

# NAÖDEN

— **NAODEN'S PRESENTATION** —

# SUMMARY

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# COMPANY PRESENTATION

## HISTORY OF NAODEN



**2014 :** TESTING



**2015 :** NAODEN'S INCEPTION



**2016 :** 1<sup>st</sup> DEMONSTRATION  
PLANT « COTEAUX NANTAIS »



**2017 :** COMMERCIALIZATION :  
1<sup>st</sup> UNIT 100 kW electric  
2<sup>nd</sup> UNIT 30 kW electric

## THE COMPLEMENTARITY BETWEEN THE PARTNERS...



ÉRIK **MOUILLÉ**

**CHIEF EXECUTIVE OFFICER**



JOHN **BILHEUR**

**COMMERCIAL DIRECTOR**



CYRIL **TERRIEN**

**PRODUCT DEVELOPMENT  
& COMMUNICATION**



PAUL **BOIREAU**

**COMMISSIONING  
& AFTER SALES MANAGER**

## ... LEADS TO OVERALL CONTROL OF THE BIOMASS ENERGY PRODUCT

- ☐ **EXPERTISE IN CONVERTING WASTE INTO FUEL**
- ☐ **EXPERTISE IN FUEL SUPPLY**
- ☐ **MASTERING ITS OWN TECHNOLOGY**
- ☐ **MASTERING THE RELATED SERVICES (MAINTENANCE, AFTER SALE SERVICE, FUNDING)**



# COMPANY PRESENTATION

## OUR TEAM



LES ASSOCIÉS



AHLAM **SCHAMEL**



ASTRID **MANCEAU**



DAMIEN **HERVÉ**



DIMITRI **ALLANIC**



FABIEN **CLAUTOUR**



FLORAN **MARTIN**



JORIS **NAUDIN**



NICOLAS **BONHOMME**



RONAN **MARTIN**



SAAD **FAKIR**



VALENTIN **HUCHON**



VIRGILE **SAUR**

## LOCAL MANUFCTURING



**LOCAL** : A GUARANTEE OF A HIGH  
LEVEL OF **QUALITY**



### NAODEN

**NAO**ned (NANTES)  
« **D**éveloppement **É**nergétique »  
(energy development)



**90%** of manufacturing at the  
« Grand-Ouest » area

## FUNDRAISING 750 000 €

- **300 000 €** AN IMPORTANT ENERGY ACTOR + TECHNICAL  
SUPPORT & LOGISTICAL EXPLOITATION
- **250 000 €** WISEED & **350 INVESTORS**
- **200 000 €** REGION OF « PAYS DE LA LOIRE »



# WHO MIGHT BE INTERESTED ?

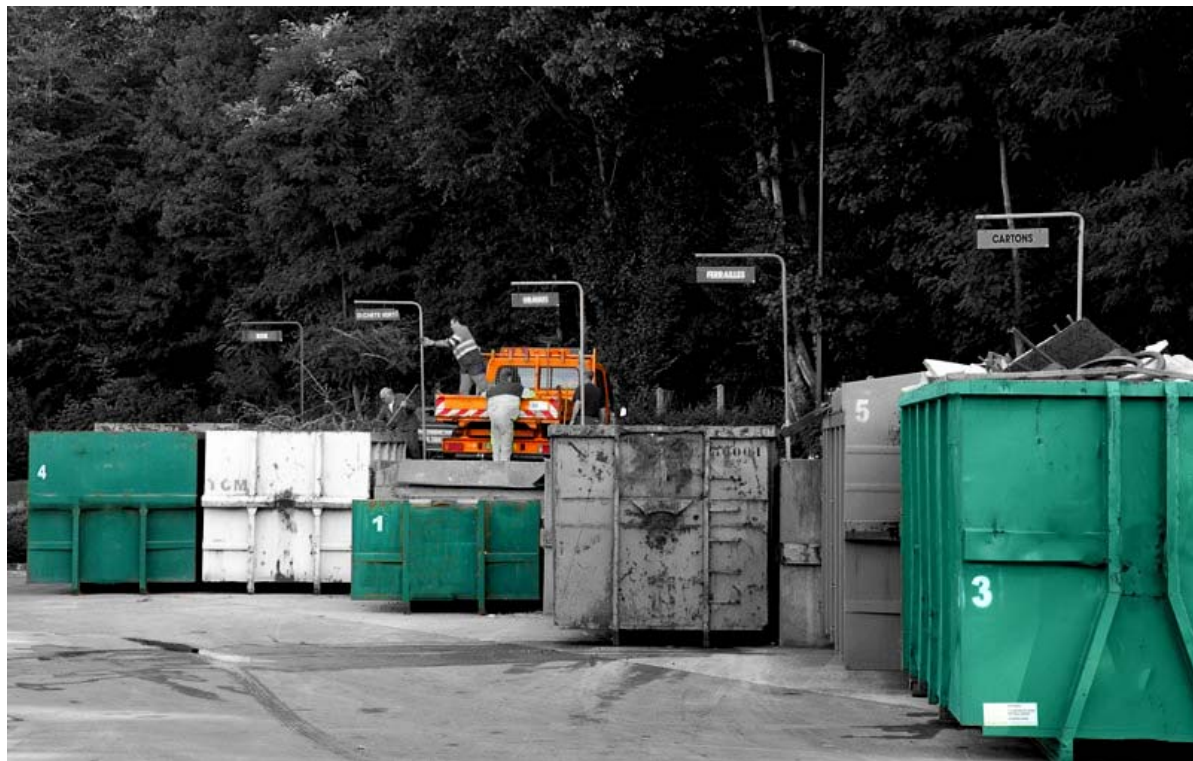
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**SWIMMING POOL**



**INDUSTRY**



**WASTE PLATFORM**



**RETIREMENT HOME**

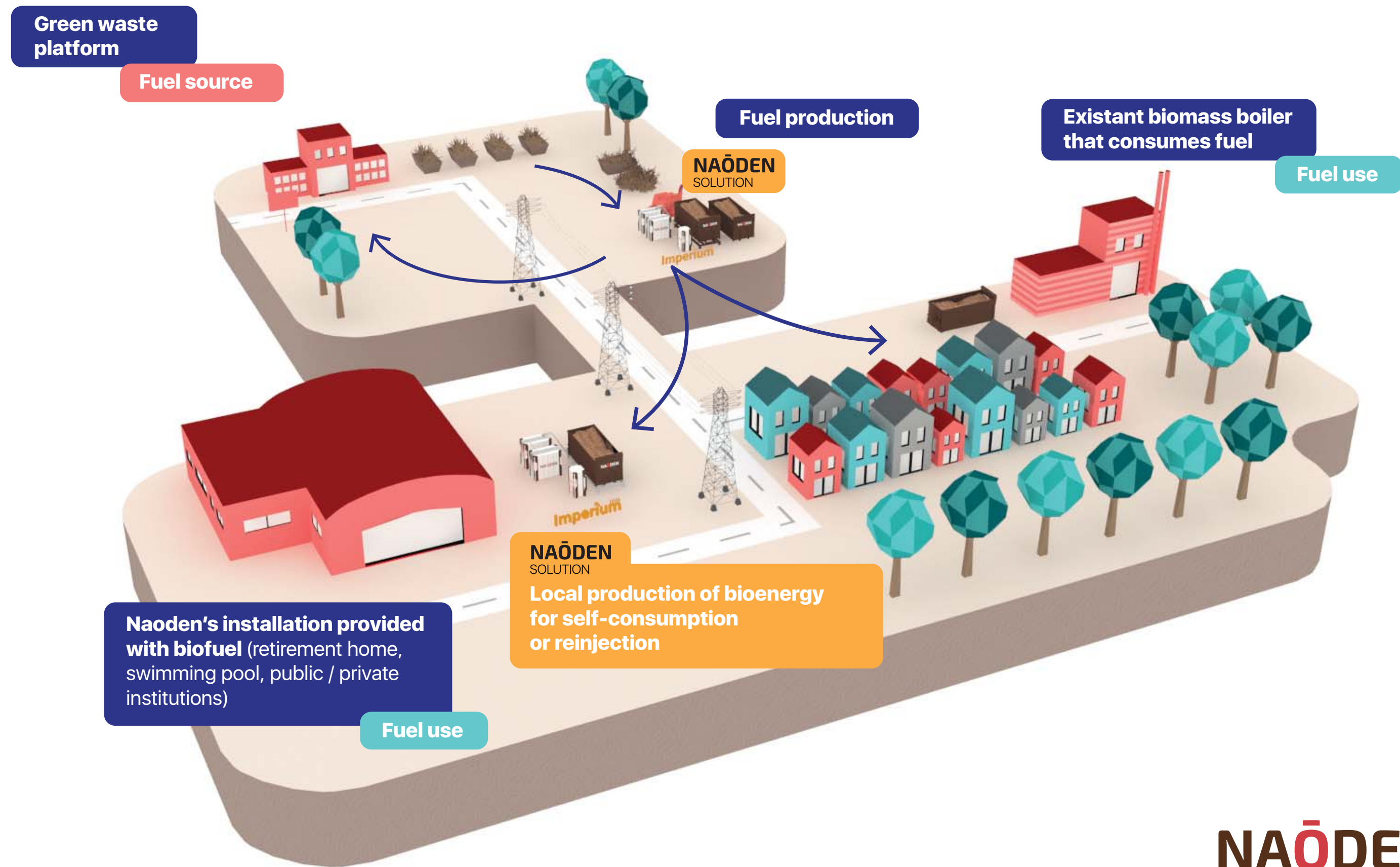


# OFFERS FOR PUBLIC INSTITUTIONS

## Producing **ELECTRICITY** and **HEAT** locally with your **GREEN WASTE**

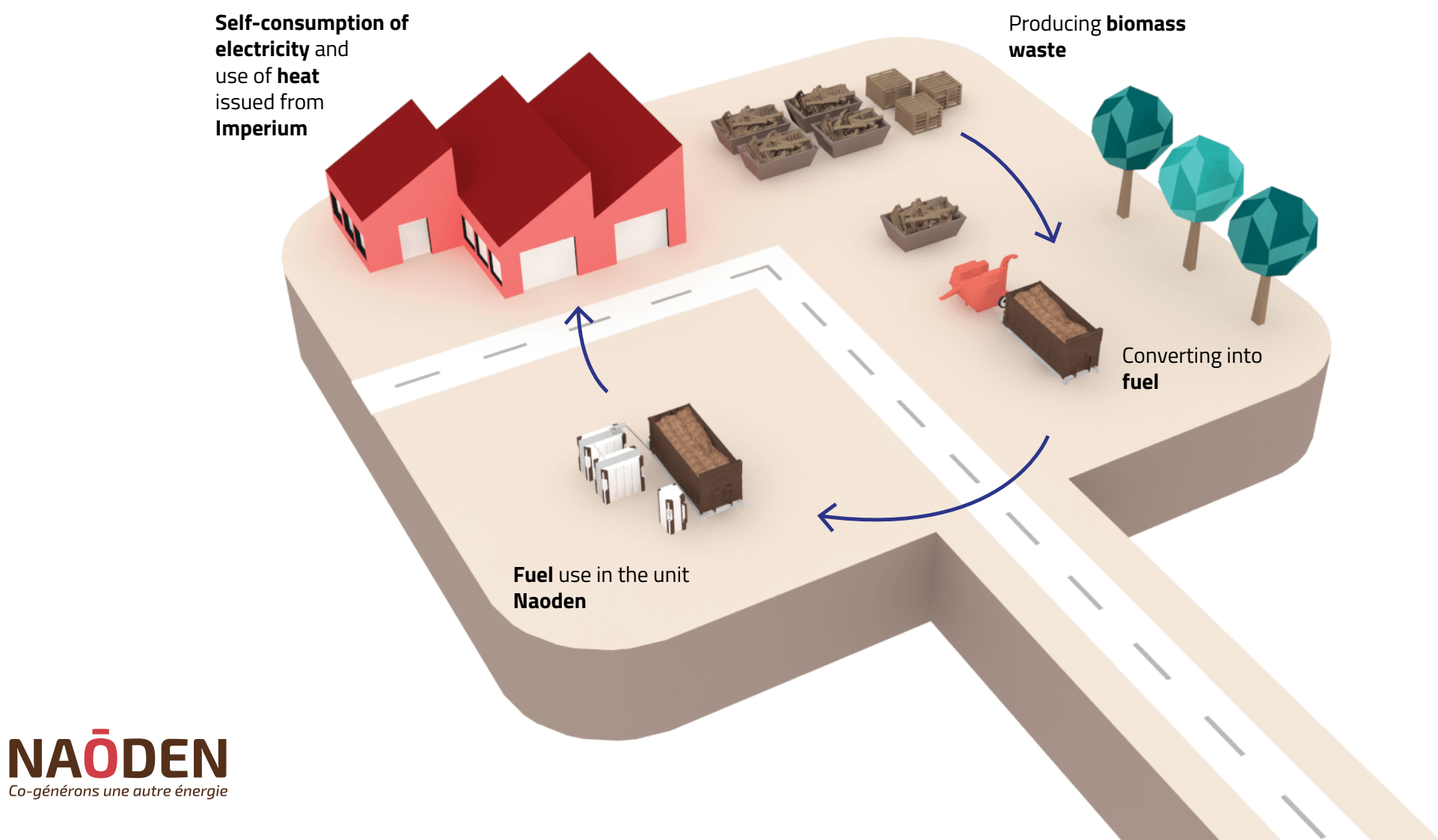
☐ **GREEN WASTE VALORIZATION = BIOFUEL PRODUCTION**

☐ **CIRCULAR ECONOMY = ENERGY SAVINGS**

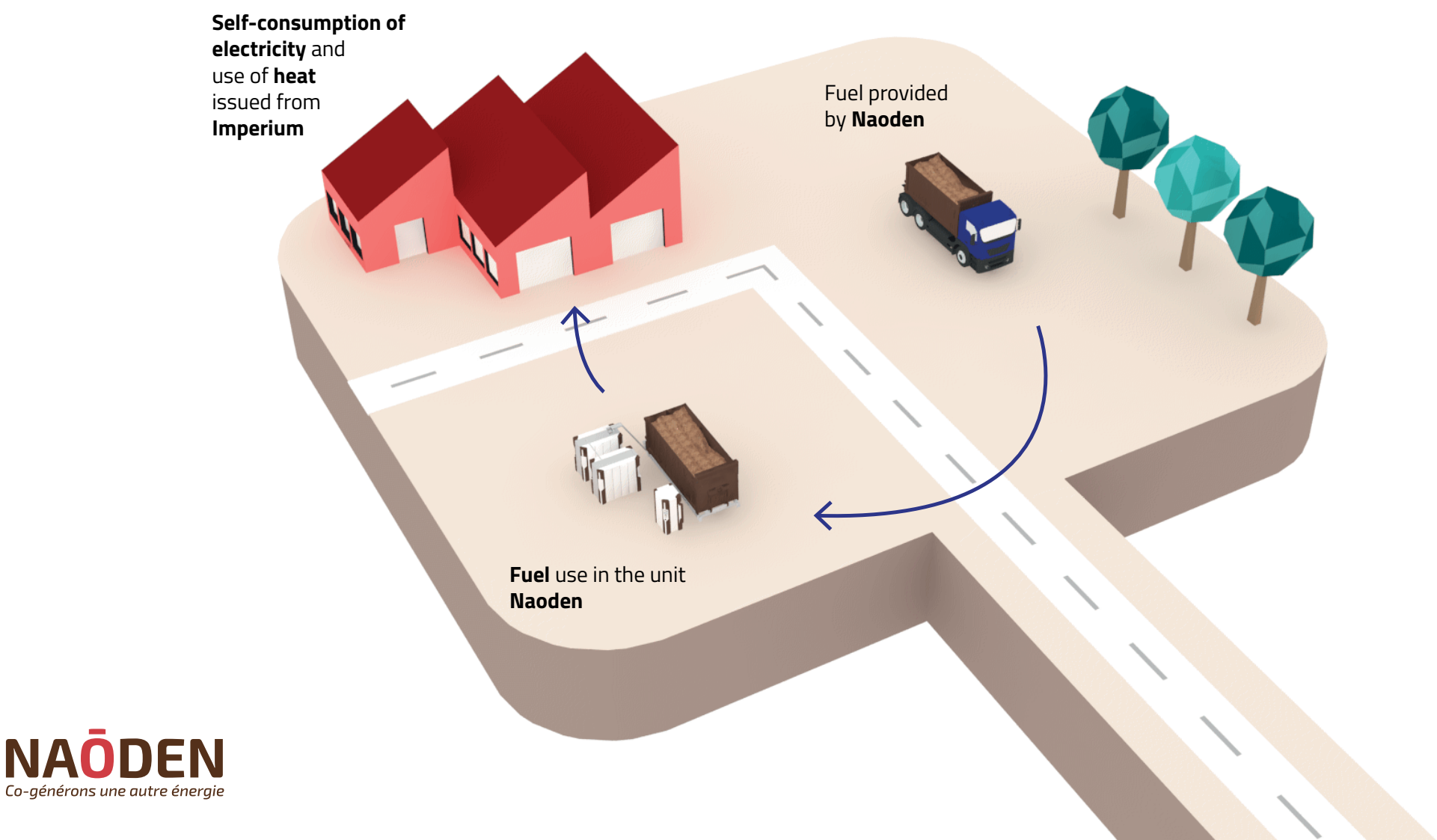


# OFFERS FOR THE PRIVATE SECTOR

## WITH VALORISABLE WASTE DEPOSIT



## WITHOUT WASTE DEPOSIT





**SOLUTIONS**

**PLUG-AND-PLAY** modules easily implanted « **Indoor | Outdoor** »



**Imperium**

**UGZ | UPE**

**70% heat | 30% electricity**

**Combined HEAT and POWER (CHP)**



**Nobilis**

**UGZ | BURNER**

**100% heat**

**Greening the use of gas for THERMAL process**



**BURNER**



POWER RANGE

Imperium

30 kW electrical  
60 kW thermal



100 kW electrical  
220 kW thermal



Up to  
500 kW electrical  
1100 kW thermal



Paralleling of modules

Nobilis

100 kW thermal



BURNER

300 kW thermal



BURNER

Up to  
1,5 MW thermal

Paralleling of modules



BURNER

## STRONG POINTS OF NAODEN

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FULL SERVICE APPROACH = **USE VS EQUIPMENT**



FUEL MANAGEMENT + TECHNOLOGIES + EXPLOITATION



GUARANTEE | OVERALL RESPONSABILITY



# FUEL QUALITY

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DRYING & STORAGE UNIT  
(USS) **MOVING**

## CHARACTERISTICS

- **PARTICLE SIZE 0/80mm MAX**
- **MOISTURE CONTENT < 20%**

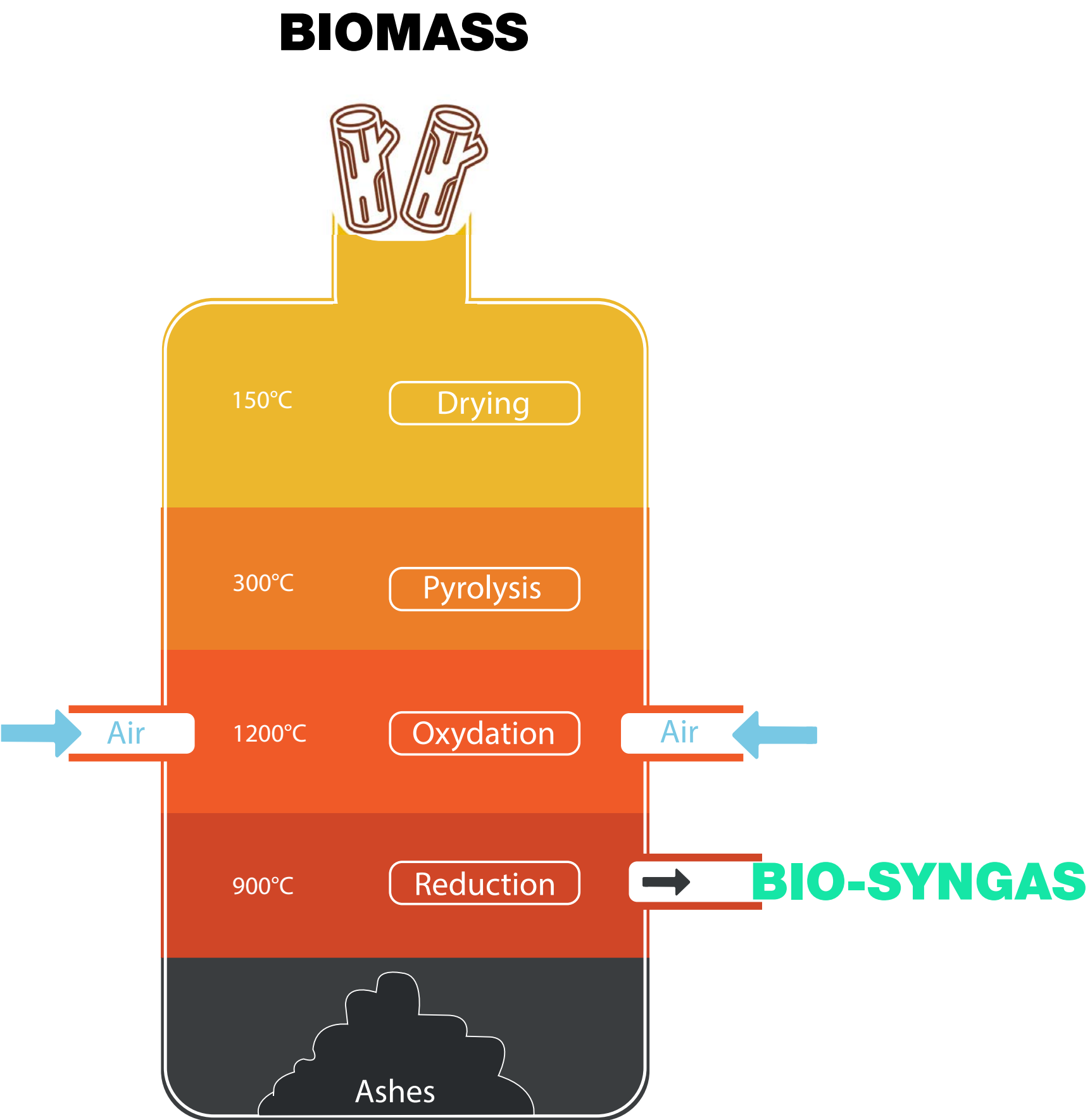
## ADVANTAGES

- **SIMPLIFIED** SPECIFICATIONS
- **LOWER** COST

# OUR PROCESS : GASIFICATION

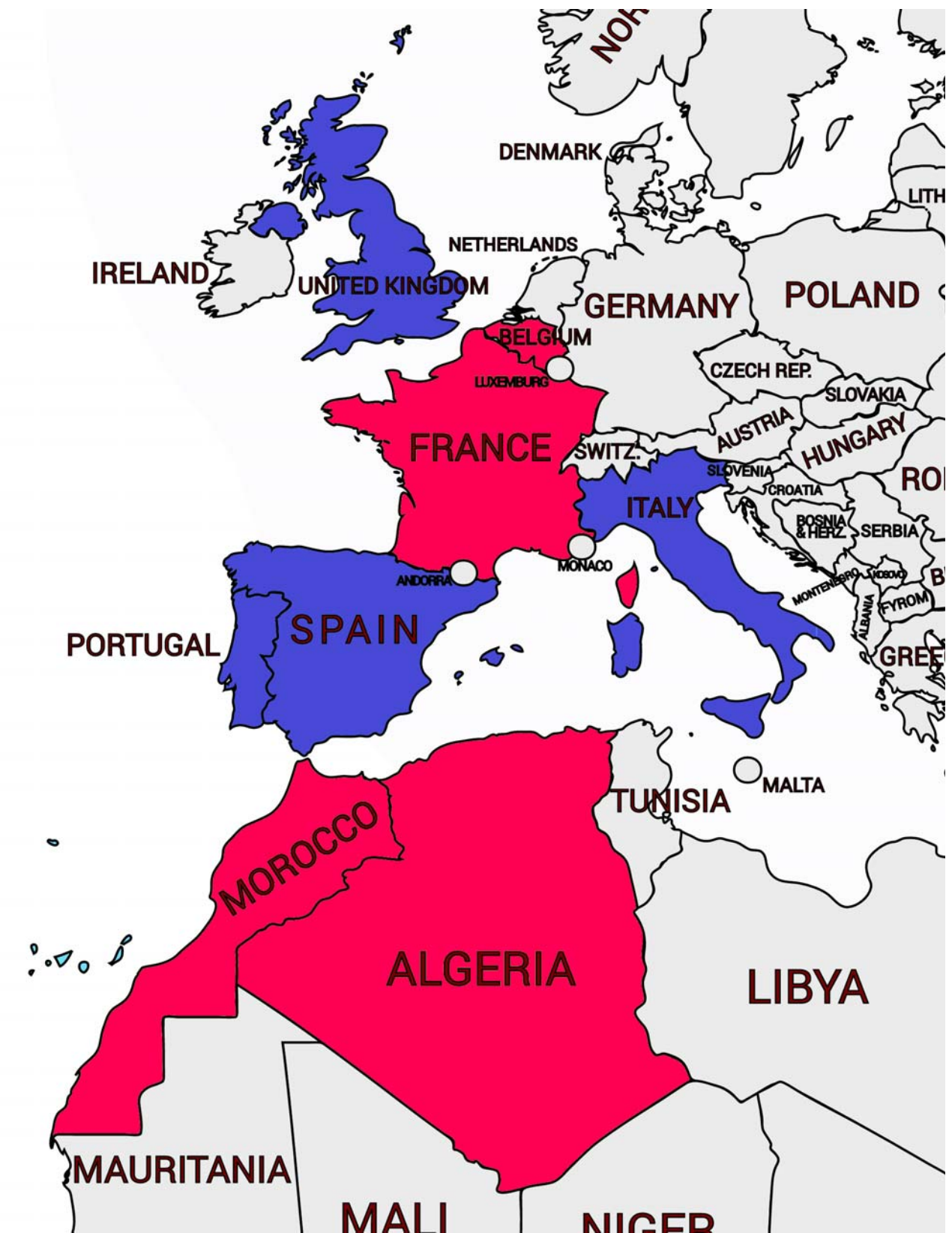
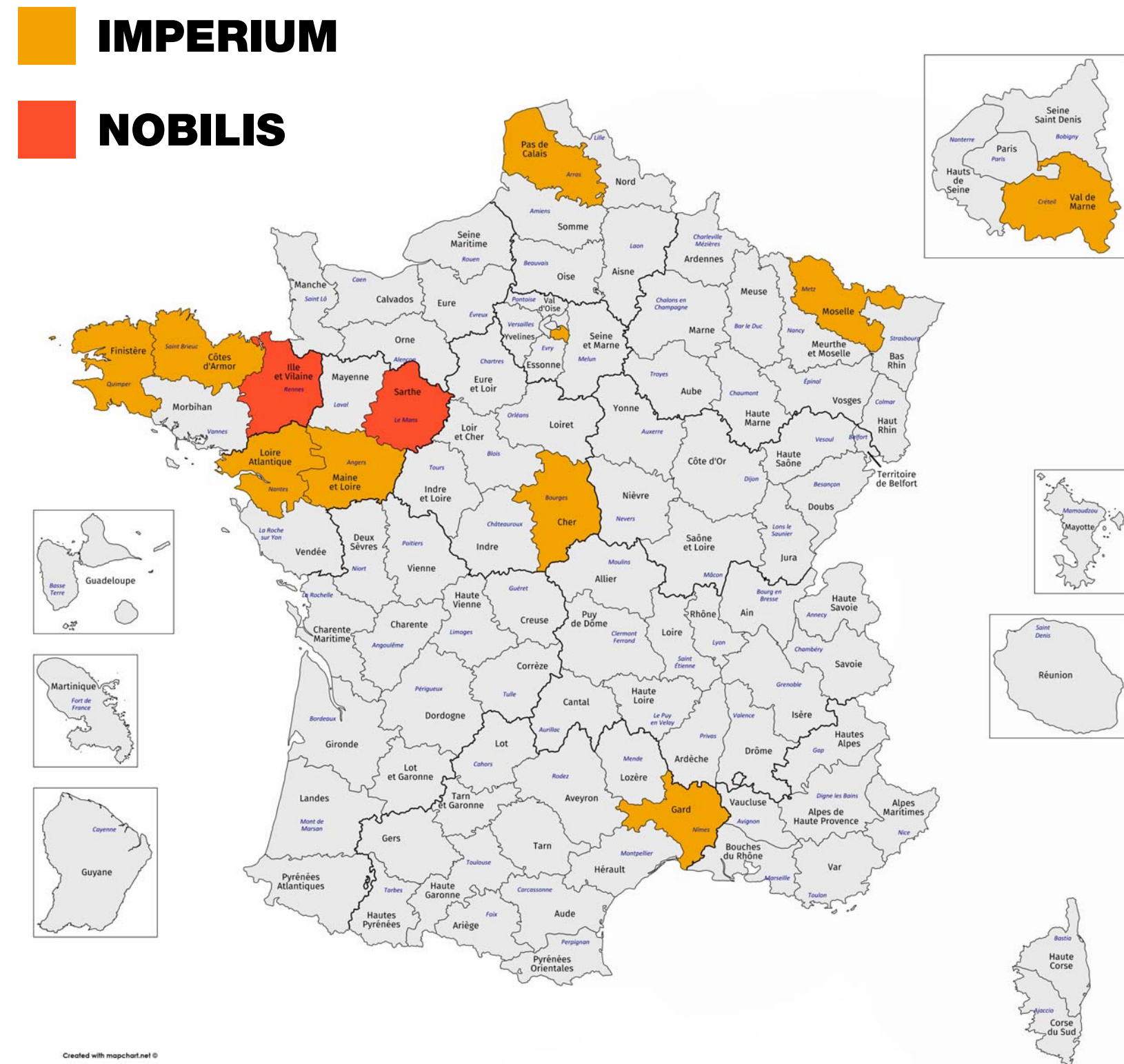
**NAODEN'S SOLUTION** is halfway between a **BIOMASS BOILER** and an **ANAEROBIC DIGESTER**

	BIOMASS BOILER	NAODEN GASIFICATION	ANAEROBIC DIGESTER
INTRANTS	Carbon biomass wood waste wood chips	Carbon biomass wood waste wood chips	Organic biomass food waste manure
PROCESS	Thermal combustion	Pyro-gasification BIO-SYNGAS	Anaerobic digestion BIOGAS
EMISSIONS	Large fumes containing fine particles	Very small amount CHP	Very small amount CHP
RESIDUES	Ashes 4%	Biochar 3%	Digestate 90%





# THEY TRUSTED US



## IN BRIEF NAODEN IS...

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❑ **BIO-SYNGAS** = GREEN ENERGY

❑ CHP with **Imperium** or THERMAL PROCESS with **Nobilis**

❑ **SELF-CONSUMPTION** and energy **AUTONOMY**

❑ **LOCAL** converting of WASTE into ENERGY = **CIRCULAR ECONOMY**

❑ Modular design **PLUG-AND-PLAY** = adaptability to each project

❑ **OVERALL APPROACH** related to the use

❑ SAVINGS in euros and in tonnes of CO2 = **VIRTUOUS CIRCLE**