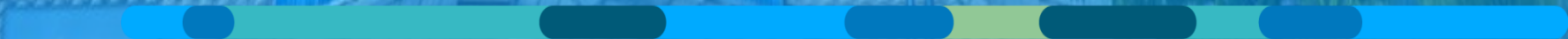




Smart solutions for sustainable cities

Jeroen Beks, Development Director

Isocarp Congress



Agenda

Part 1

Engie, an energy architect

Part 2

The context : how to address energy transition ?

Part 3

Solutions for sustainable smart cities

01

Engie, an energy architect

ENGIE



Key figures*

- **€74.7 billion** in 2014 revenues.
- **152,900** employees throughout the world
 - inc. **58,200** in power and natural gas
 - and **94,700** in energy services.
- **€6-7 billion** of net investment per year over 2014-2016.
- Operations in **70** countries.
- **900** researchers and experts at **11** R&D centers.

* At December 31, 2014.

Three expanding businesses

Power

- **No.1** independent power producer (IPP) in the world.
- **No.6** supplier in Europe.
- **115.3 GW*** of installed power-production capacity.*
- **10.5 GW*** of capacity under construction.*

Natural gas

- **No.3** seller of natural gas in Europe.
- **No.3** LNG supply portfolio in the world.
- **No.1** distribution network in Europe.
- **No.2** transport network in Europe.
- A supply portfolio of **1,296 TWh**.

Services

- **No.1** supplier of energy efficiency services in the world.
- **230** district cooling and heating networks throughout the world.
- **140** million m² managed in the tertiary sector.

* Including 100% of capacity of assets held by the Group at December 31, 2014, regardless of the actual holding rate.



The context : how to
address energy transition ?

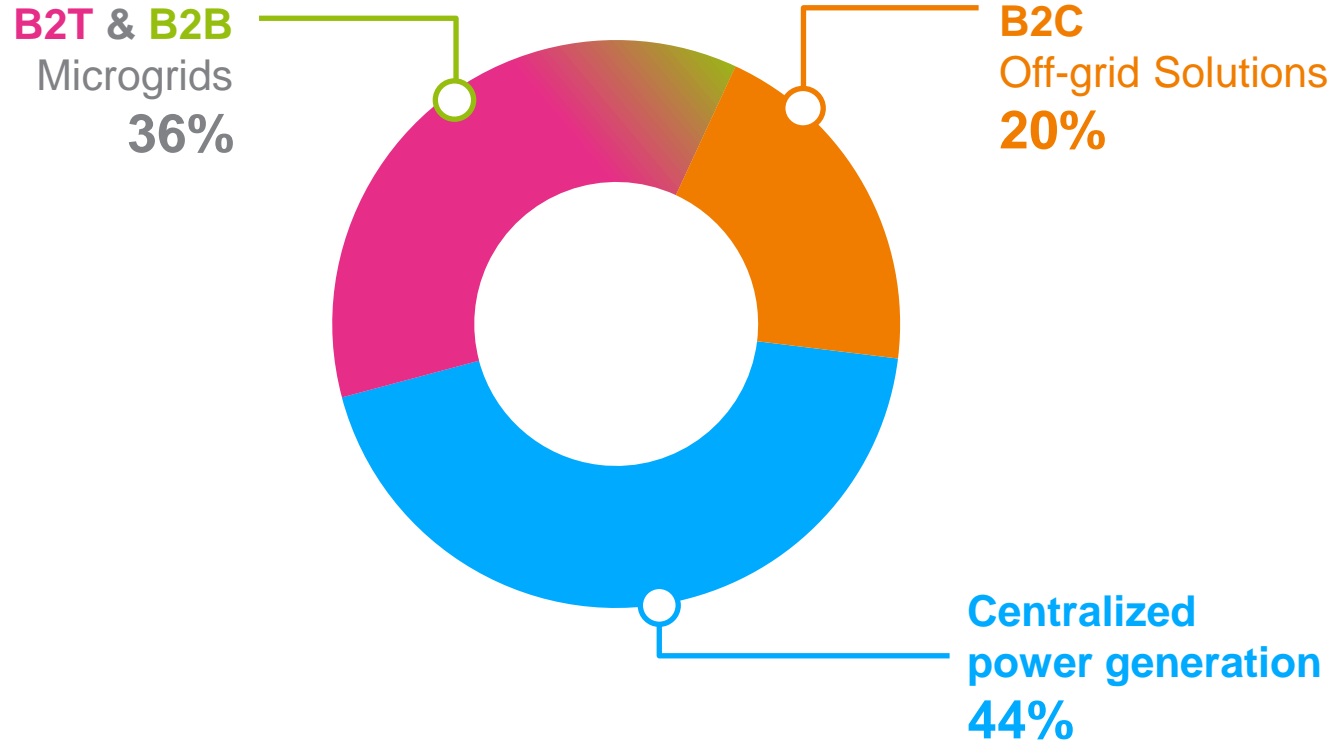




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The Energy Transition, an issue of balance

IEA SCENARIO “ENERGY FOR ALL” 2030

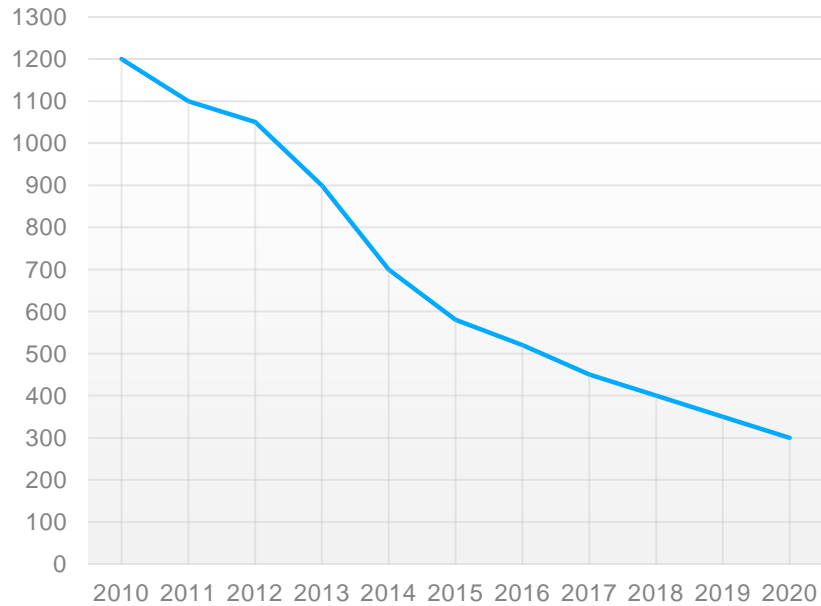


Source: IEA, Energy for All, 2011

PV & battery prices are decreasing rapidly

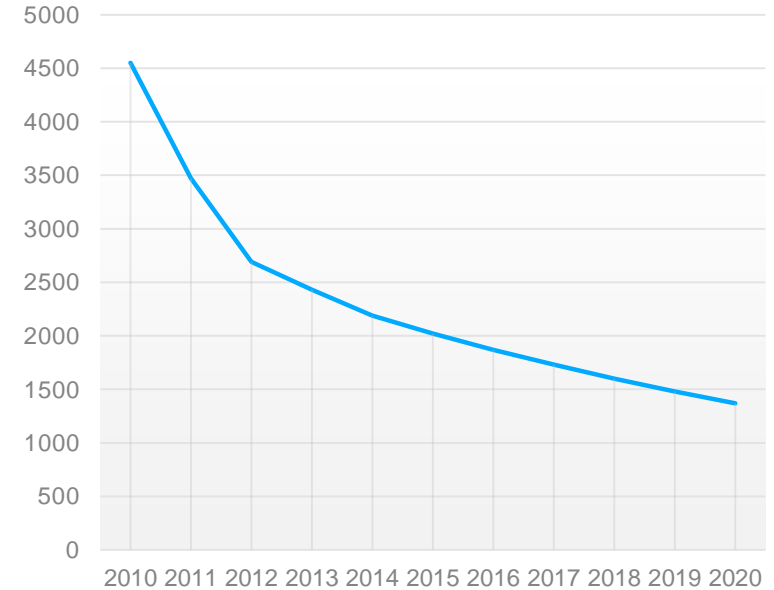
PV and Battery price decrease will lead to a massive residential PV market

Li-ion battery module price (DC side)
USD/kWh



Source: IHS EU report Jan 2015

Installed PV costs (global average)
USD/kWp



Source: Clean Edge Inc

Source: IHS, Bloomberg 2015

03

Smart solutions



Smart solutions, a question of behaviour

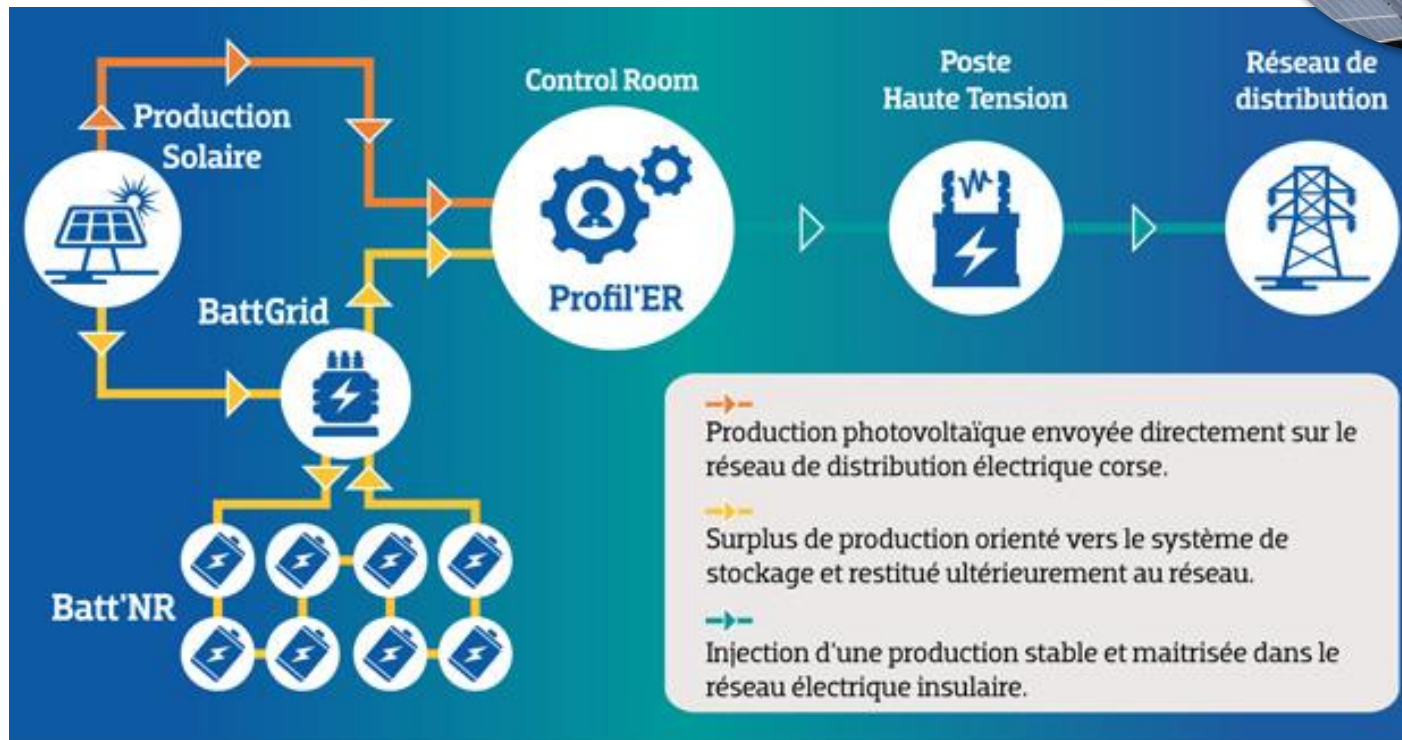


Focus on Mobility : the Mobile2040 Study
Brussels, Belgium



Smart solutions, a question of convergence

Focus on a solar smart grid : An innovative power plant combining power generation and smart management of solar energy



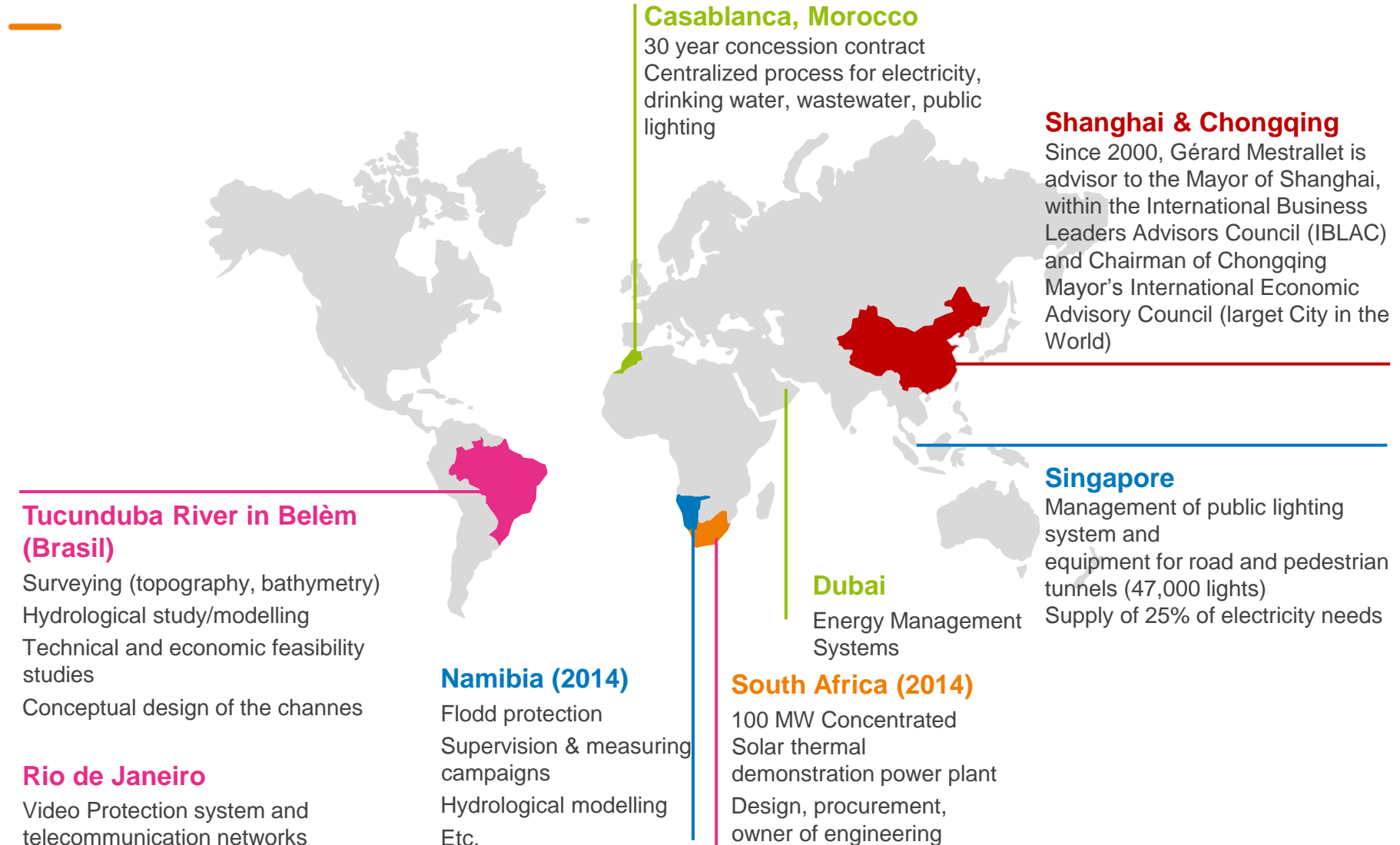
Smart solution, a question of data

- Focus on data management : An innovative platform to save energy, water, waste and carbon.



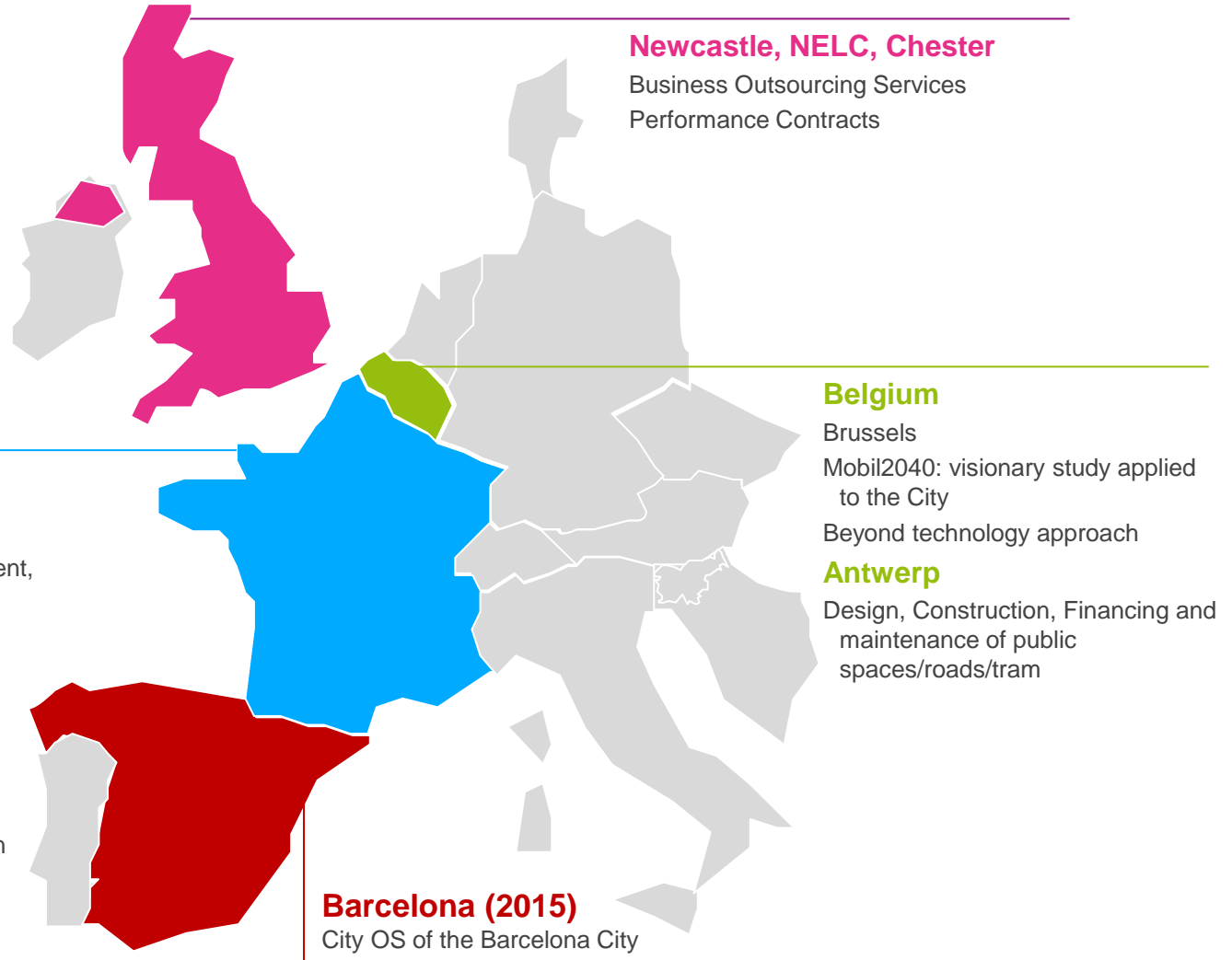
City of Tomorrow references

A worldwide overview



City of Tomorrow references

A European overview



Our commitment

- At the UN Climate summit in New York, September 23 and 24, Gérard Mestrallet (CEO ENGIE) announced the environmental objectives:
 - 50% increase in its installed capacity in renewable energy 2009-2015
 - 40% increase by 2018 in its energy efficiency activities in Europe
 - 10% reduction in its specific CO2 emissions by 2020.
- For the new urban agenda, ENGIE will join the Urban Campaign. We definitively work into implementing the energy transition throughout the world. .

**« Cities are people's future, the place
where tomorrow and civilization are built »**

Erik Orsenna



ENGIE

