



Avec vous,  
en réseau



# SEDIGAS

Smart Gas Grids

Christian Buffet  
Chief Technical Officer  
*christian.buffet@grdf.fr*

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**1. GrDF key figures**

**2. Smart Gas Grids drivers**

**3. Smart Gas Grids functionalities**

**4. Short term and long term action taking**



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# The 4 main missions of GrDF, a leading European natural gas distributor

**To transport natural gas on a nondiscriminatory basis on behalf of all suppliers**

**Secure the quality, the safety and the economic performance of the distribution network**

**To provide public service in natural gas distribution under franchise agreements with local governments**

**Ensure the cost-effective development of the network for many users to access**



# GrDF Highlights

Customers

Network length

Communities served

Volume delivered

Investment

Workforce

> 11,000,000  
customers



# GrDF Highlights

Customers

Network length

Communities served

Volume delivered

Investment

Workforce

194,000 km

i.e. 5 times the Earths'  
circumference



# GrDF Highlights

Customers

Network length

Communities served

Volume delivered

Investment

Workforce

# 9,500

Accounting for 77% of the French population



# GrDF Highlights

Customers

Network length

Communities served

Volume delivered

Investment

Workforce

350 TWh  
delivered every year





# GrDF Highlights

Customers

Network length

Communities served

Volume delivered

Investment

Workforce

700 million €  
invested in our grid every year



# GrDF Highlights

Customers

Network length

Communities served

Volume delivered

Investment

Workforce

12,000  
employees



# Contents

**1. GrDF key figures**

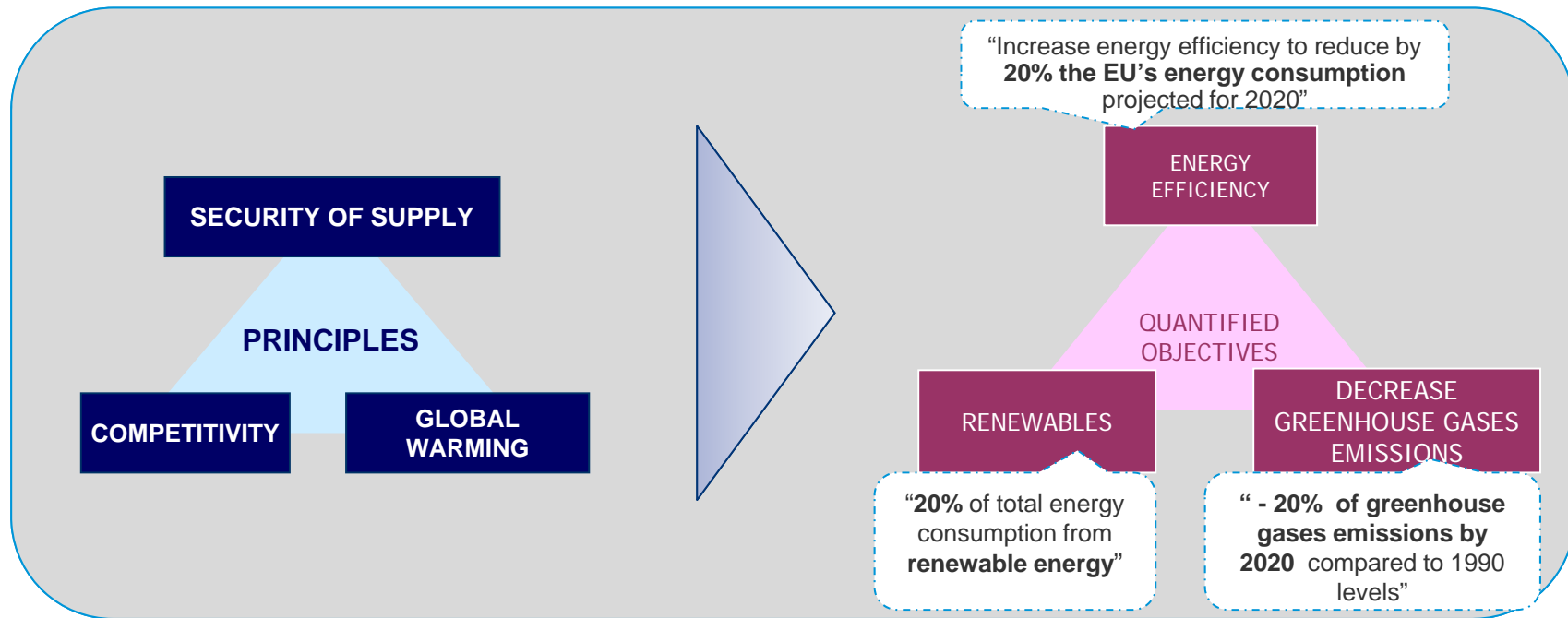
**2. Smart Gas Grids drivers**

**3. Smart Gas Grids functionalities**

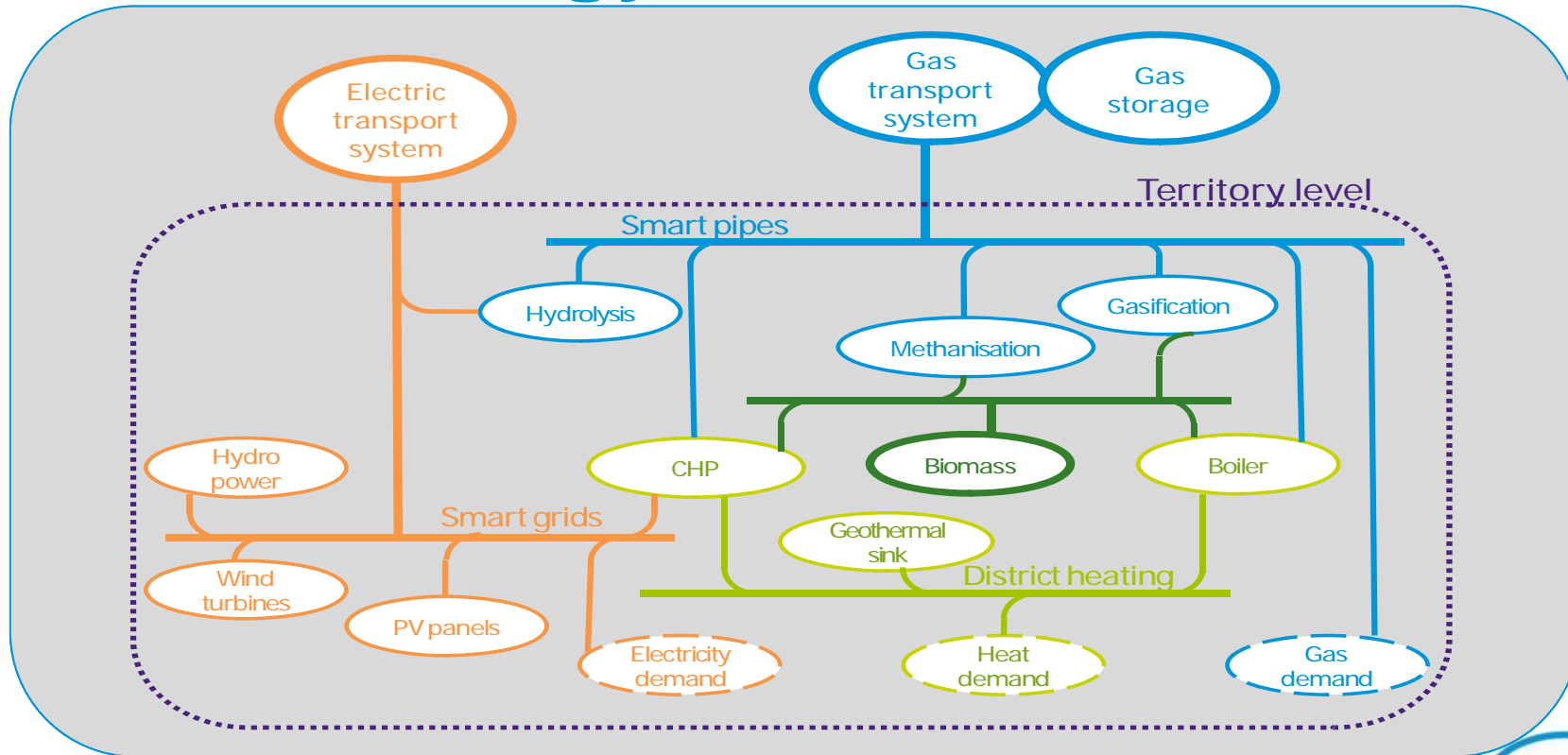
**4. Short term and long term action taking**



# European high level targets



# Smart-energy networks



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**1. GrDF key figures**

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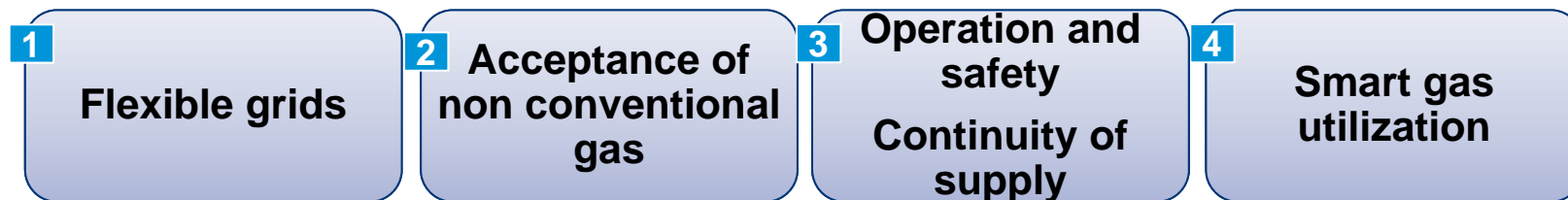
**3. Smart Gas Grids functionalities**

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# 4 macro-functionalities defined at European level

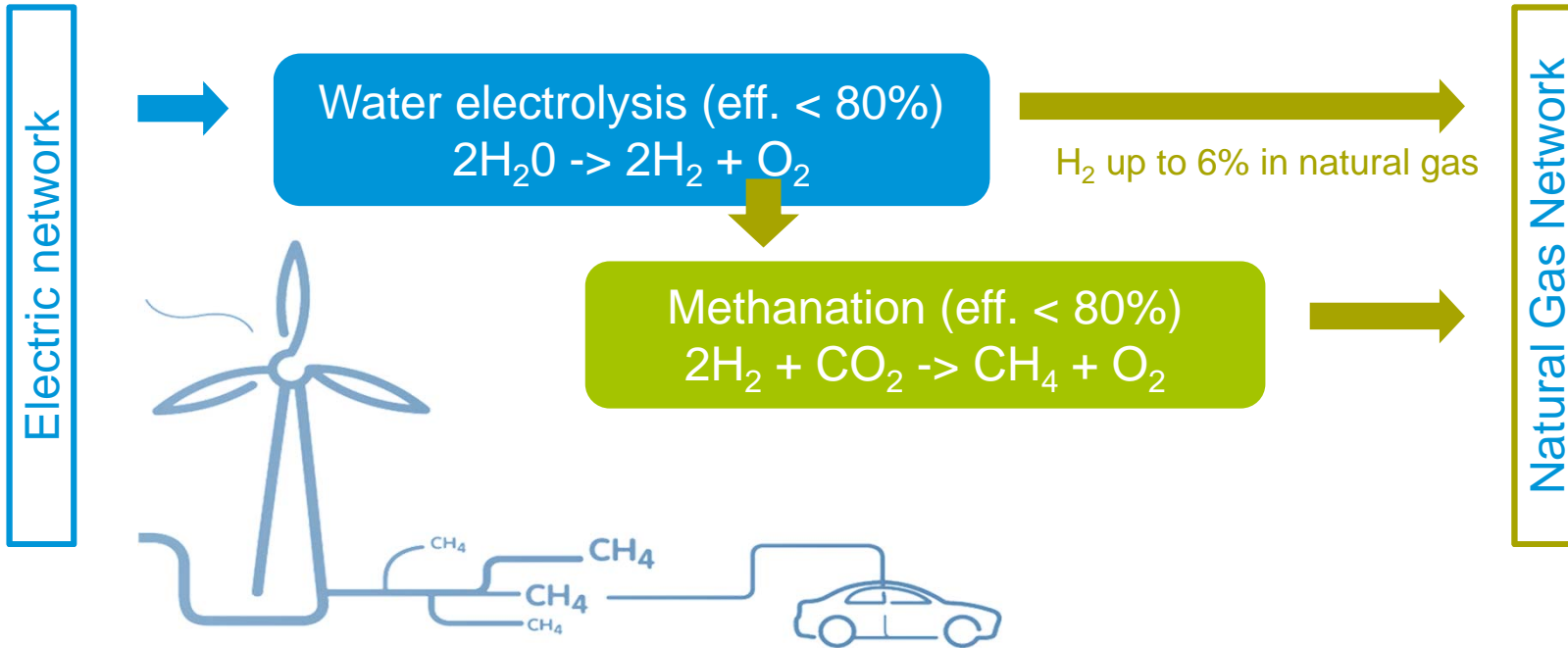
2011 TF Smart Grid –EG4 conclusion on smart gas grids functionalities



1

Flexible grid

# Gas grids as energy storage and flexibility provider





2 Acceptance of non conventional gas

# Example of Lille Sequedin green gas injection

First grid injection in 2011 at Lille-Sequedin green waste processing plant



.. And more than 300 projects of biomethane injection received by GrDF



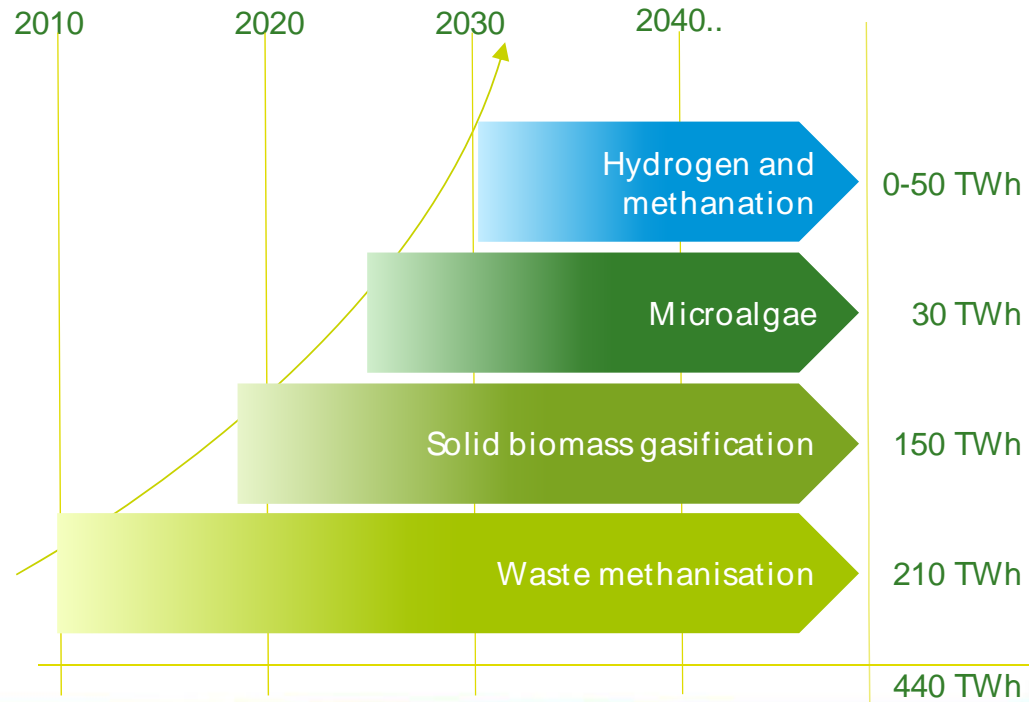
**2** Acceptance of non conventional gas

# Greener gas grid : toward a 100% renewable gas in 2050 ?

French technical potentials of green gases are similar to actual natural gas consumptions

14 % of green gas supply by 2030 is a sound objective

French technical potential



**3** Operation and safety  
Continuity of supply

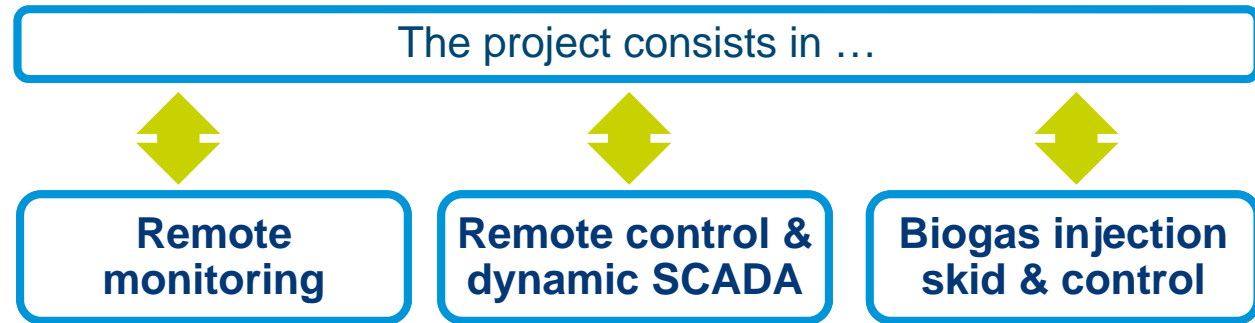
## Objectives

**1** Security of supply

**2** Optimization of operation

**3** Biomethane injection

# GrDF Smart pipes project

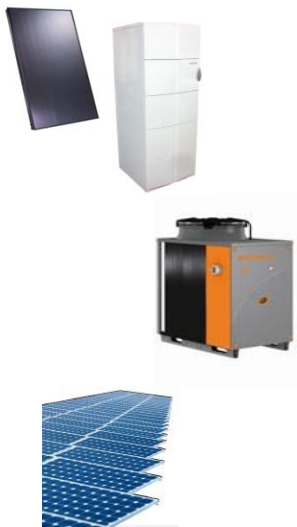


4

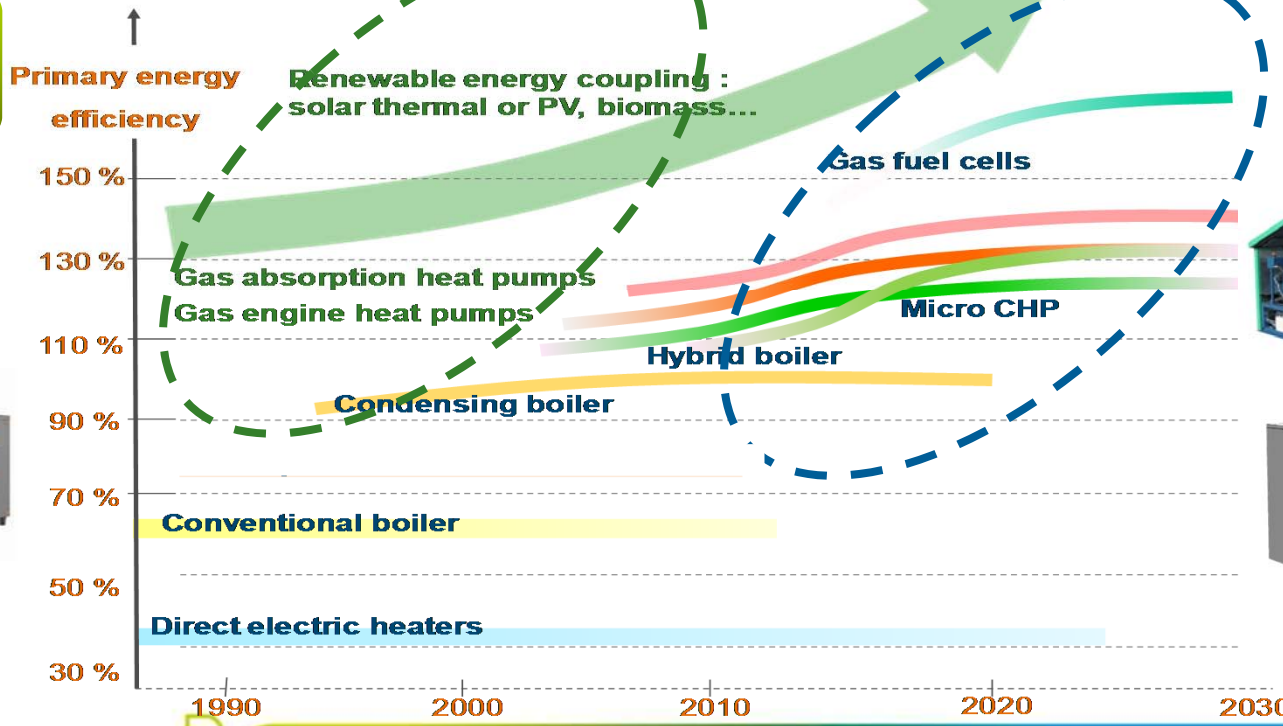
## Smart gas utilization

# Decentralized energy generation : the future of gas utilization

### Gas + RES

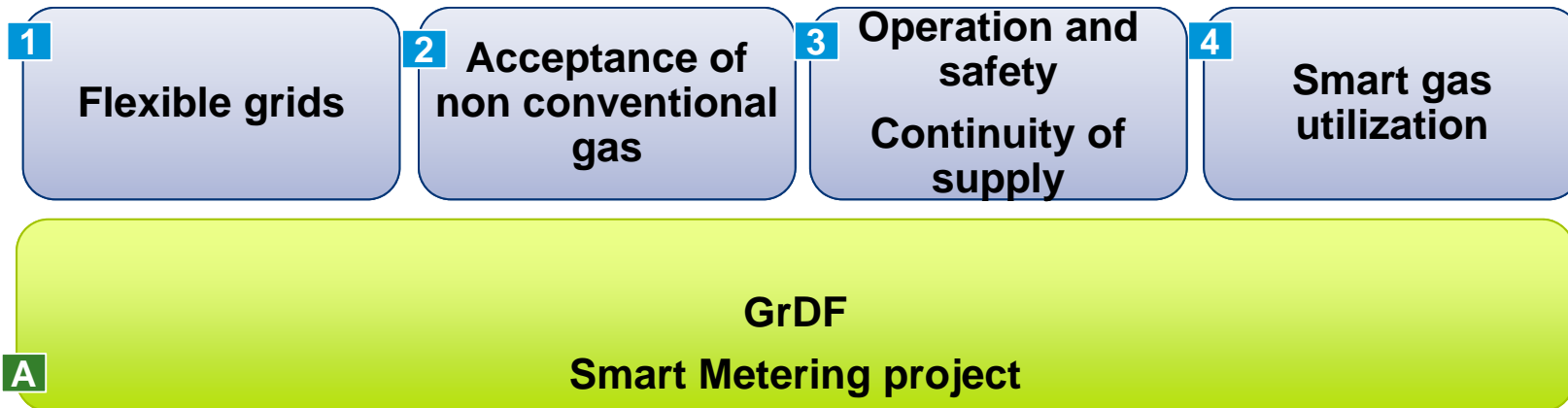


### CHP & hybrid



# Overall view on GrDF gas smart grid project

2011 TF Smart Grid –EG4 conclusion on smart gas grids functionalities



Smart-metering is not essential for smart gas grid but is a key project for customers empowerment and as such, part of GrDF vision



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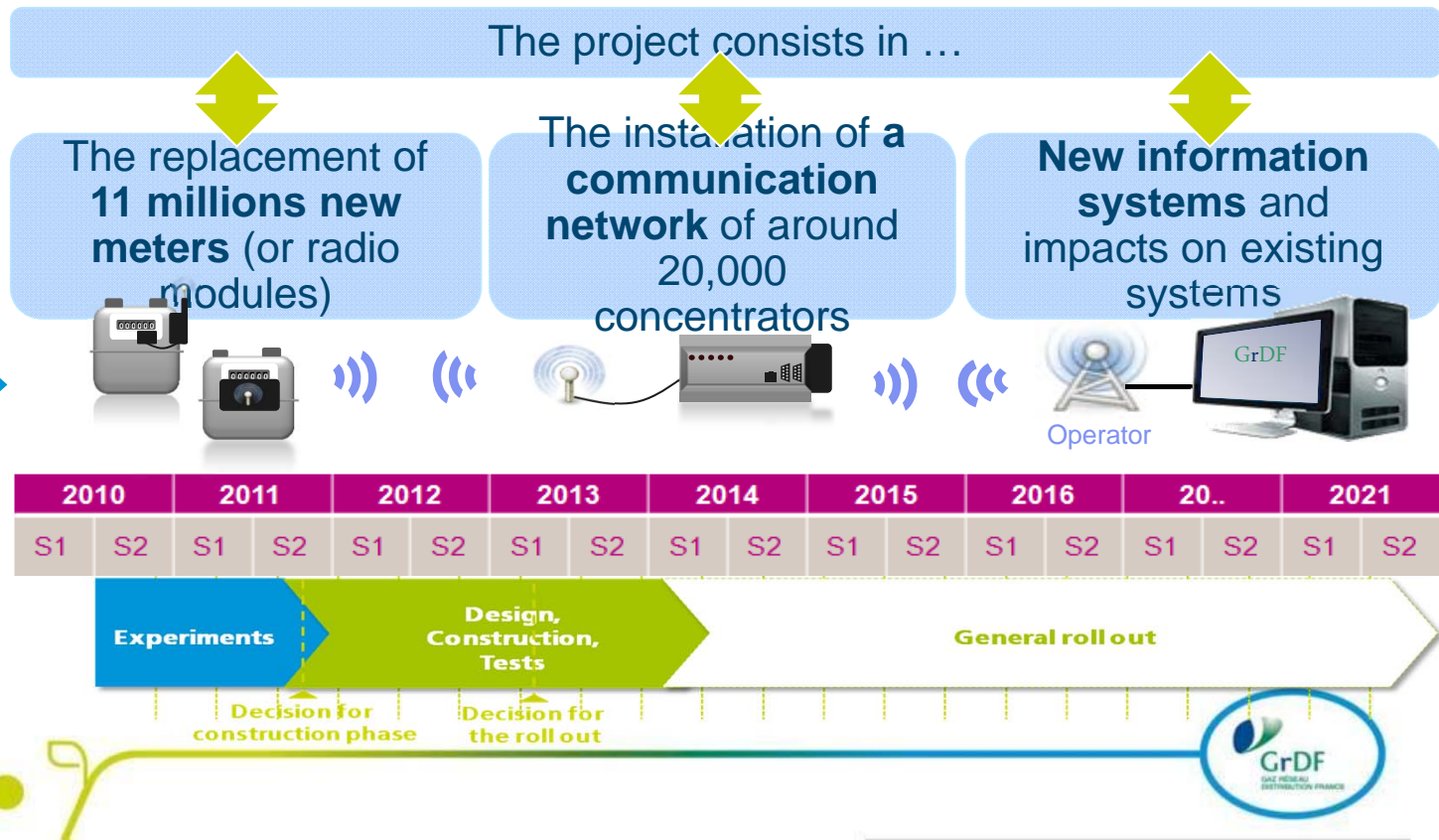
**4. Short term and long term action taking**



**A** GrDF  
Smart Metering  
project

# Roll-out of smart-meters for 11 millions customers

- 1 Customer satisfaction
- 2 Energy savings
- 3 DSO's efficiency





# From remote monitoring to SCADA



## 3000 operational devices

- Mainly used for remote monitoring
- Local information systems
- Centralized network management and operations thanks to 30 Area Operational Management (AOM) centers



## First stage

### Industrialization of remote monitoring

- Remote monitoring of medium and low pressure pipelines
- Remote cathodic protection monitoring
- Centralized information system
- AOM centers in charge of supervision



## Second stage

### One single network monitoring and management tool

- Update and convergence of the decision-making tools
- Development and implementation of a SCADA



## Third stage

### Smart Pipe

- Active network management
- Convergence with Smart Metering infrastructure
- Biomethane injection management

2012

2015

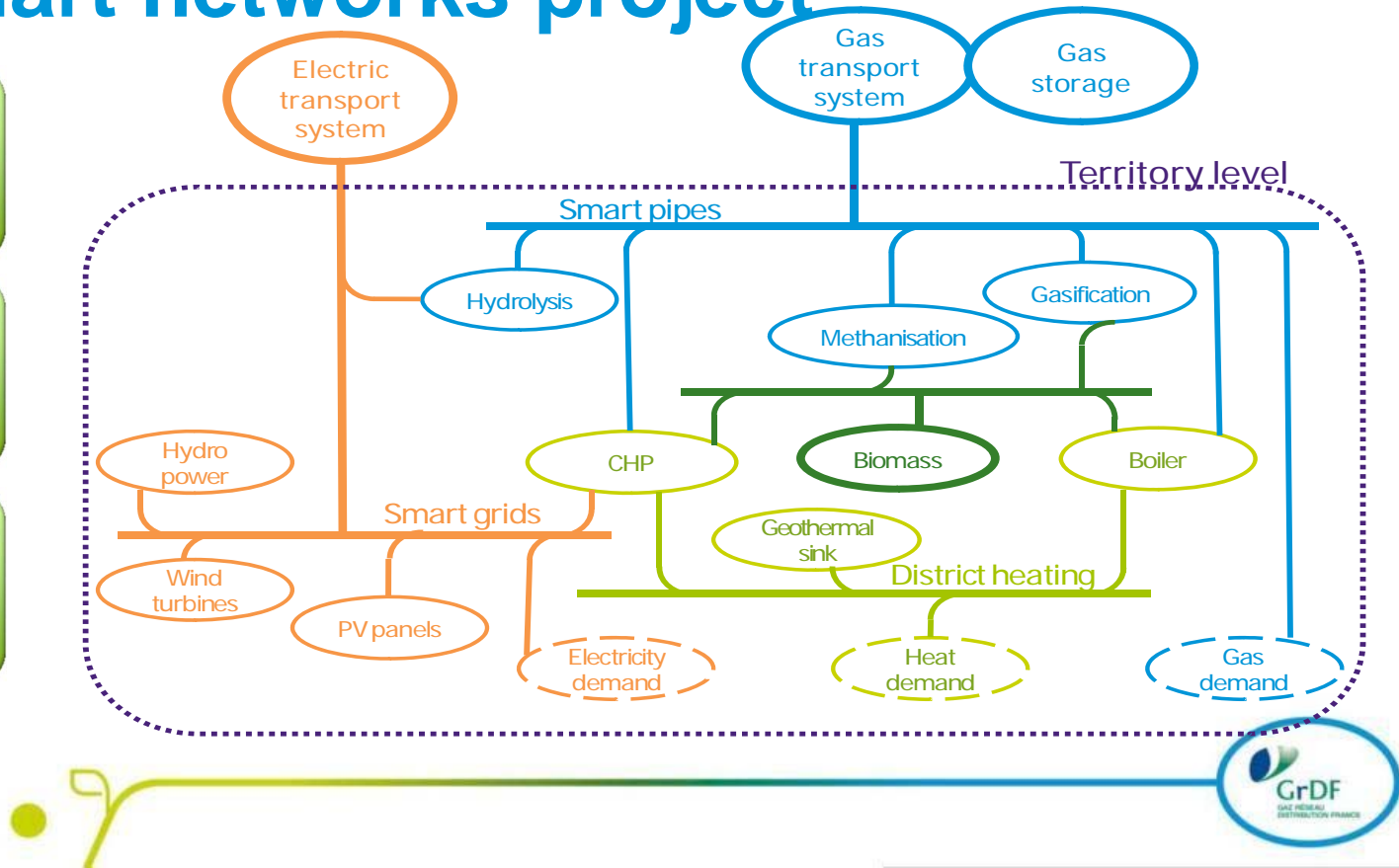
2017

2020



# Conclusion : the smart gas grid part of a wider smart networks project

- 1 Consumer empowerment
- 2 Improved energy efficiency
- 3 Biomethane injection



**Thank you for your attention**

**GrDF 2030 vision**

~4 minutes video

