HOW CO2 CHALLENGE IS HANDLED IN A LARGE BUILDING MATERIALS CORPORATION?

(BUHLER NETWORKING DAYS 2019)

***Patrick Dupin**, **VP Saint-Gobain,** CEO Northern Europe*

SAINT-GOBAIN

SAINT-GOBAIN HAS A MISSION

Saint-Gobain designs, manufactures and distributes **materials and solutions** which are key ingredients in the **wellbeing of each of us and the future of all**.

They provide comfort, performance and safety while addressing the **challenges of sustainable construction, resource efficiency and climate change**

SAINT-GOBAIN HAS A PASSION FOR MATERIALS

Expert employees

Innovative
and high-performance
materials

Customer intimacy

Materials for comfortable
and sustainable
buildings

WHAT: Flat Glass, Glass Fibers, insulation, Gypsum, Mortars, Pipes, Ceramics and High Performance Plastics

WHERE: Facades, Flooring, Ceiling, Partitions, Infrastructures, Transportation, Industry

SAINT-GOBAIN IS ENGAGED AND COMMITTED

IN € BILLION (2018)

42
Sales

4.3
Ebitda

€1.7bn
Investments for growth

ENVIRONMENTAL COMMITMENTS

-50%
of non-recovered waste,
0 long term

-80%
of waste water discharges in liquid form, 0 long term

Saint-Gobain appears for the first time on
CDP's Climate Change A List

-15%
of energy consumption

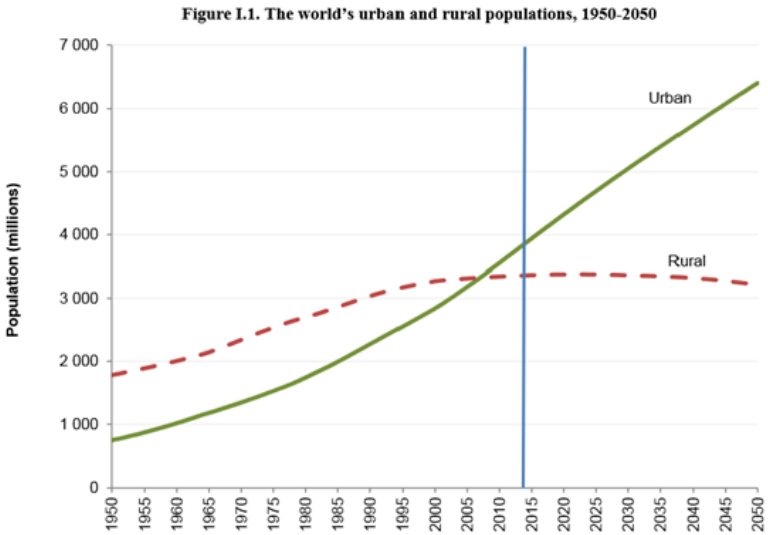
Extraction of
9,025,000
tons of virgin materials avoided in 2018

-20%
CO_2 emissions

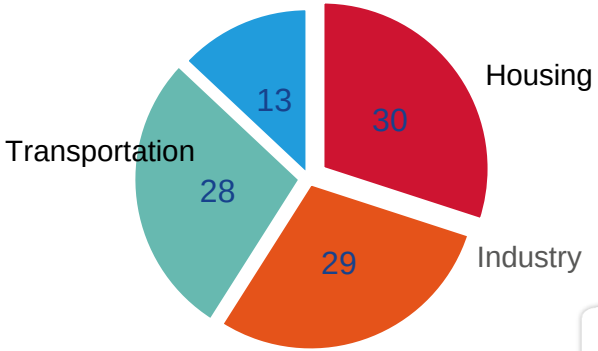
Internal carbon price
integrated into decision-making procedures on investments and R&D projects

Co2 Challenges in the Building environment

THE BUILT ENVIRONMENT



Repartition of CO2 emissions by activity (%)



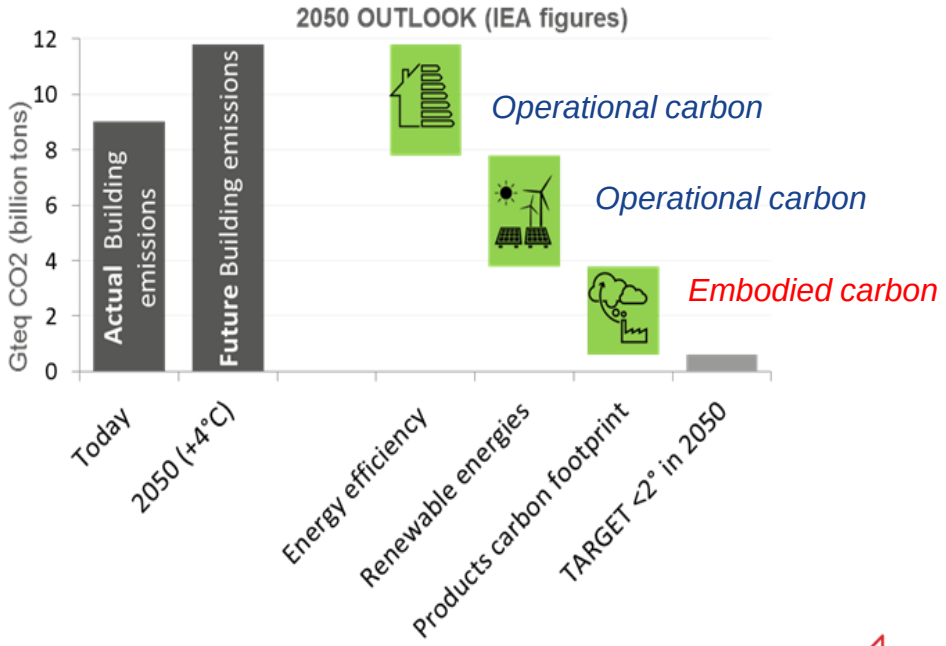
WE SPEND UP TO 90% OF OUR TIME INDOORS

LEVERS TO DECREASE CARBON EMISSIONS IN BUILDINGS

33% of energy consumption

40% of CO2 emissions

AN INCREASING FOCUS ON EMBODIED CARBON (FULL LIFE CYCLE APPROACH – NOT JUST USE PHASE)



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3 MAJOR AXES FOR EMISSION REDUCTION IN THE CONSTRUCTION MARKETS…

PRODUCT EFFICIENCY

CIRCULAR ECONOMY

PRODUCTION PROCESS

Co2 and product (energy) efficiency

PRODUCTS FOR ENERGY EFFICIENCY

3 MONTHS ON AVERAGE

The usage time it takes for our solutions to offset the emissions attributable to their production.

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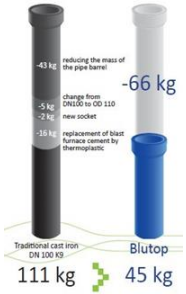
SOLUTIONS – LOW CARBON SOLUTIONS AND SERVICES

Products and solutions



Lightweight Products

LOW CARBON MORTARS

-56%
EMISSIONS CO_2

Services

TIPCHECK
Audit énergétique des installations industrielles

evoluvert
le transport responsable
GROUPE POINT. P

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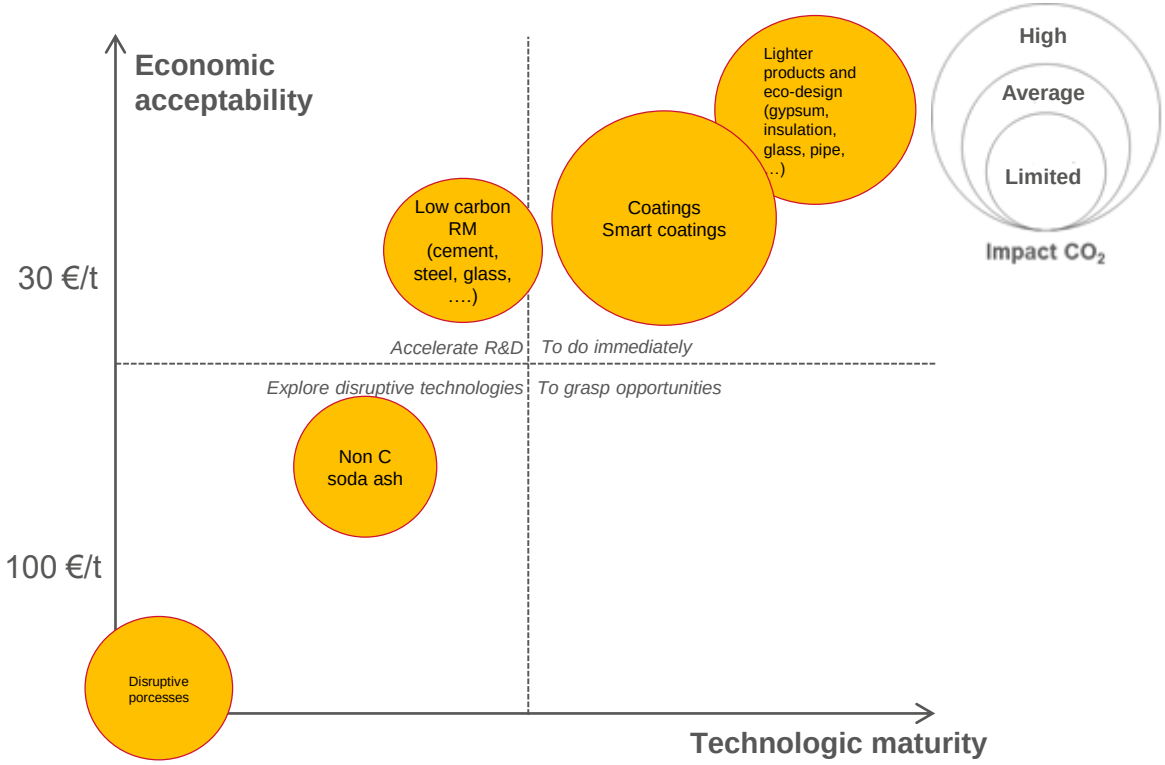
PRODUCT FORMULATION AND DESIGN FOR MORE EFFICIENCY



Co2 and Circularity

CIRCULARITY: TOWARDS BUILDINGS AS MATERIALS BANK

40% of raw materials used to manufacture building products and components

1st consumer of raw materials

40% of solid waste streams in developed countries from construction & demolition

THE CHALLENGE

- to design less resource intensive buildings
- to reduce the waste to landfill to zero by reusing or recycling materials in buildings

THE BENEFIT

More circularity normally means significantly less carbon emissions

THE CONCERN

- Hazardous substances in materials may hinder reuse and recycling
- The costs

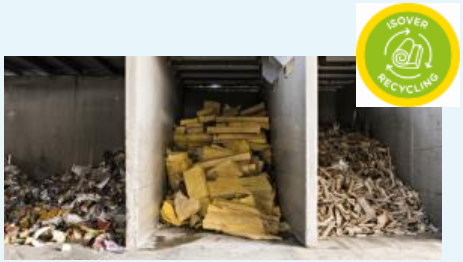
HOLISTIC APPROACH FOR MORE CIRCULARITY

KNOWLEDGE

OF THE ENVIRONMENTAL IMPACT OF OUR PRODUCTS

RECYCLING

RECYCLING SERVICES AND RECYCLED CONTENT



ECO - INNOVATION

TO CONTINOUSLY IMPROVE OUR PRODUCT PORTFOLIO

LIFE CYCLE ANALYSIS TO BE BACKED UP BY ENVIRONMENTAL PRODUCT DECLARATIONS

- Standardized methodologies (EN15804 and ISO 21930)
- LCA results published in an EPD and third party verified
- **Climate change – GWP** (*Global Warming Potential)* **indicator**
- 3 benefits
  - Objective communication
  - Comparison science based
  - Improvement of products (eco-innovation)

Co2 Challenges and production process
(and embodied Carbon)

CO_2 FOOTPRINT MANAGEMENT MATURITY

- **Scope 1** : **Direct emissions** of greenhouse gazes coming from the transformation of the raw materials used in our processes and from the usage of fossil fuels in our plants
  - **8,6 millions of tons of CO_2** in 2018
- **Scope 2** : **Indirect emissions (generated by our suppliers),** related to the usage of electricity and heat in our sites
  - **3,1 millions of tons of CO_2** in 2018
- **Scope 3 : All other indirect emissions, outside of our sites or related to our activities :** production and transport of raw materials, transport, usage and end of life of our products, etc.
  - **Estimated at 13,3 millions of tons of CO_2** (BD not included) in 2018. Full evaluation on-going with supply and transport of distribution

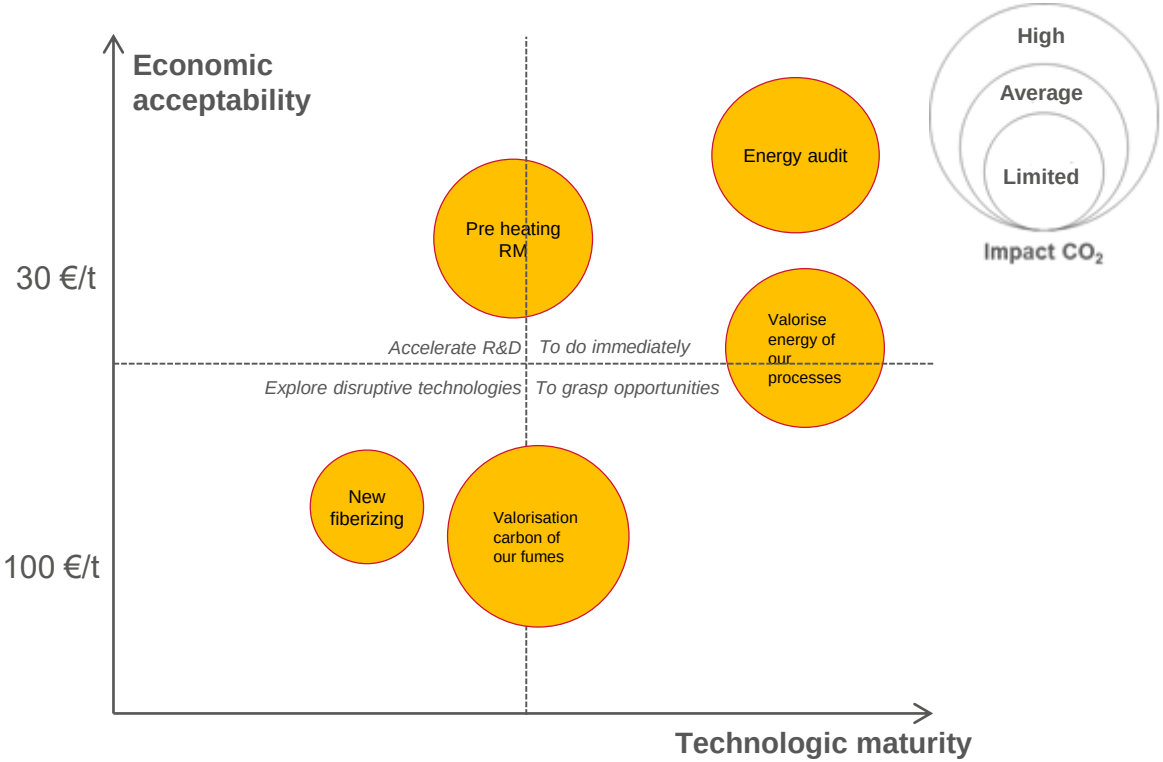
Maturity level

Direct emissions of CO_2 (scope 1, in Mt) in 2018 by main areas

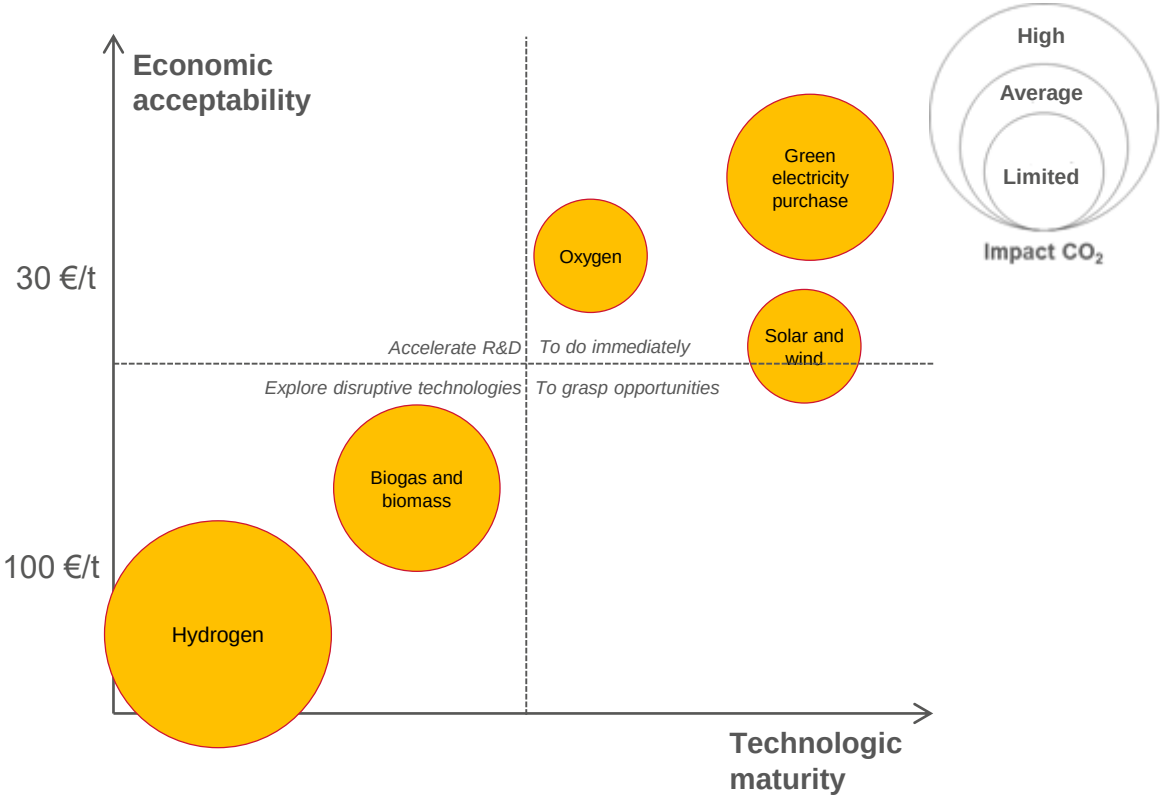
SG Objective : -20% scope 1 and 2 2025 vs 2010 (at iso-production)

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

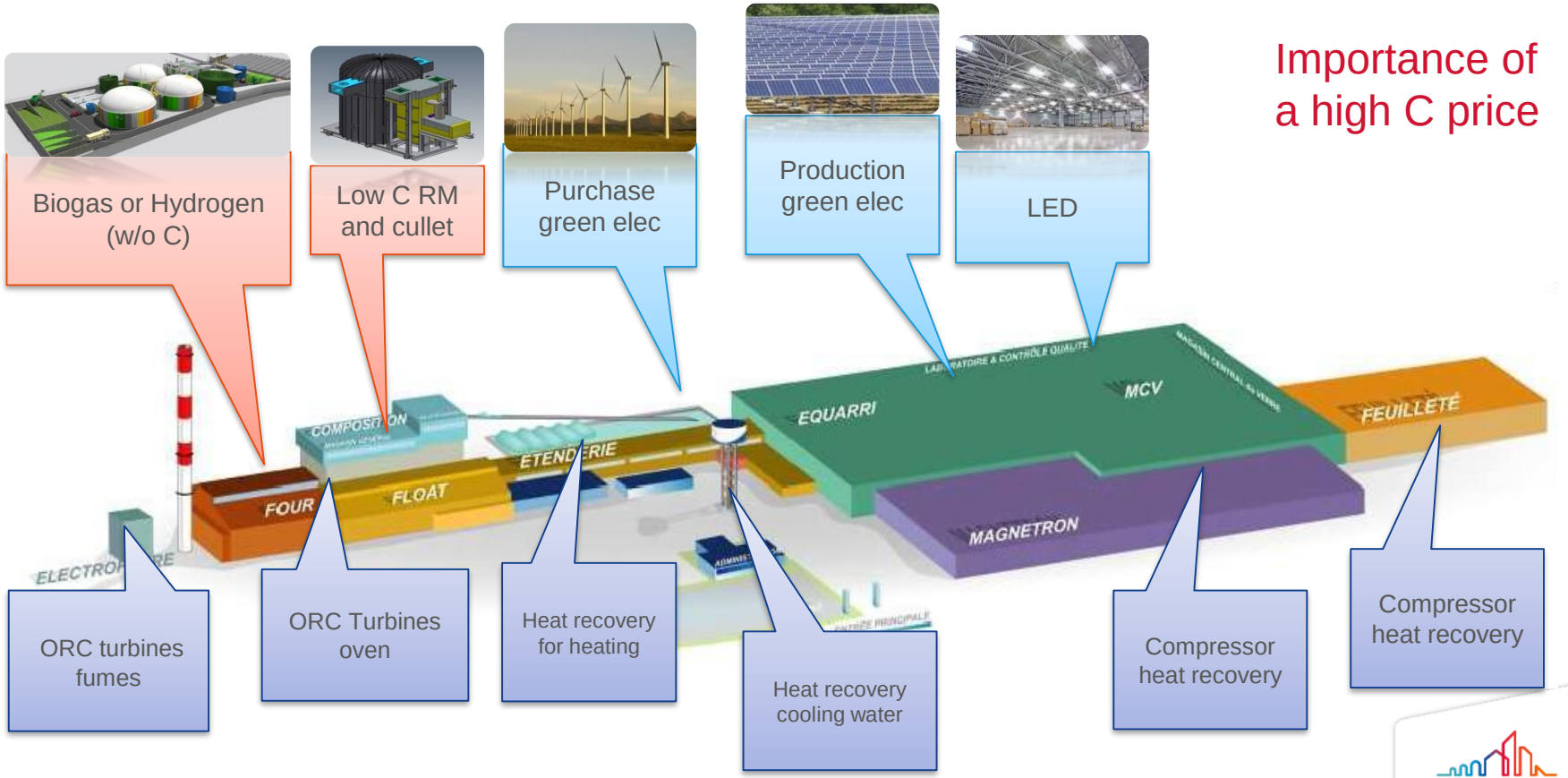
ENERGY EFFICIENCY AND REUSE OF FUMES



USE OF ALTERNATIVE FUELS



AN EXAMPLE OF A LOW CARBON PLANT



MANAGEMENT: CO_2 SHADOW PRICE

OPERATIONS
30€/tCO_2

For our Investments > 10M€

Energy consumption > 10GWh/year

In case of change of fuel

We consider a price/cost of Carbon of 30€/tCo2

=> **Strong impact in terms of awareness and pedagogy**

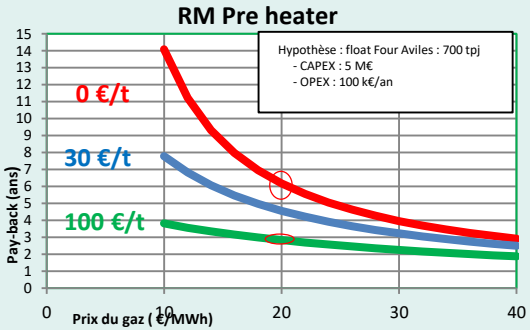
=> Alignment Operations and Strategy

=> Some projects modified

R&D
100€/tCO_2

=> Phase 1 and 2 (formulation and proof of concept)

=> **Significant impact**



MANAGEMENT: WALK THE TALK

CARE:4 BY SAINT-GOBAIN

New Headquarter US delegation **US, 2015**

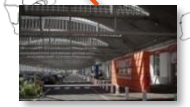
Habitat Lab **Italy, 2012**

Rigips & Habitat competence center Puchberg, **Austria, 2013**

New headquarter CE delegation **Germany 2015**

New HQ **France, 2019**

R&D center Capivari **Brazil, 2015**



SGBDF Pantin **France, 2015**

Extentions R&D center Shanghai **Chine, 2013**

BIG LITTLE MOVES BY SAINT-GOBAIN

Training, communication, LTI….

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KEY TAKE-AWAYS

- The Engagement of the Industrial Community is key: commit at high level!
- Energy efficiency in Buildings will come both from PUSH (norms) but as well from PULL actions (Industrial and leading stakeholders).
- Objectivisation and Certification of genuine Life Cycle Analysis through 3rd parties is an essential tool.
- To reach the 2c Limitation, all is needed: Efficiency, Renewable Energy, Circular and Embodied Carbon Savings.
- Make our employees proud of our vision, commitments and achievements.

THANK YOU !

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