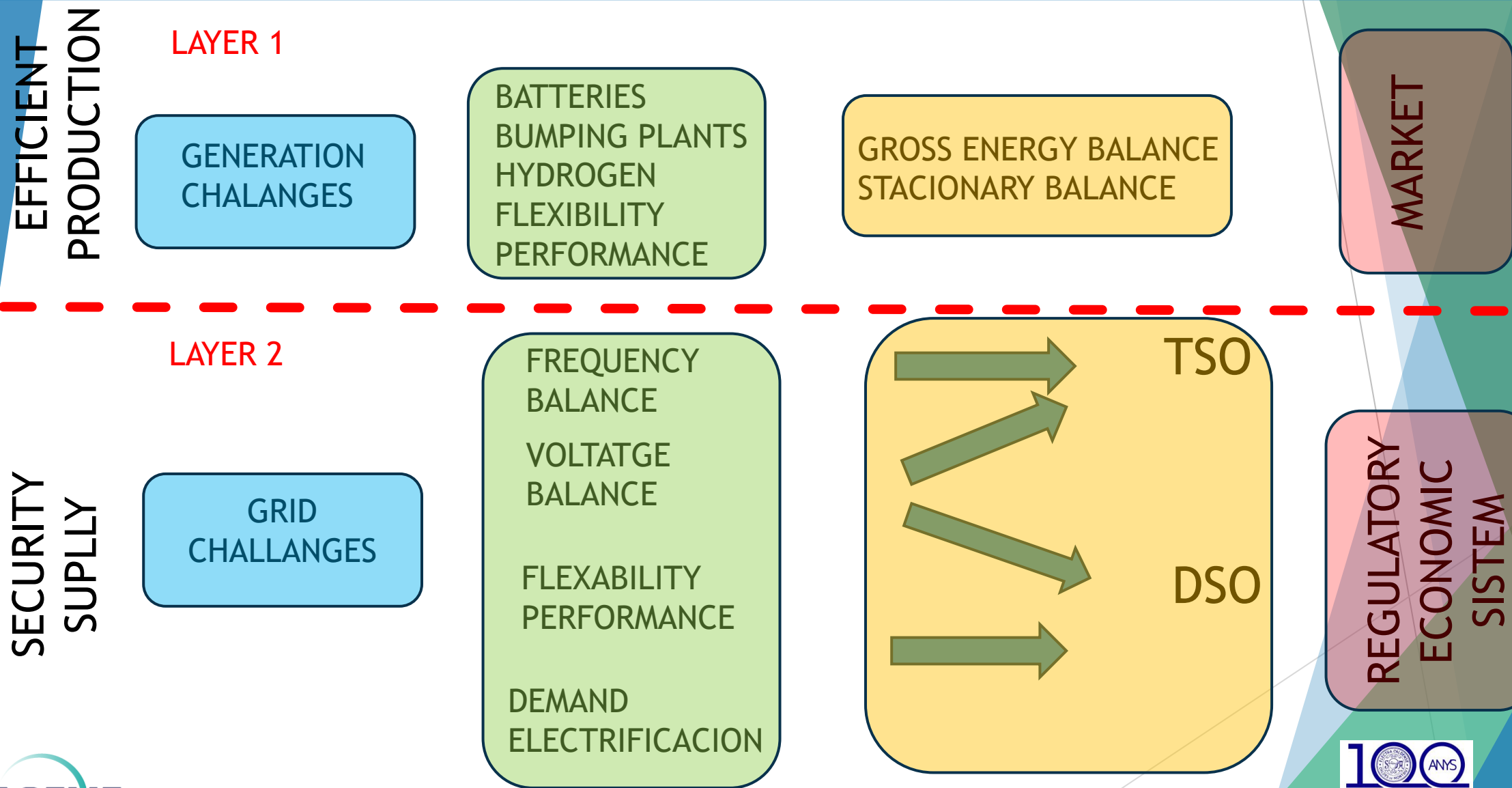
DIGITAL
POWER ELECTRONIC
SYSTEM

VOLTAGE - FREQUENCY BALANCE

LESS ENERGY
TIME - SECONDS
NO PREDICTABLE

GRID ROLE

SECURITY OF SUPPLY
ACTIVE ROLE



TSO

FREQUENCY STABILIZATOR

DINAMIC VOLTAGE STABILIZATOR

INCREASE CLASICAL GRID INVESMENT

RETRIBUTION METODOLOGY

DSO

INCREASE CLASICAL GRID INVESMENT

DINAMIC VOLTAGE STABILIZATOR
DINAMIC PERFORMANCE ON
GENERATOR - DEMAND

EEC
GRID CONEXION

RETRIBUTION METODOLOGY

DEMAND ACCES

THANKS A LOT!!!



Oriol Xalabarder Angli
oxalabarder@electracaldense.com