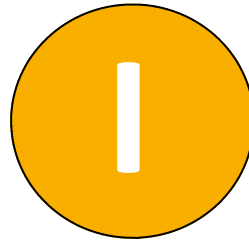
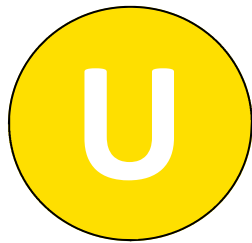
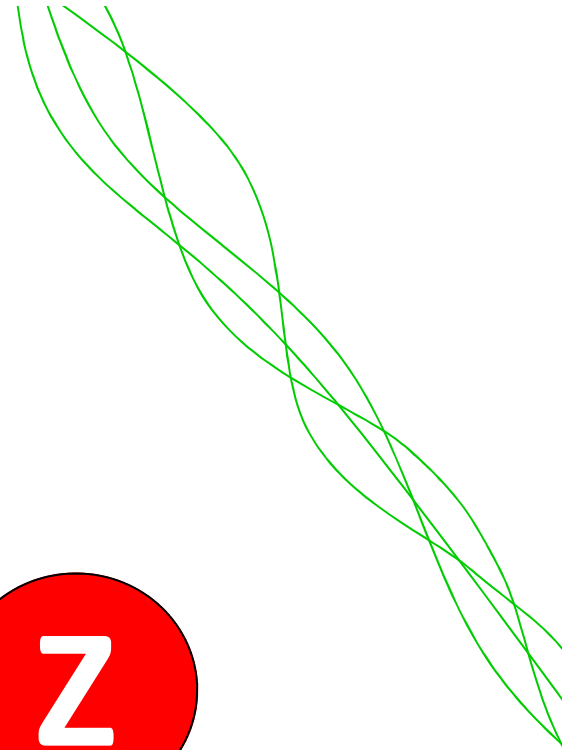
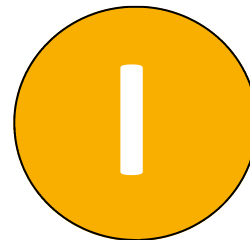
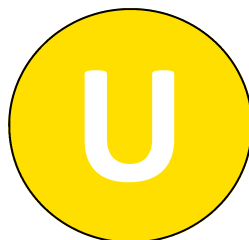


**IT'S**



**TIME**





## Renovating buildings to meet Energy Union goals – maximising the Multiple Benefits for EU Citizens

**Introductory Remarks:** *Susanne Dyrboel*, President of EuroACE

**Moderator:** *James Crisp*, Journalist, Euractiv

● **Quiz Session 1: The Cost of Non-Renovation in the EU - on energy security, on consumers, on the economy**

*Thomas Boermans*, Managing Consultant Energy Efficiency, Ecofys

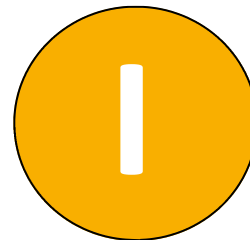
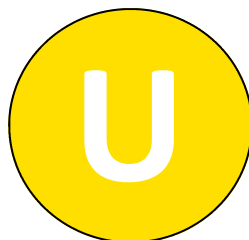
● **Quiz Session 2: Financing Building Renovations - increasing the roll-out of existing financing schemes**

*Adrien Bullier*, Project Advisor, European Commission, EASME

● **Quiz Session 3: Reasons to renovate - the multiple benefits driving citizen and consumer action**

*Kurt Emil Eriksen*, Senior Political Advisor, VELUX Group

**Conclusions:** *Adrian Joyce*, Secretary General of EuroACE



armacell

Danfoss



GE Lighting

IR Ingersoll Rand

ISOVER  
SAINT-GOBAIN

Johnson Controls

Kingspan  
Insulated Panels

KNAUF INSULATION  
of heat and energy

PHILIPS

PI EUROPE  
EXCELLENCE IN INSULATION

ROCKWOOL  
FREEDOM OF INSULATION

United Technologies

URSA  
uralita

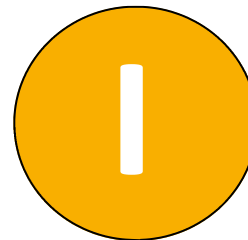
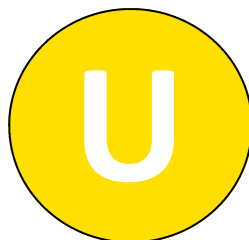
VELUX



## “Quizzing the Stakeholders”

Renovating buildings to meet Energy Union goals –  
maximising the Multiple Benefits for EU Citizens





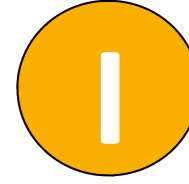
## Introductory Remarks

Susanne DYRBØL, President, EuroACE



### **“Quizzing the Stakeholders”**

Renovating buildings to meet Energy Union goals –  
maximising the Multiple Benefits for EU Citizens



**“Quizzing the Stakeholders”**

# **Session 1**

**The Cost of Non-Renovation in the EU –  
on energy security, on consumers, on the economy**

Thomas BOERMANS

*Managing Consultant  
Energy Efficiency  
Ecofys*

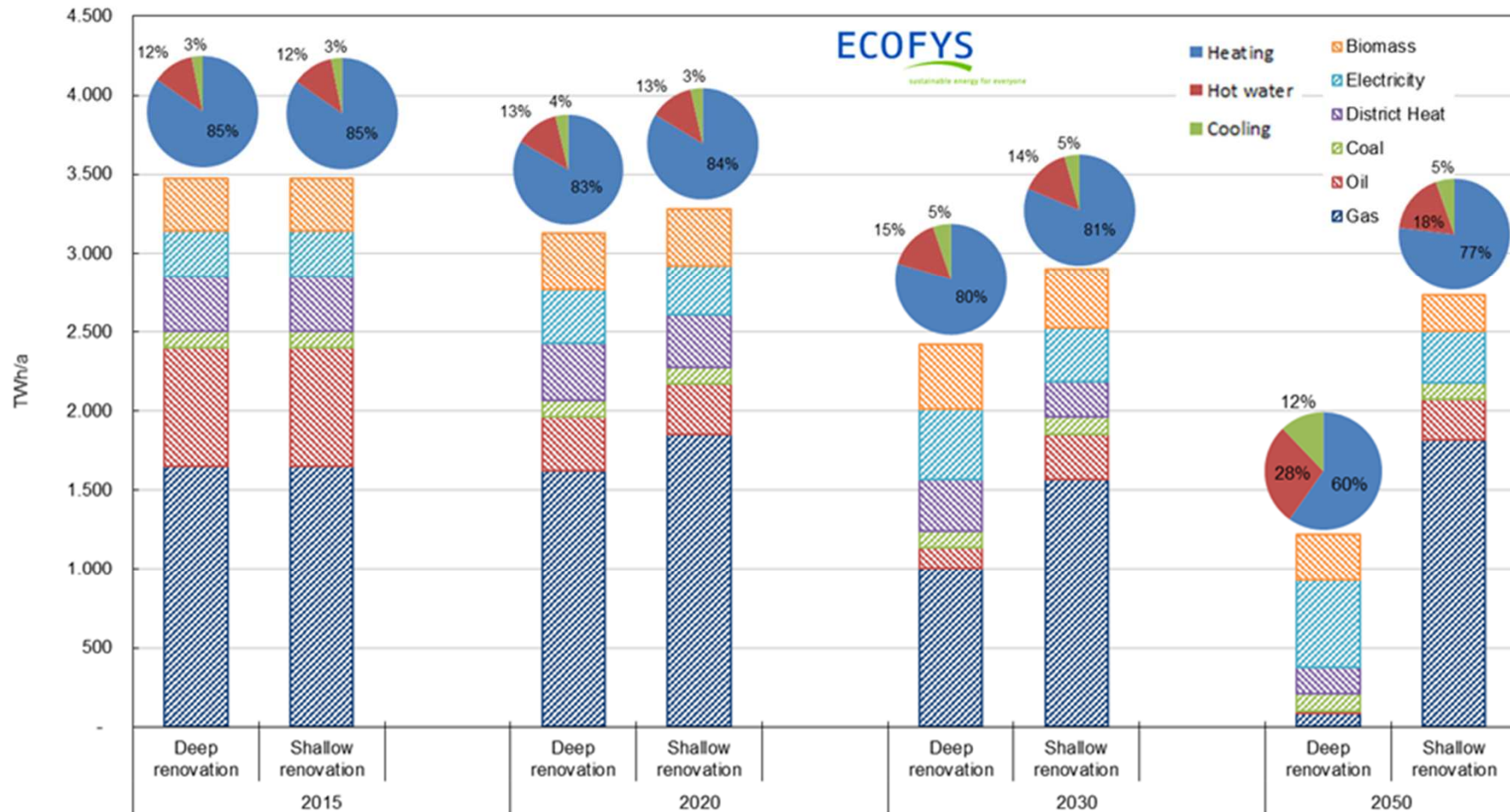


## The Cost of Non-Renovation in the EU

17/06/2015

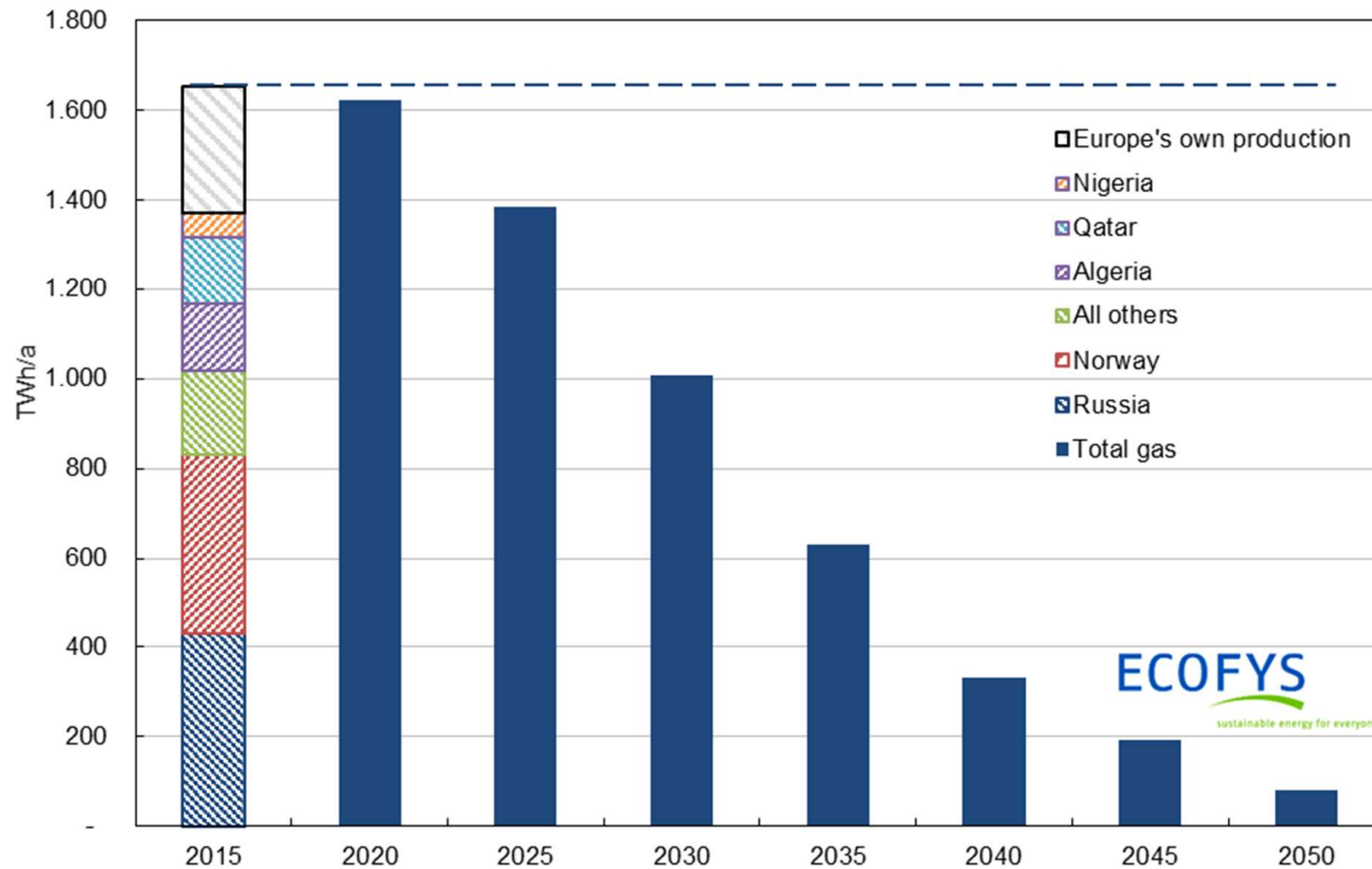
Thomas Boermans

# Development of final energy demand in the building sector by 2050



Source: Renovation Tracks for Europe up to 2050 [Ecofys 2012]

# Effect of deep renovation in the building sector of EU's gas imports



Source: Deep renovation of buildings. An effective way to decrease Europe's energy import dependency [Ecofys 2014]



# Annual added value of the building sector on EU economy

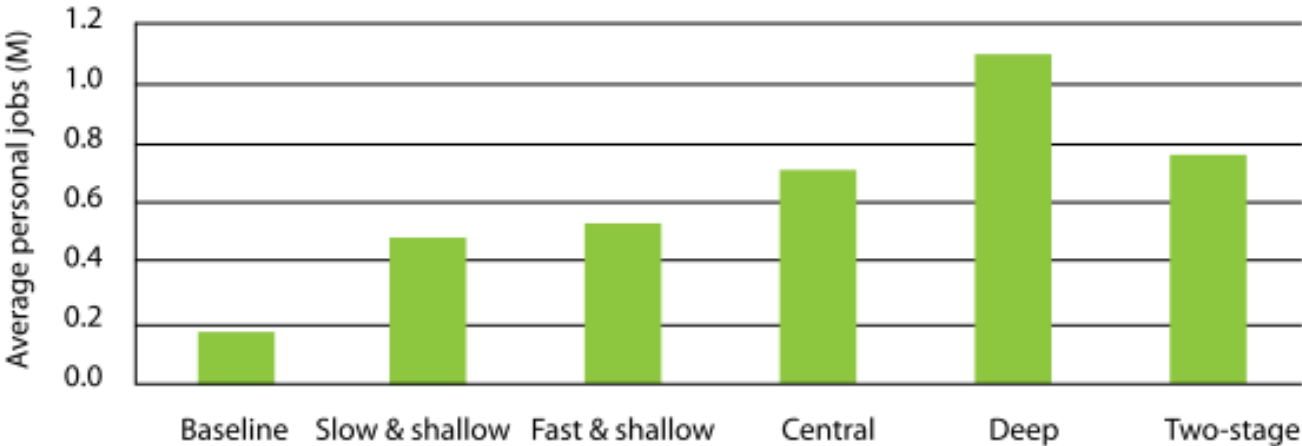
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<b>2011/ EU 28</b>	<b>Value added (EUR billion)</b>	<b>Number of persons employed (million)</b>
Construction of buildings	144	3.7
Specialised construction activities	283	7.8
<i>Total building sector</i>	<i>427</i>	<i>11.5</i>

Source: Energy Renovation: The trump card for the new start of Europe [JRC 2015]

# Average employment generated in 2011-2050

---



Source: Europe's buildings under the microscope [BPIE 2011]



Thomas Boermans

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**“Quizzing the Stakeholders”**

# **Session 2**

## **Financing Building Renovations**

### **Increasing the roll-out of existing financing schemes**

Adrien BULLIER

*Project Advisor*

*EASME*

*European Commission*



# Financing energy renovation of buildings

Adrien BULLIER

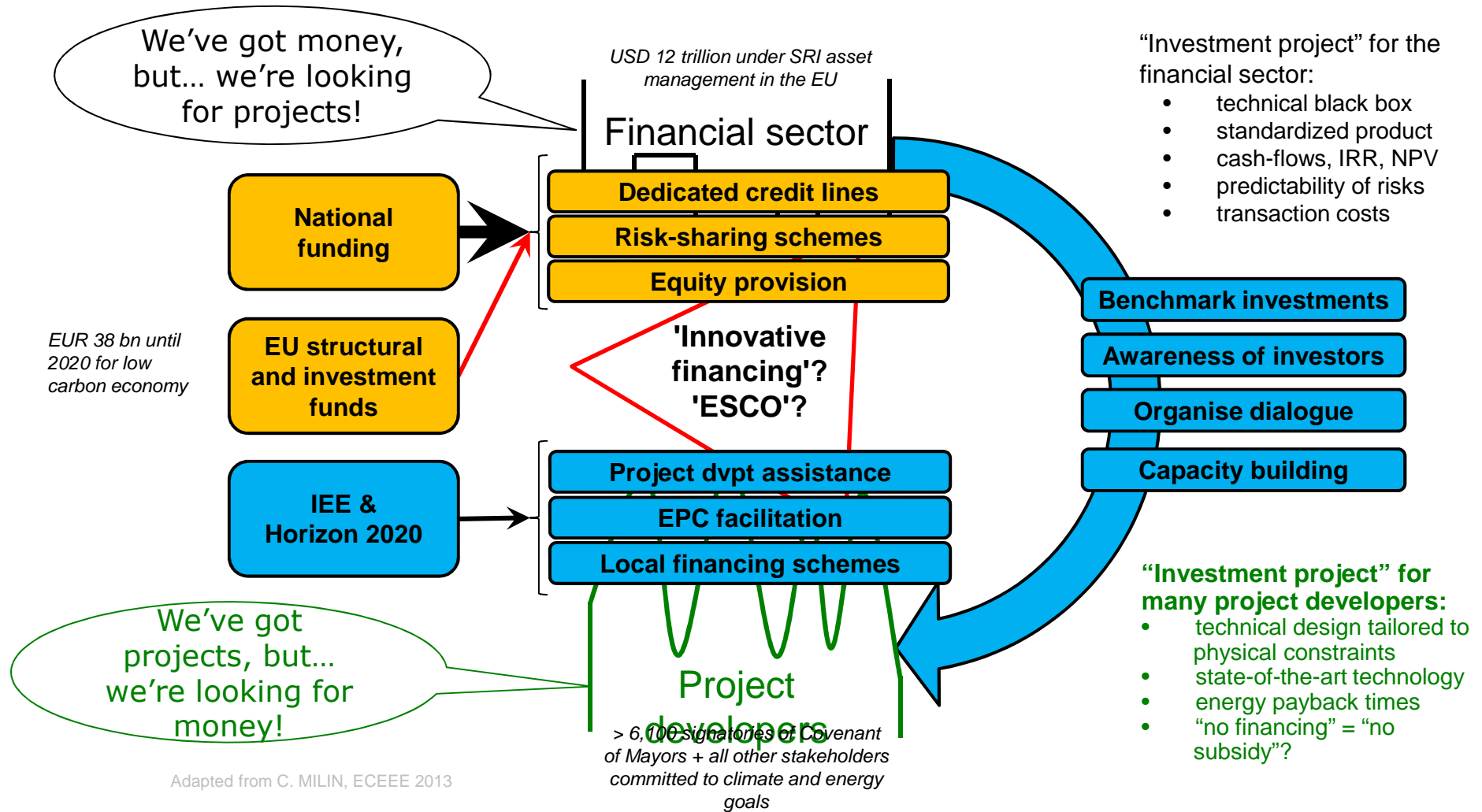
Project Advisor, Intelligent Energy Europe and Horizon 2020 programmes

European Commission, Executive Agency for Small and Medium-Sized Enterprises (EASME)

# Investing in buildings energy renovation... It's not only about energy savings!

- **The more savings, the longer the payback or the lower the return on investment – all things equal**
- **But does anyone ask about the payback of a new bathroom?**
- **Energy efficient buildings are also:**
  - More comfortable
  - More healthy
  - More productive
  - More trendy!
- **This makes energy efficiency much more attractive... also financially:**
  - Increased property value ('green value') after renovation
  - For rental properties: higher rents, lower risks of vacancy, lower turnover rate

# Finance and energy efficiency : trying to match squares and circles?



# EEFIG's top 5 drivers of demand and supply of energy efficiency finance

Demand of EE finance		Supply of EE finance	
1	Standardization	✓1	Standardization
2	Clear Business Case	✓2	Regulatory Stability
3	Effective enforcement of regulation	3	Increased Investor Confidence & Change in Risk Perception
4	Awareness at Key Decision Maker Level	4	Transaction costs / simplicity
5	Buildings Regulation, Labeling and Energy Performance Certificates	5	Measurement, Reporting & Verification (MRV) and Quality Assurance



# EEFIG assessment of financing schemes for different market segments

Table 4: Results of the EEFIG survey on Financial Instruments for energy efficiency investments in buildings

<u>Mature Financial Instruments</u>		Commercial	Public	Public Rental	Private Rental	Owner Occupied
✓ Dedicated Credit Lines		3	2	3	3	3
Energy Performance Contracting (Undertaken by Private Sector)		3	3	3	1	1
Risk-Sharing Facilities		2	1	2	2	2
✓ Direct and Equity Investments in Real Estate and Infrastructure Funds		2	1	1	2	0
Subordinated Loan		1	1	1	1	1
Covered Bonds		1	1	1	0	0
Leasing		0	1	0	0	0
<u>Emerging Financial Instruments</u>		Commercial	Public	Public Rental	Private Rental	Owner Occupied
On-Bill Repayment		2	1	2	3	3
On-Tax Finance (PACE)		2	1	1	2	3
Energy Efficiency Investment Funds		3	2	2	1	1
Energy Services Agreement		3	3	2	1	1
Public ESCOS for Deep Renovation of Housing		0	0	3	2	2
Factoring Fund for Energy Performance Contracts		2	2	1	1	0
Public ESCOS for Deep Renovation of Public Buildings		0	3	3	0	0
Green Bonds		2	1	0	0	0
Citizens Financing		0	0	0	1	2

This presentation requires oral explanations

# Thanks for your attention

## For more information:

- Horizon 2020 Energy Efficiency call for proposals: <http://ec.europa.eu/easme/en/energy> - send questions to [EASME-Energy@ec.europa.eu](mailto:EASME-Energy@ec.europa.eu)
- Energy Efficiency Financial Institutions Group (EEFIG) – [www.eefig.eu](http://www.eefig.eu)
- Workshop on innovative financing for energy efficiency and renewables, 28 April 2015, Brussels: <http://bit.ly/1F3TQX4>
- Innovative financing for energy efficiency and renewables: feedback from successful projects, 8 October 2014: <http://bit.ly/1G7tMXC>
- Innovative financing solutions: experiences from Intelligent Energy Europe projects <http://bit.ly/1G9L9VQ>
- Adrien Bullier & Christophe Milin, Alternative Financing Schemes for Energy Efficiency in Buildings, ECEEE 2013 Summer Study <http://bit.ly/1G9L9VQ>



“Quizzing the Stakeholders”

# Session 3

## Reasons to Renovate

### Multiple benefits driving citizens and consumer action

Kurt Emil ERIKSEN

*Senior Political Advisor*

*VELUX Group*

# Reasons to renovate – the multiple benefits driving citizen and consumer action

Kurt Emil Eriksen

Senior Political Advisor, Public Affairs & Sustainability

The VELUX Group

**#HealthyBuildings**

**@kurtemil**

# About the VELUX Group



**40**  
national sales companies  
throughout the world

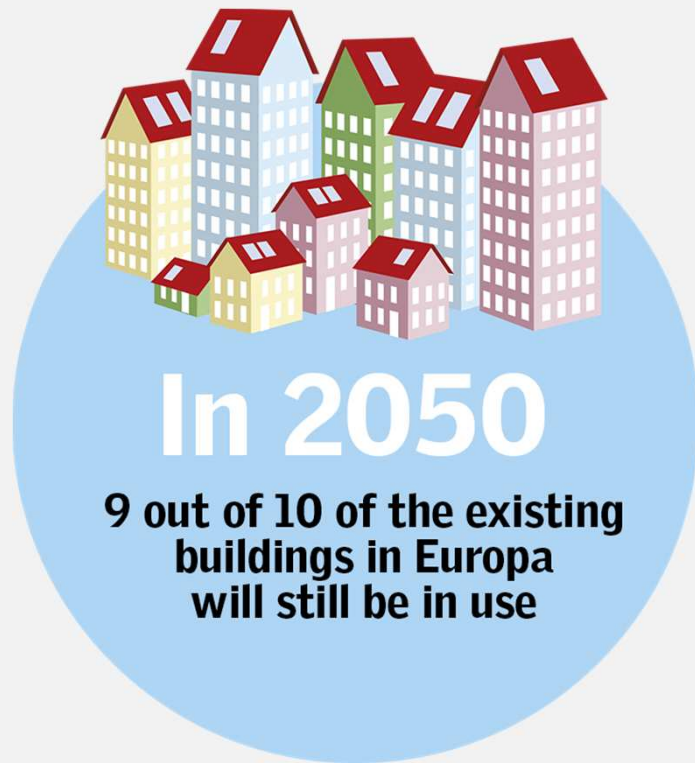
**23**  
production sites  
in 11 countries

**10,000**  
employees globally

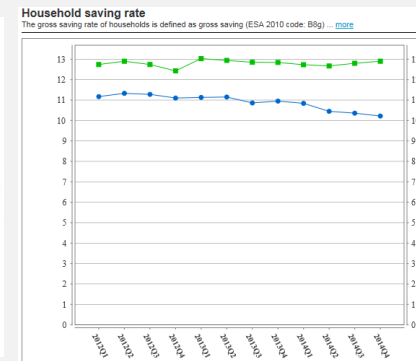


**Buildings of tomorrow - today**

# Consumer confidence improving - but recessionary sentiment still strong



- 53% of consumers worldwide believed they were in recession in Q4 2014\*
- However, consumer confidence has increased in 22 out of 32 European markets in Q1 2015\*\*
- Household saving rate stable in Europe in Q4 2014\*\*

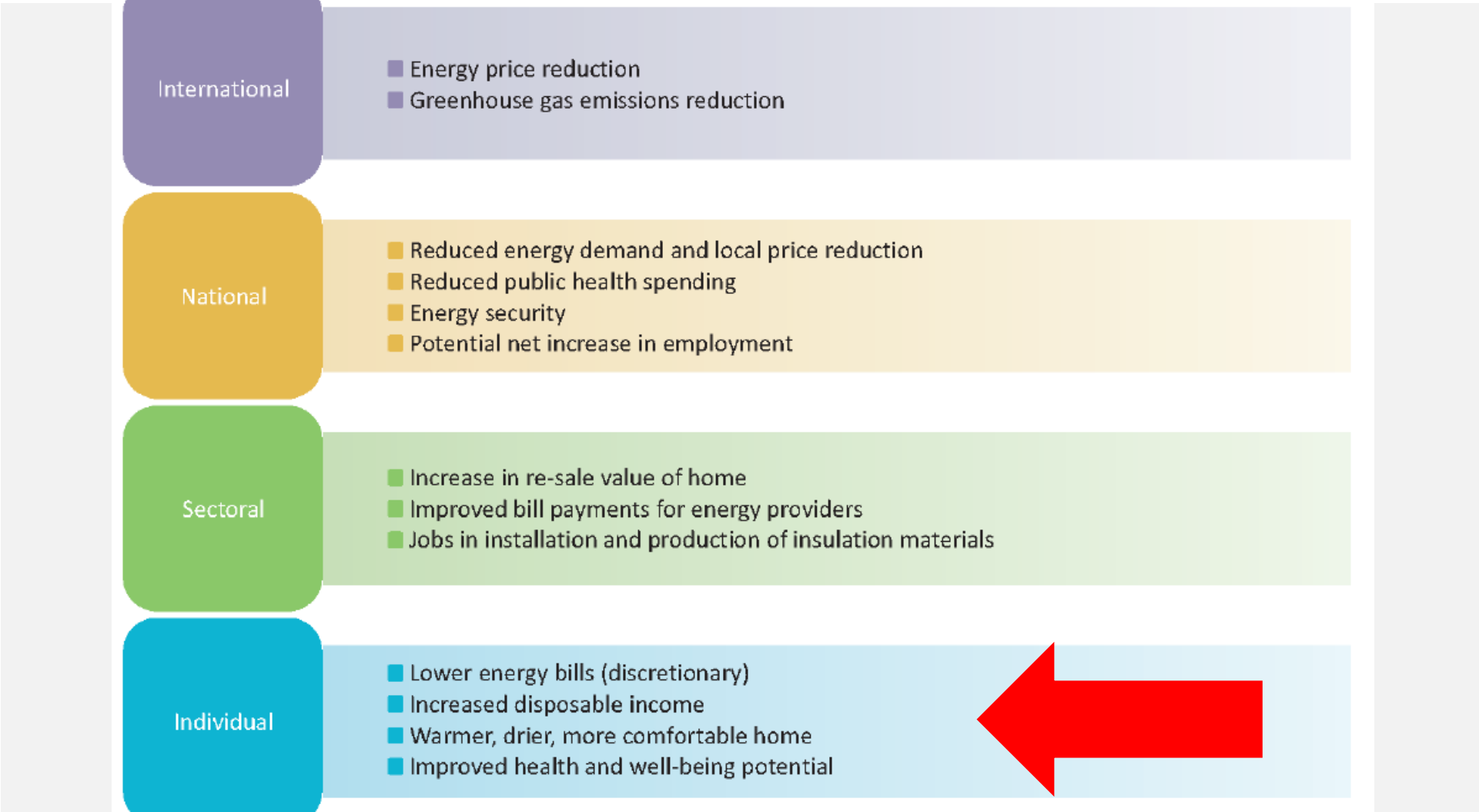


\* The Nielsen Global Survey of Consumer Confidence and Spending Intentions, Q4, 2015.

\*\* Nielsen Global Consumer Confidence Survey, Q1, 2015.

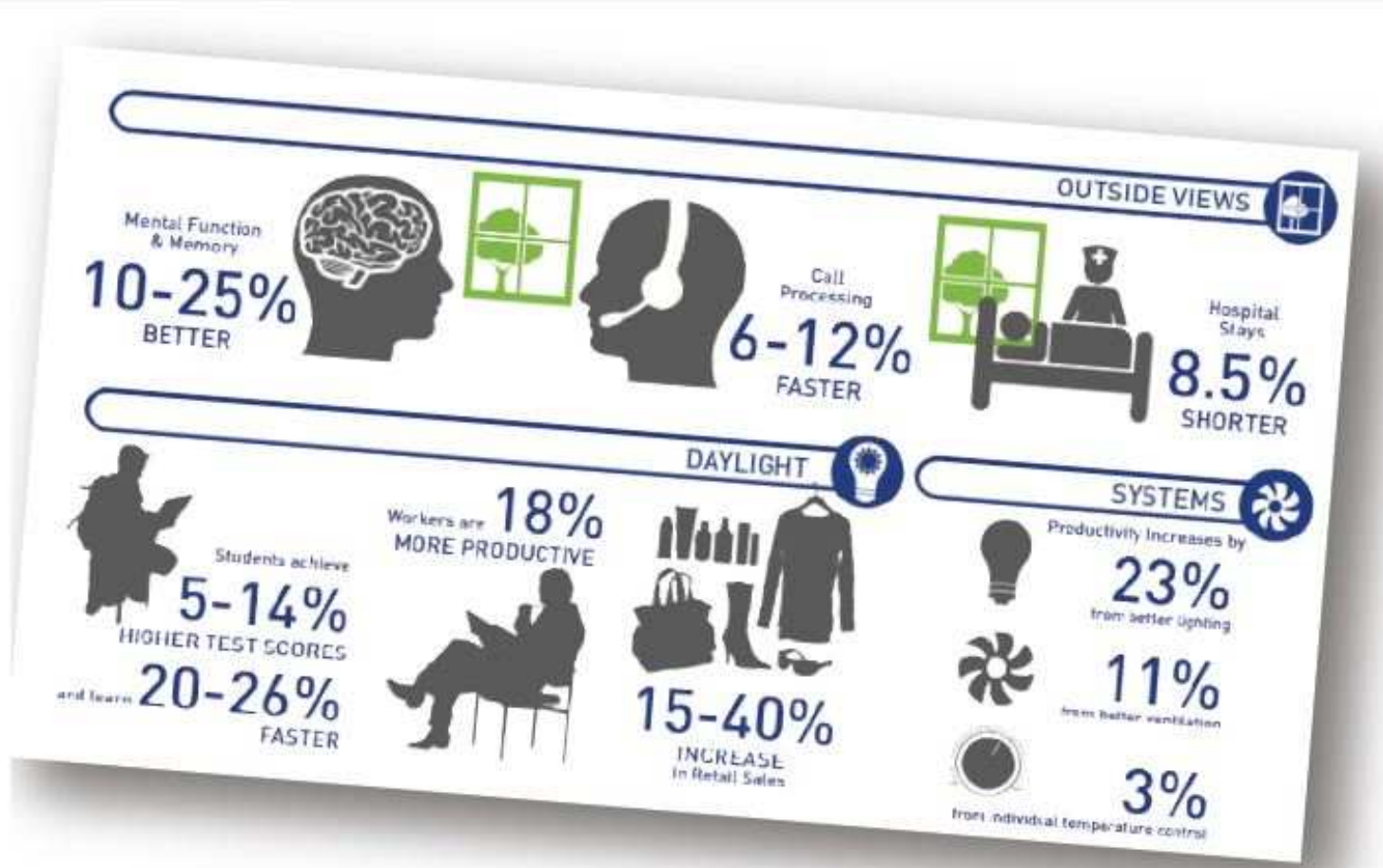
\*\*\* Eurostat, Household Saving Rate Q4 2014.

# Multiple Benefits energy efficiency in buildings sector\*



\*IEA Study 'Capturing the Multiple Benefits of Energy Efficiency' 2014

# Multiple Benefits energy efficiency in buildings sector



Figur 2 "WORKPLACE PRODUCTIVITY AND HEALTH" - The Business Case for Green Building



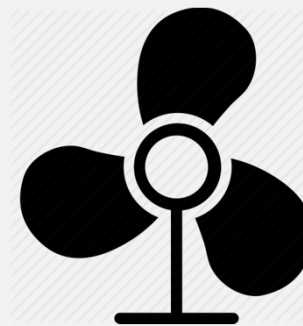
# Impact indoor climate on health

Indoor environments in European homes and schools have a significant impact on public health and learning\*

## 1. Dampness and mould



## 2. Low ventilation rates



## 3. Lack of Daylight



## 4. High room temperatures



\*White Paper 'Towards an identification of European indoor environments' impact on health and performance' Fraunhofer Institute

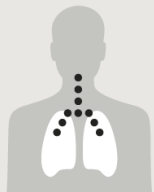
# Research shows: Health must be prioritized in combination with energy



**80 million** Europeans live in damp and unhealthy homes



40% of society's total energy consumption is accounted for by buildings



A damp and unhealthy home nearly **doubles** the risk of asthma



**37%** of the needs of the buildings sector rely on energy imports

**61%** of all imported gas goes to buildings

**90%** of our time is spent **indoor**

**1/3**

Of European households are affected by asthma or allergies



In 2012, EU Member States collectively spent **€421bn** on energy imports

\*White Paper 'Towards an identification of European indoor environments' impact on health and performance' Fraunhofer Institute

# Healthy Homes Barometer – what drives European citizens?



- ▶ **12 countries**
- ▶ **12,000 Europeans**
- ▶ **Academically accompanied** by Prof. Dr. Dr. h. c. Bernd Wegener, Humboldt University Berlin.
- ▶ **Operate A/S and Wilke.**

# European citizens: Healthy living starts at home



1



2



3

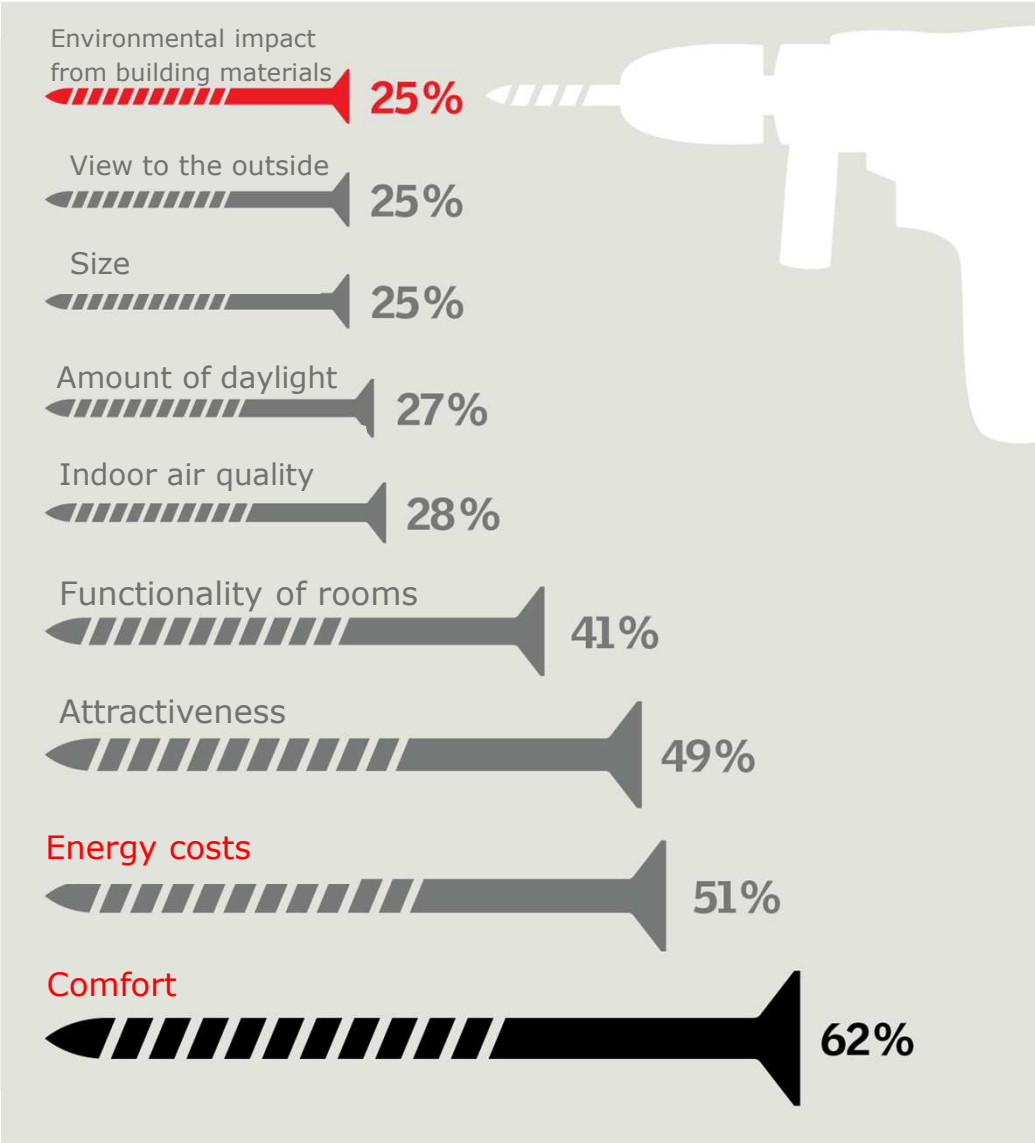
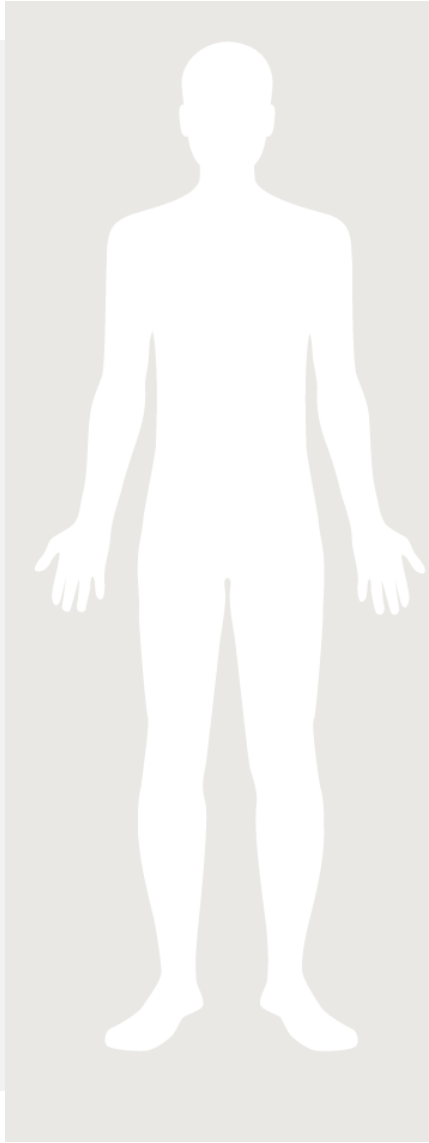


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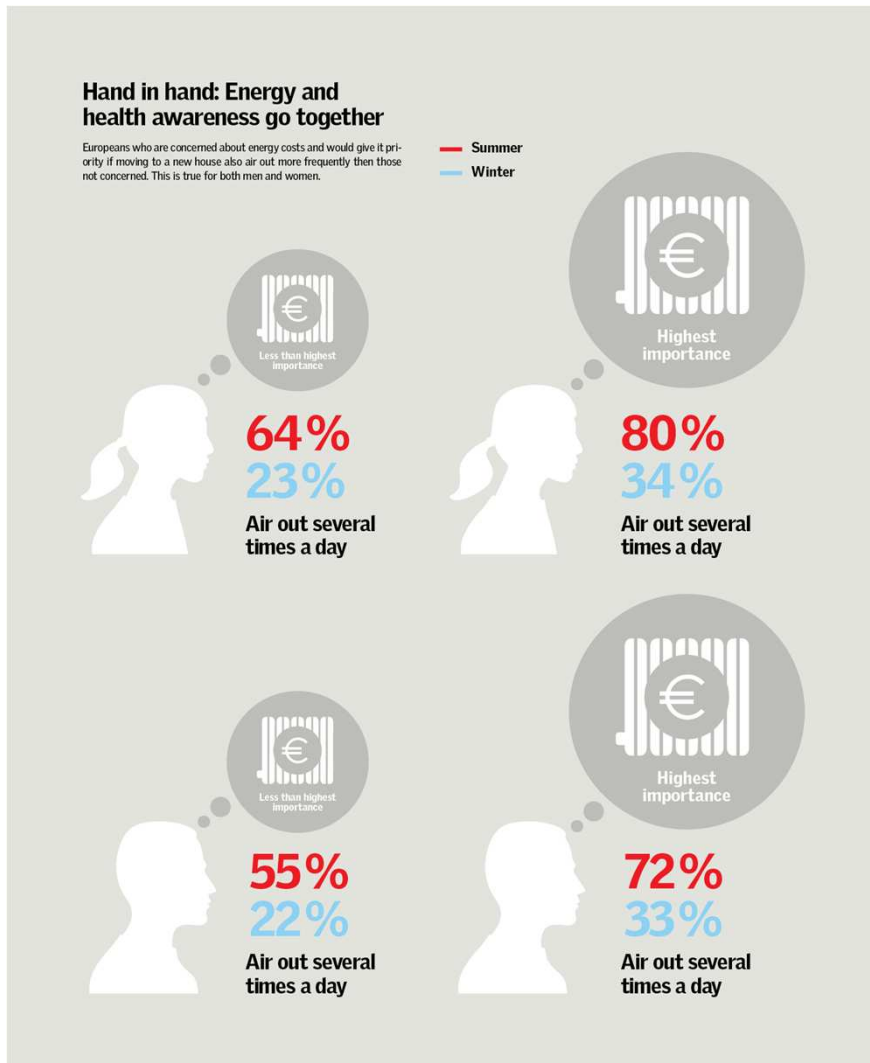
- ▶ # 1 Sleeping well at night
- ▶ # 2 Ventilating my home
- ▶ # 3 Eating fruit and vegetables
- ▶ # 4 Daylight in my home

- ▶ # 5 Spending time outdoors
- ▶ # 6 Avoiding tobacco
- ▶ # 7 Regular exercise
- ▶ # 8 Avoiding chemicals
- ▶ # 9 Dietary supplements

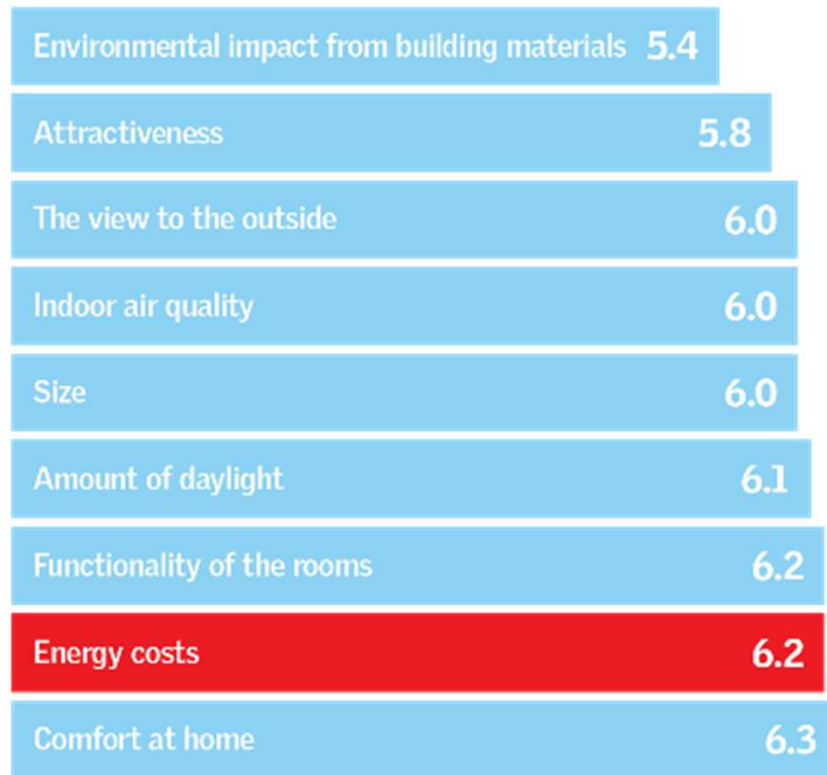
# Investments and reasons to renovate: Energy costs and Comfort



# European citizens: **We expect performance on energy *and* comfort**



## What is important when moving to a new house?



# What European citizens want and how EU supports



## What Europeans find important

... to their health

### A healthy home is number 1

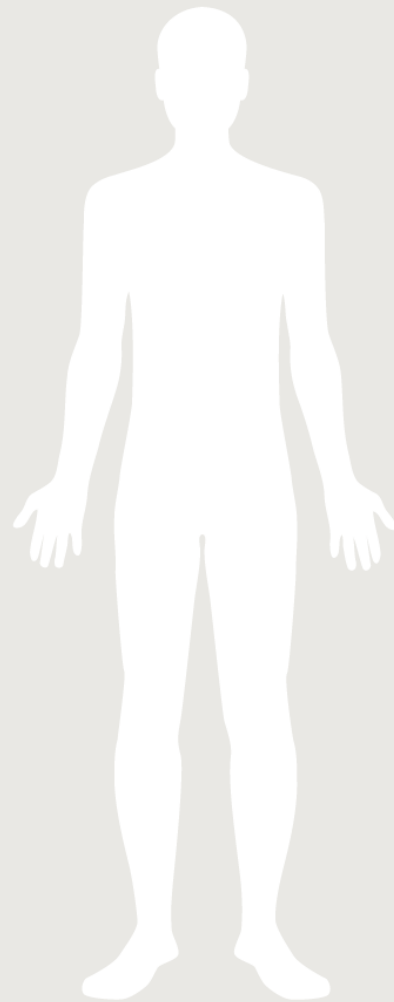
- 6.4 Sleeping well
- 6.1 Ventilation
- 5.9 Daylight

### Healthy intake is number 2

- 6.0 Fruit and vegetables
- 5.7 Avoiding tobacco
- 4.1 Dietary supplements

... if moving to a new house

- 6.3 Comfort
- 6.2 Energy cost
- 5.4 Environmental impact



## What EU does

... to promote health

### How to have a healthy home

- Sleeping well:** No European initiatives.
- Ventilation:** Directive 2010/31/EU focus primarily on calculating energy performance.
- Daylight:** No requirements in Directive 2010/31/EU.

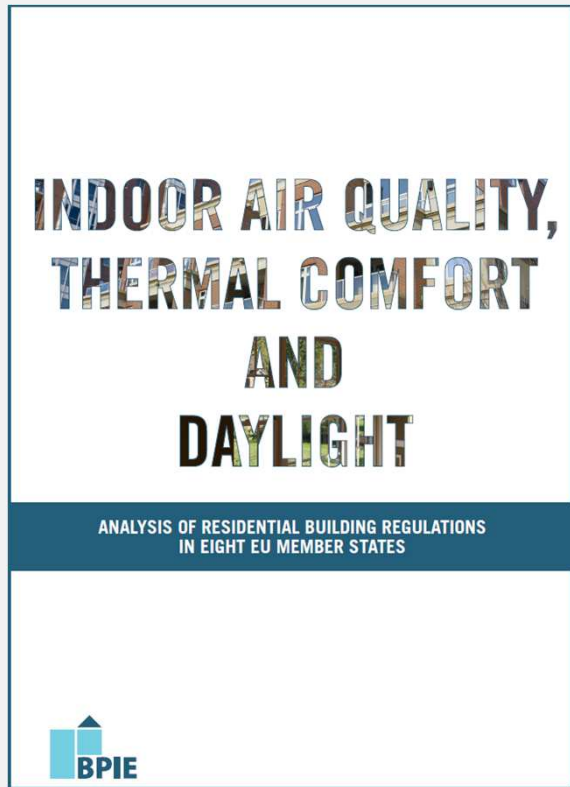
### How to ensure healthy intake

- Fruit and vegetables:** Several EU Commission campaigns, legislation on nutrition and health claims on food (EC 1924/2006), member state tax on sugar and fat etc.
- Avoiding tobacco:** Top priority for the EU Commission for years, numerous anti-smoking campaigns in the EU and in member states, legislation on presentation and sale of tobacco (2014/40/EU), tax on tobacco (2010/12/EU) etc.
- Dietary supplements:** Legislation on labelling of food supplements and specific rules on vitamins and minerals in food supply (2002/46/EC).

... if moving to a new house

- Comfort:** ???
- Energy costs:** Legislation on energy performance of buildings (2010/31/EU) and energy efficiency (2012/27/EU). EU Funding.
- Environmental impact:** ???

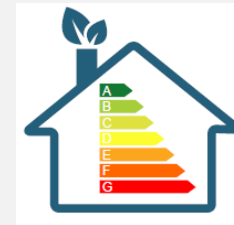
# Better regulation needed to guarantee efficient and healthy buildings\*



**EPBD recast**



**EPCs**



**Renovation strategies**



**Co-benefits**



\*Indoor air quality, thermal comfort and daylight', Buildings Performance Institute Europe, 2014



# Saving energy by renovation – a 'win-win' for EU citizens\*



Lowering  
energy  
consumption

Improving EU  
citizens'  
quality of life



Creating jobs  
in the building  
sector

Supporting  
vulnerable  
citizens

\* 'Energy Renovation: The Trump Card for the New Start for Europe', European Commission, Joint Research Centre (2015)

# Real life testing

**VELUX®**

**"one experiment is better than a  
thousand expert assumptions"  
- Villum Kann Rasmussen**

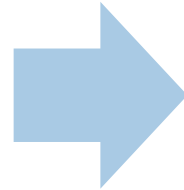


# A decade of full scale experiments – 21 Active Houses in 12 countries



# Renovation & affordability

## The next challenge to turn into opportunity



**In 2050**

**9 out of 10 of the existing buildings in Europa will still be in use**



Renovation  
Active House | Affordable | Reproducible



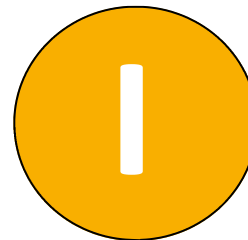
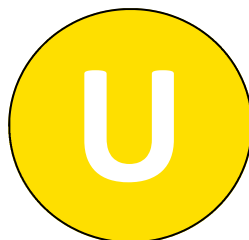
**Thank you**

***Questions?***

*Bringing light to life™*

**#HealthyBuildings**  
**@kurtemil**

**VELUX®**



## Conclusions

Adrian JOYCE, Secretary General, EuroACE

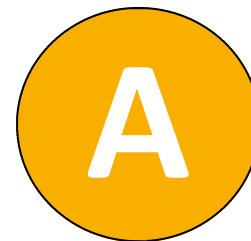
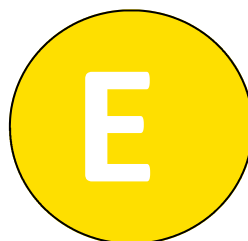


### **“Quizzing the Stakeholders”**

**Renovating buildings to meet Energy Union goals –  
maximising the Multiple Benefits for EU Citizens**



**See you next**



## “Quizzing the Stakeholders”

Renovating buildings to meet Energy Union goals –  
maximising the Multiple Benefits for EU Citizens