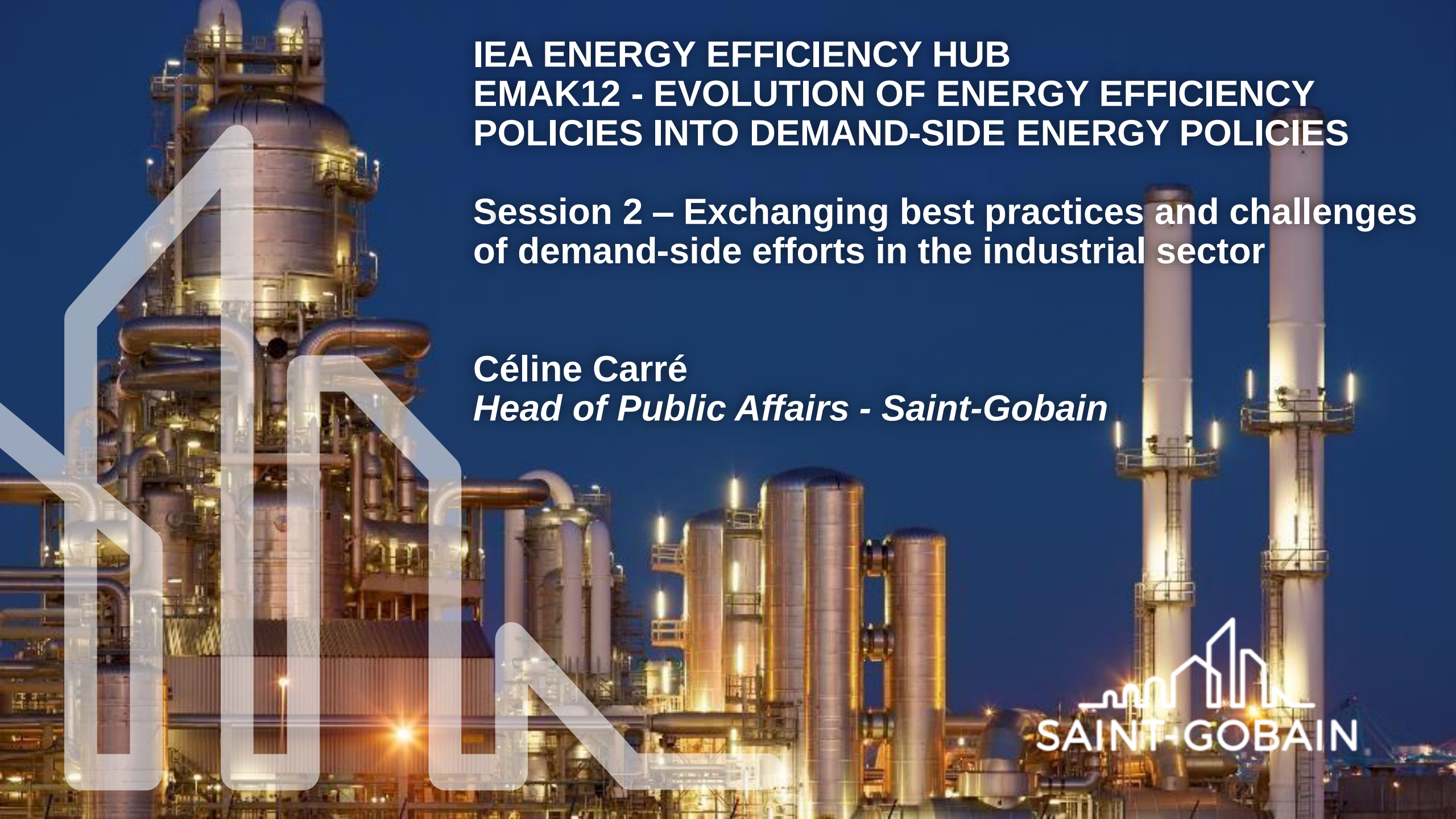


IEA ENERGY EFFICIENCY HUB
EMAK12 - EVOLUTION OF ENERGY EFFICIENCY POLICIES INTO DEMAND-SIDE ENERGY POLICIES

Session 2 – Exchanging best practices and challenges of demand-side efforts in the industrial sector

Céline Carré
Head of Public Affairs - Saint-Gobain

SAINT-GOBAIN

ABOUT SAINT-GOBAIN

Construction businesses – main brands

FLAT GLASS - GLAZING

SAINT-GOBAIN · vetrotech SAINT-GOBAIN

GYSPUM PRODUCTS

British Gypsum SAINT-GOBAIN · placo SAINT-GOBAIN · gyproc SAINT-GOBAIN · rigips SAINT-GOBAIN

INSULATION

isover SAINT-GOBAIN · Isonat

CEILING TILES

Ecophon SAINT-GOBAIN

TECHNICAL TEXTILES

ADFORS SAINT-GOBAIN

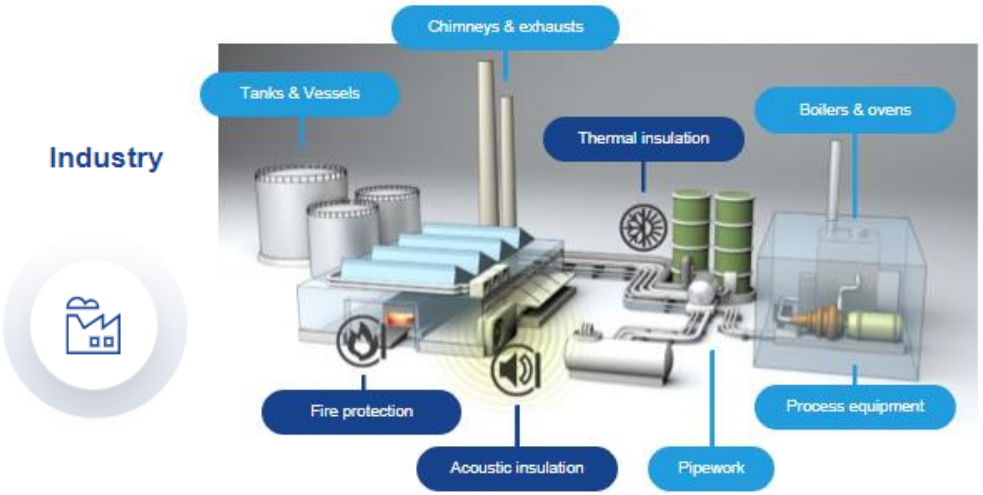
CAST IRON PIPES

pam building SAINT-GOBAIN

CONSTRUCTION CHEMICALS

weber SAINT-GOBAIN · CHRYSO SAINT-GOBAIN

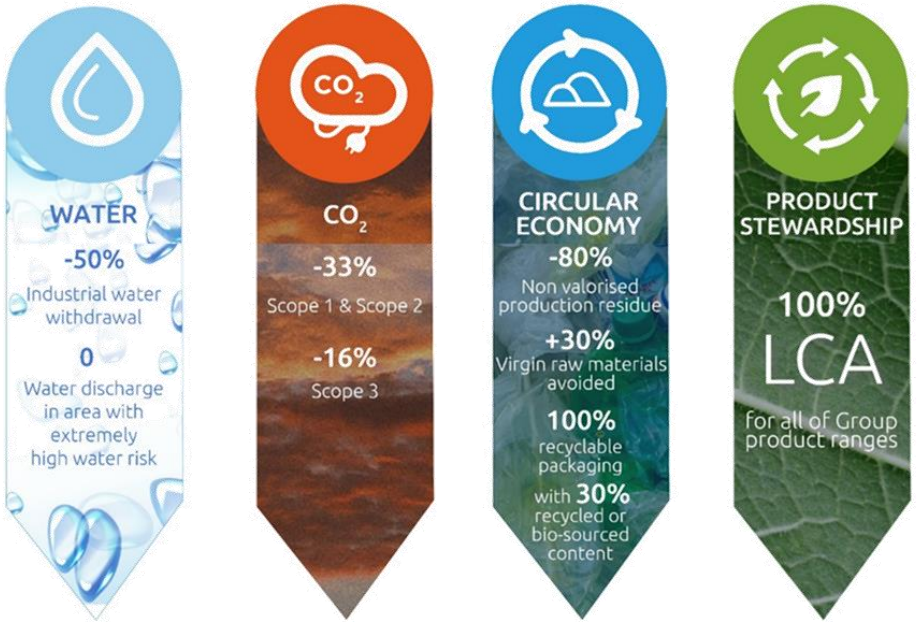
About Technical Insulation



OUR SUSTAINABILITY COMMITMENTS

2050 NET ZERO CARBON

Walking the talk – 2030 Commitment



Leveraging collaboration

ENERGY EFFICIENCY / INSULATION IN INDUSTRY – THE SITUATION

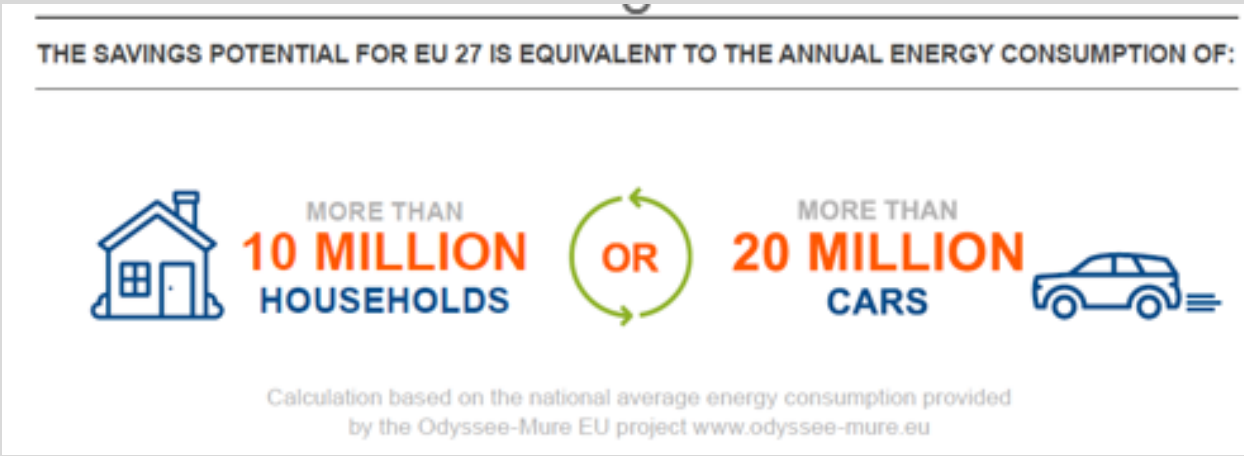
LOW-TEMPERATURE
(<100 °C)
10%

MIDDLE-TEMPERATURE
(100 – 300 °C)
6%

HIGH-TEMPERATURE
(>300 °C)
2%

- Low level of energy efficiency / insulation
- Existing insulation systems and technical requirements focus on safety to keep surface temperatures below 55 °C
- Many plants aging and in a dire need for insulation repair

Energy Savings Potential = 163 TWh / 14 Mtoe
CO2 Emissions Reduction Potential = 40 Mt



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INSULATION IN INDUSTRY – WHY ISN'T IT HAPPENING ?

How to explain the tendency in industry to insulate less instead of implementing more energy-efficient insulation systems ?

- Thermal insulation for energy savings: n**ot legal requirement**
- Key priorities on process security and personnel protection
- Economic industrial insulation to minimize heat loss and CO2 emissions often not part of **insulation specifications**
- Lack of well organised **maintenance** of insulation systems
- **Pressure to reduce** investment and maintenance **costs**
- **Split responsibilities** for energy and maintenance budgets
- Increasing lack of insulation **know-how**

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BOOSTING ENERGY EFFICIENCY UPTAKE IN INDUSTRY 1/3

TIPCHECK

Mission: Promote sustainable insulation systems for industrial and technical installations with the aim of saving energy and reducing CO_2 emissions

The **TIPCHECK Programme** was implemented by EiiF with the aim of providing industry with tools and solutions **to save energy and to reduce CO_2 emissions** by improving technical insulation systems.
TIPCHECK stands for **T**echnical **I**nsulation **P**erformance **Check**.

TIPCHECK INSPECTIONS

Evaluate insulation systems of existing facilities identifying the spots bearing the highest **energy and CO2 savings potential**, offering **a rapid payback** time of most often **one year or even less**.

TIPCHECK TOOLS

EiiF provides practical tools and guidance to support Tipcheck Inspections:

TIPCHECK :calculator, creator, viewer, estimator, converter…

TBI APP : easy-to-use self-inspection & reporting tool for smartphones)

TIPCHECK TRAININGS & CERTIFICATION

Every year EiiF organizes training courses to train the attendants on how to perform TIPCHECKs. Those who pass the final exam receive their certification and become **TIPCHECK engineers**.

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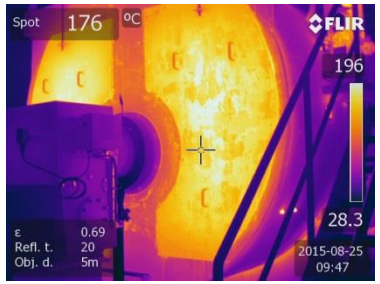
BOOSTING ENERGY EFFICIENCY UPTAKE IN INDUSTRY 2/3

TIPCHECK

Measurements on field



TIPCHECK report creation

Thermal efficiency of insulation system

1 Thermal conductivity of insulation products

- the lower the thermal conductivity the better the thermal performance

2 Insulation thickness of chosen insulation

- the higher the total insulation thickness the better the thermal performance

3 Insulation and structural related thermal bridges

- reduce insulation installation and construction related thermal bridges

4 Emmissivity of cladding

- the lower the emissivity the higher the thermal efficiency

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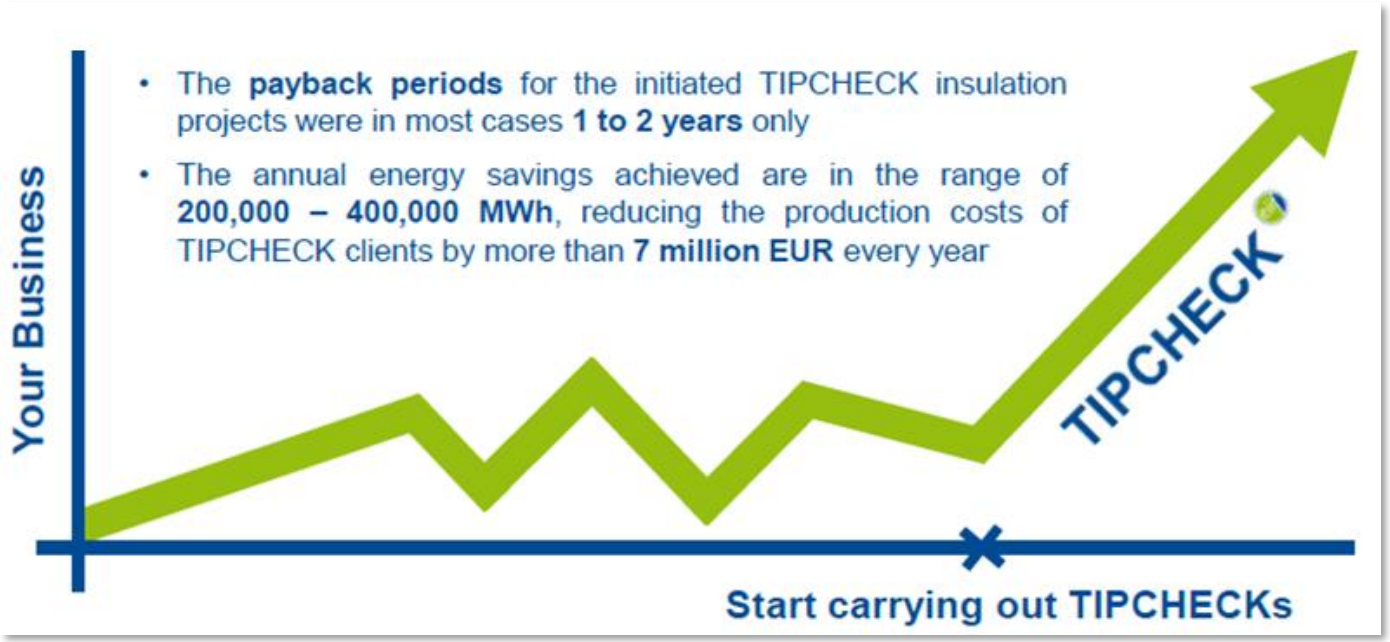
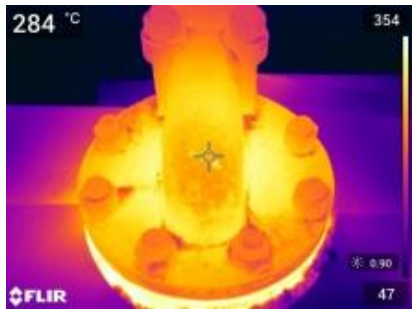
BOOSTING ENERGY EFFICIENCY UPTAKE IN INDUSTRY 3/3



In summary

- Insulation systems evaluated
- CO2, energy and costs savings
- Improves process efficiency
- Safety & maintenance benefits
- Standardised
- Non intrusive
- Cost-attractive and affordable
- Timely



TIPCHECK Impact in past 10 years

- **Total energy savings: > 4.000.000 MWh**
- **Emissions reductions: > 1.000.000 t CO_2 eq.**

BOOSTING ENERGY EFFICIENCY IN RESIDENTIAL VIA RENOVATION PASSPORTS

New EPBD (Energy Performance of Buildings Directive)

- MEPS, finance, support tools - one stop shops
- Building renovation passport to guide step wise renovation work, simplify admin/finance, create ownership

Challenges:

- Deep/holistic renovations vs subsidies for single measures
- Challenge caused by deployment of heat pump in very badly performing buildings (Class F or G).
- EE1 principle : lack of visibility of energy demand / energy needs (focus on primary energy consumption)

Way forward

- Building renovation passport as a tool to embed proper demand driven policy
- Articulation of demand reduction potential with calibration of renewable heating
- Work on low temperature ready buildings
- Systemic dimension : benefits of reducing peak load in a renewable grid – flexibility, decrease of overall costs

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SOME TAKE AWAYS

1. **Proper implementation of Energy Efficiency First principle**
2. **More accompaniment of energy efficiency solutions in industry**
3. **Understanding & activating the systemic benefits of EE**

=> real interaction needed between demand reduction and renewable heat solutions (in industry and in residential).

THANK YOU FOR YOUR ATTENTION

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