



**From old utility to new niche player:  
challenges and options  
Luc Poyer – Uniper France chairman**

Chaire European Electricity Market, 27/09/2017

# « We know what we are not anymore, we do not know yet what we will be. »

Utilities are considered as deeply challenged by the 3D revolution:

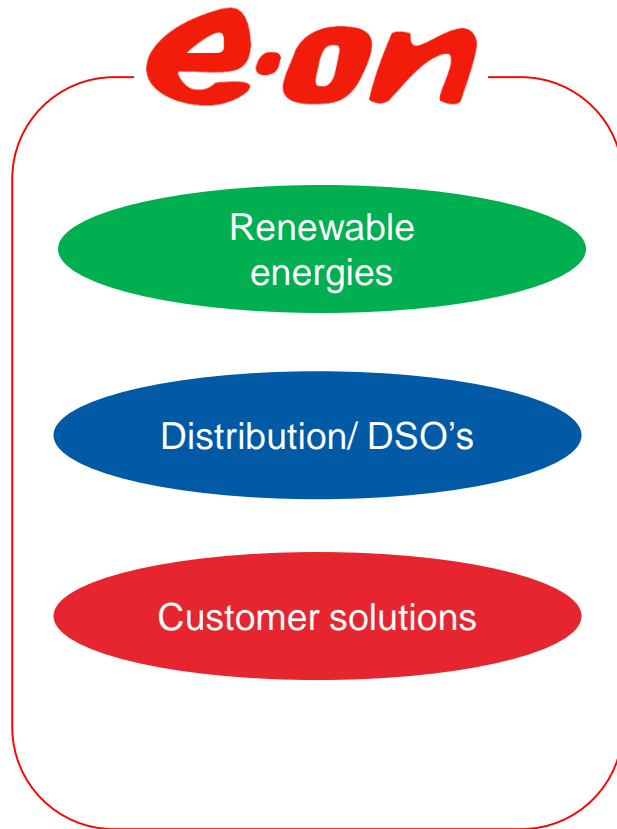
- Decarbonization
- Digitalization
- Decentralization

1. **Uniper group: successful launching of a new player focused on energy security of supply**
2. **Uniper France: decarbonization and innovation to better serve our clients and integrate renewables**
3. **Exploring new territories: bio-energy, a major renewable energy. The Provence 4 Biomasse case.**

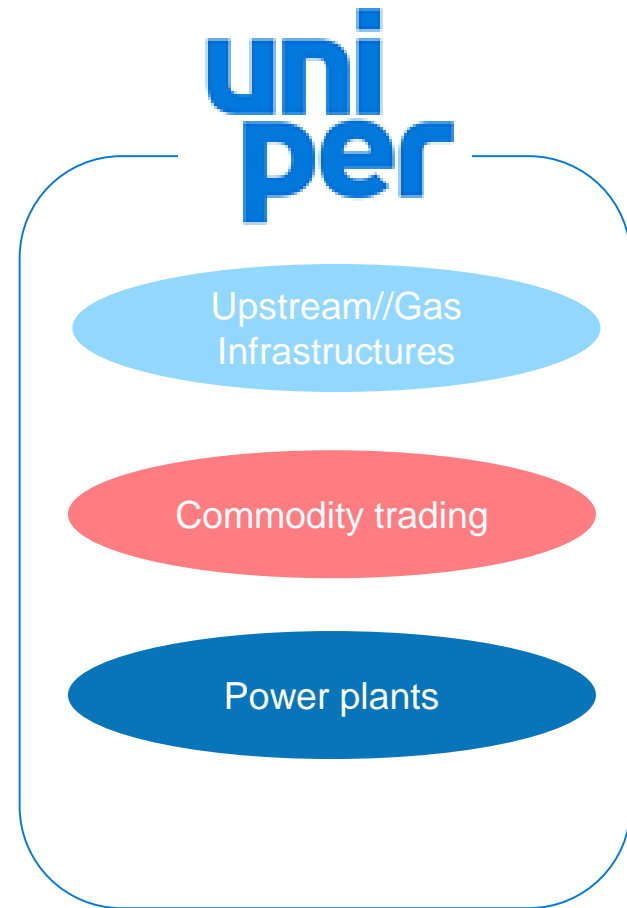


**1. Uniper group: successful  
launching of a new player focused  
on energy security of supply**

# E.ON/Uniper: a “tale of two utilities”



Integrate customers at the heart of energy solutions

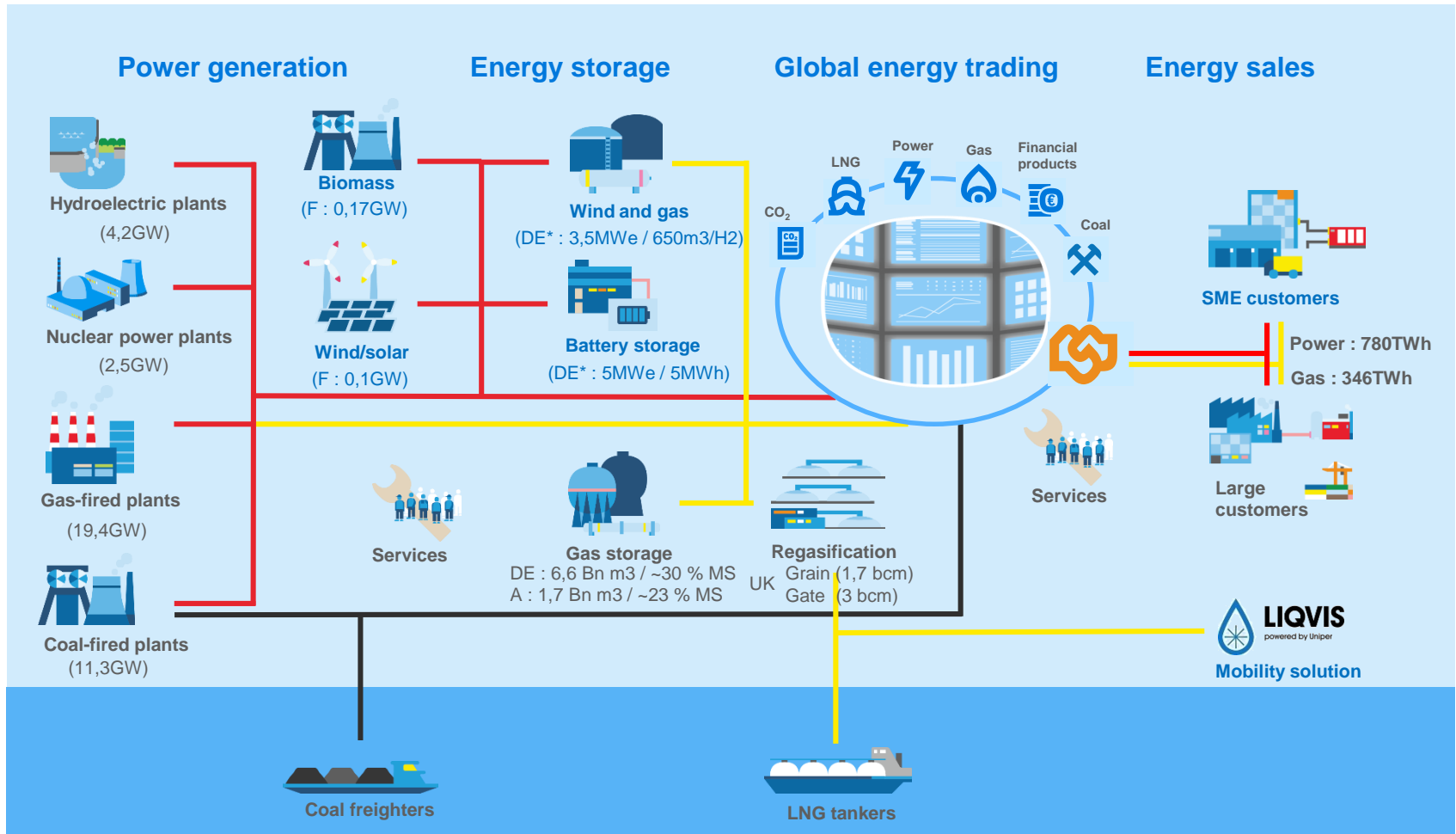


Reshape conventional energy world

# Focused portfolio with attractive assets across Europe and Russia



# Security of supply and flexibility in our DNA





**2. Uniper France: decarbonization and innovation to better serve our costumers and integrate renewables in the power system**

# Overview of Uniper's business activities in France

## Generation

- Installed capacity **2.2GW**
- Power generation: **6.8TWh**

## Sales 2016

- Power sales **15.5TWh**
- Gas sales **6.3TWh**



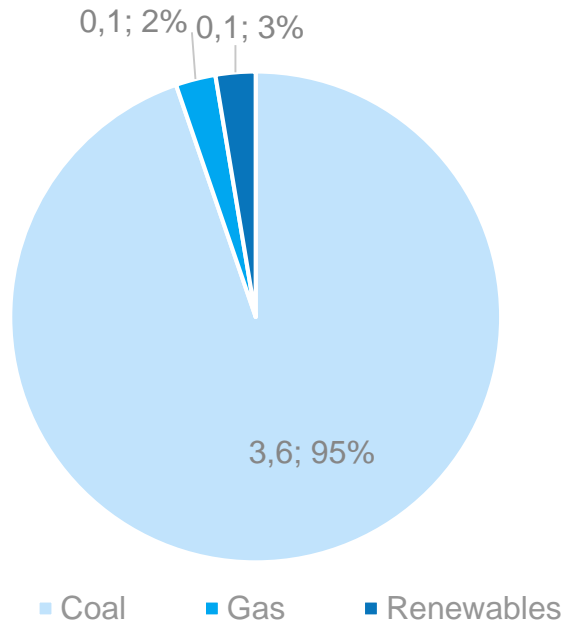
- Employees: **630**
- Turnover: **1.4Md€** (IFRS)

- **3rd** power producer
- **2nd** power supplier in I&C and SME
- **7,5%** of the French decarbonization effort (2008-2016)

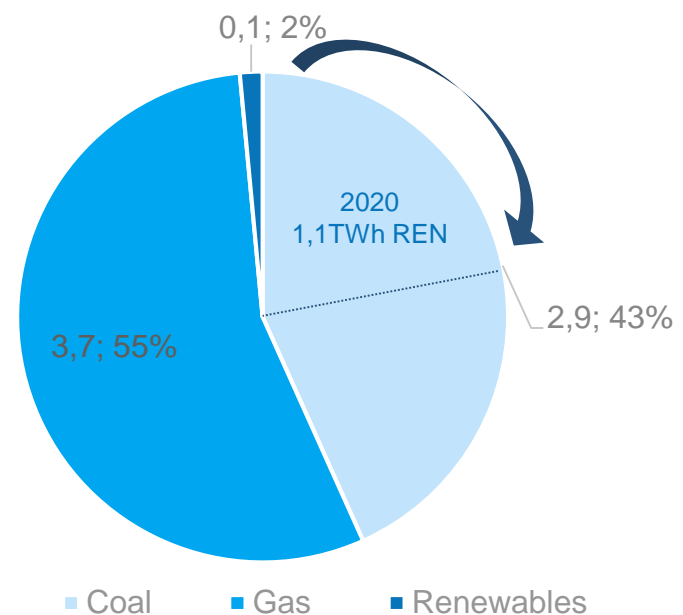


# Uniper France, pioneering energy transition

Uniper France generation 2009 (TWh)



Uniper France generation 2016 (TWh)



## An unprecedented wave of transformation

- **Eur 1 billion invested** since 2008 in France for the transformation of the firm and the decarbonation of our activities
- Our CO2 emissions divided by 2 which amount to **7.5% of the national effort** over this period
- Unprecedented early investment in France's main natural gas production unit, in wind and solar power and also in the conversion of a coal-fired unit to a wood-fired unit

# From centralized to decentralized : Uniper's dispatch center optimizes a ~3GW diversified portfolio

REN  
Generation  
(~300 MW)

*Solar*



*Wind*



*Hydraulic*



*Biomass*



*CCGT, coal (2GW)*



I&C  
Consumption  
(~600 MW)

*Industrial sites*



*Interco : France Angleterre (IFA & IFA2) ; France - Deutschland...*

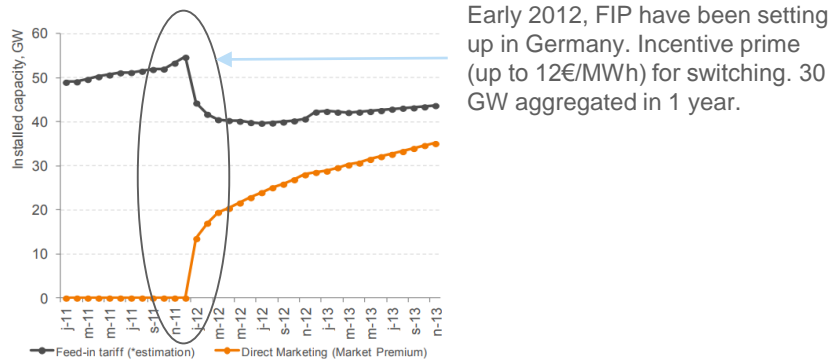


Interconnections  
& trading

# Challenge : accompany renewable producers to direct marketing

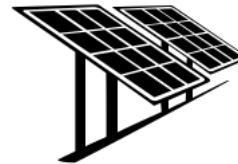
RES assets are becoming exposed to market prices and imbalances

## German case



- Uniper **valorizes** RES assets, and allows them to **benefit from**:
  - **Limited imbalance penalties** thanks to the size and the diversity of its portfolio
  - **Anticipation of negative market prices**, and a **24/7 reactivity**
  - **Support along all procedures with RTE** and the opportunity to valorize assets on **grid services**

Uniper developed partnerships with start-ups



meteo\*swift  
*meteorology & simulation for a wind forecasting tool*

steadysun

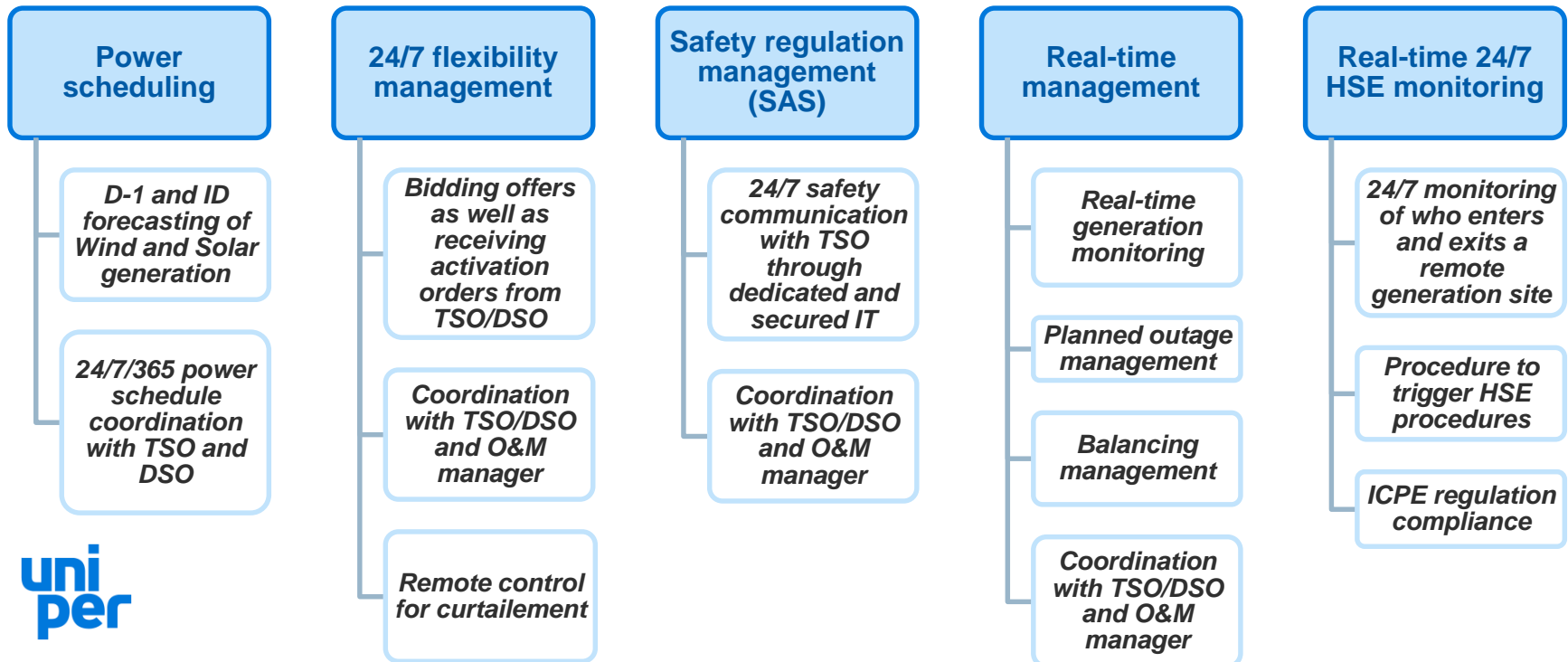
## Activities and specificities

- **Wind power forecasting**
  - Set-up, test and performance measurements to meet the user's individual requirements
  - Reduce the uncertainties
- **Solar production forecasting**
  - All solar resources
  - Time horizons of a few minutes to a few days

# Uniper supports RES producers to integrate their assets into the French energy system



Cestas PV farm, 300MW, Gironde, France

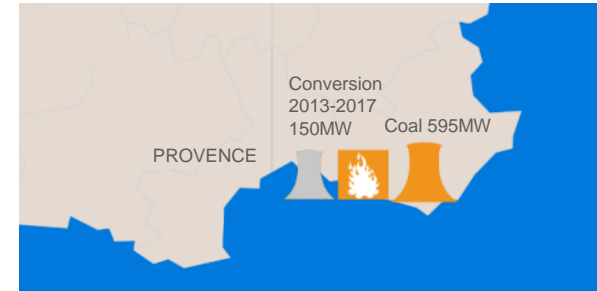




**3. Exploring new territories: bio-energy, a major renewable energy. The Provence 4 Biomass case.**

# Provence 4 Biomass, a major project for renewable energy in France

Bouches-du-Rhône  
(Provence-Alpes-  
Côte d'Azur)



## Installed capacity of 170 MW

- 300 million euros invested in the transformation of a coal plant to biomass.
- 850,000 tons of renewable bio-fuel per year
- Create 450 local jobs contributing to the structuring of local forestry sector.
- Production equivalent to the electricity supply to 440,000 households (1/6 of PACA region).

## Technical characteristics

- **Steam** : 565°C / 165 bars
- **Planned production** : 1125 GWh (7500hr)
- **CO2 reduction target** : 600 kt/year



# P4b - Design basis: fuel basket 2017-2018

- Thermal input to the boiler: 48% imported biomass and coal + 52% local biomass
- Total annual biomass consumption is approx 850kt

**(15% = 168kt)**  
**Local  
French  
Forestry:**  
Woodchip &  
Roundwood



**(11% = 85kt)**  
**Recycled  
woodchips:**  
Class A &  
Class B



**(13% = 137kt)**  
**Coal Arisings**

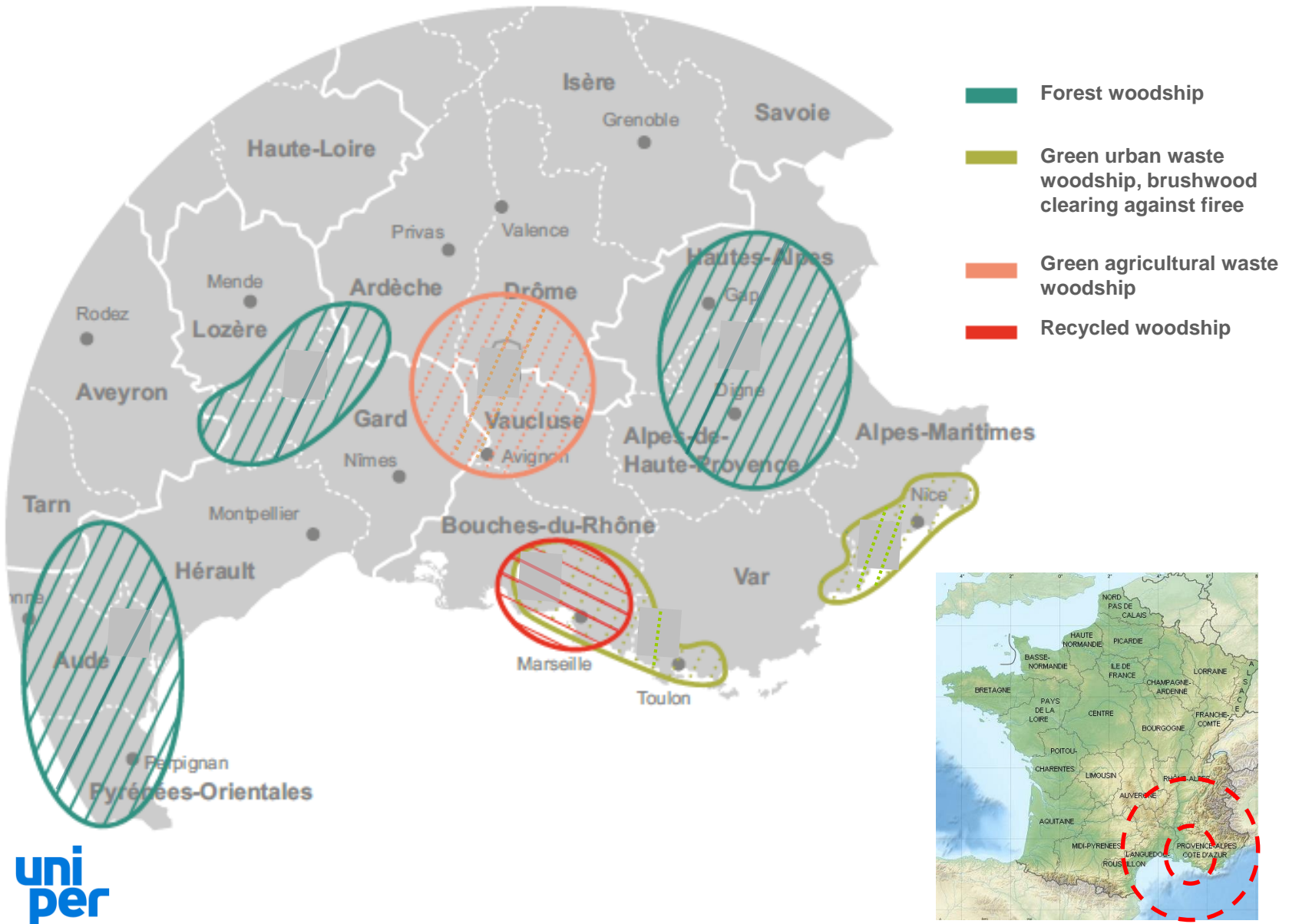
**(48% = 467kt)**  
**International  
woodchips**  
Global origin,  
Quality  
PEFC & FSC  
labels



**(13% = 130kt)**  
**Green waste  
woodchips:**  
Compost siftings  
& Green waste



# Where does the local bio-fuel come from ?

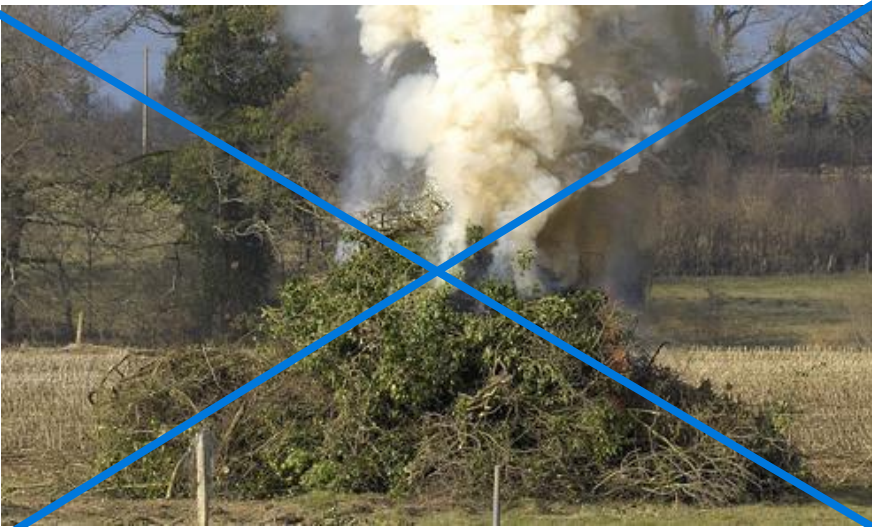




## Local green waste exemple



**Local green waste harvesting and  
crushing:  
windbreak hedgerows  
(basse vallée du Rhône)**



# Conclusion

New utilities are part of the solution to a challenging equation :

« **Energy Transition** » = « **3D + 3F + 3M** »

**3D ( « new world » )**

Digitalization

Decarbonization

Decentralization

**3F ( « conventional world » )**

Functional safety

Flexibility

Fundability

**3 Markets' designs**

Electricity **M**arket

Carbon **M**arket

Capacity **M**arket