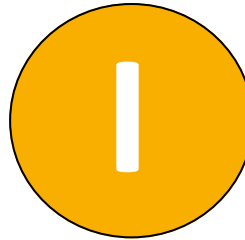
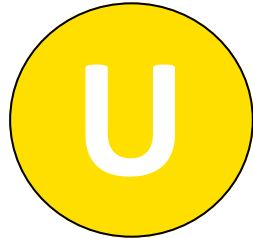
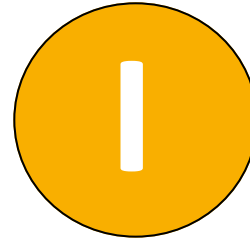
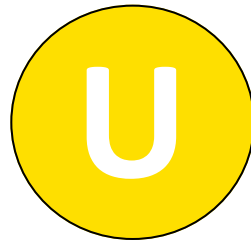


IT'S



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

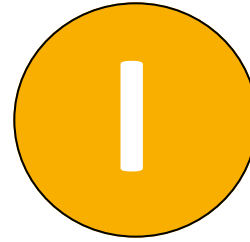
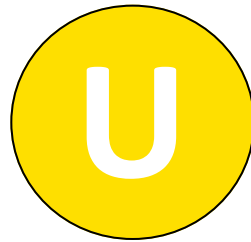
● **Quiz Session 2: Financing Building Renovations - increasing the roll-out of existing financing schemes**

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



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GE Lighting

IR Ingersoll Rand

ISOVER
SAINT-GOBAIN

Johnson
Controls

Kingspan
Insulated Panels

KNAUF INSULATION
It's time to get energy

PHILIPS

PI EUROPE
EXCELLENCE IN INSULATION

ROCKWOOL
FIBREGLASS INSULATION

United
Technologies

URSA
uralita

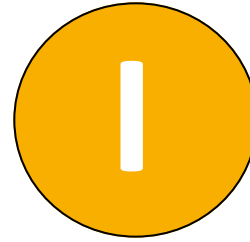
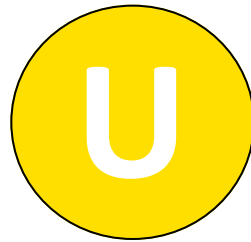
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SUSTAINABLE ENERGY
WEEK 15-19 JUNE 2015
Take part in shaping Europe's sustainable energy future

“Quizzing the Stakeholders”

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



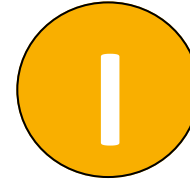
Introductory Remarks

Susanne DYRBØL, President, EuroACE



“Quizzing the Stakeholders”

Renovating buildings to meet Energy Union goals –
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“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*

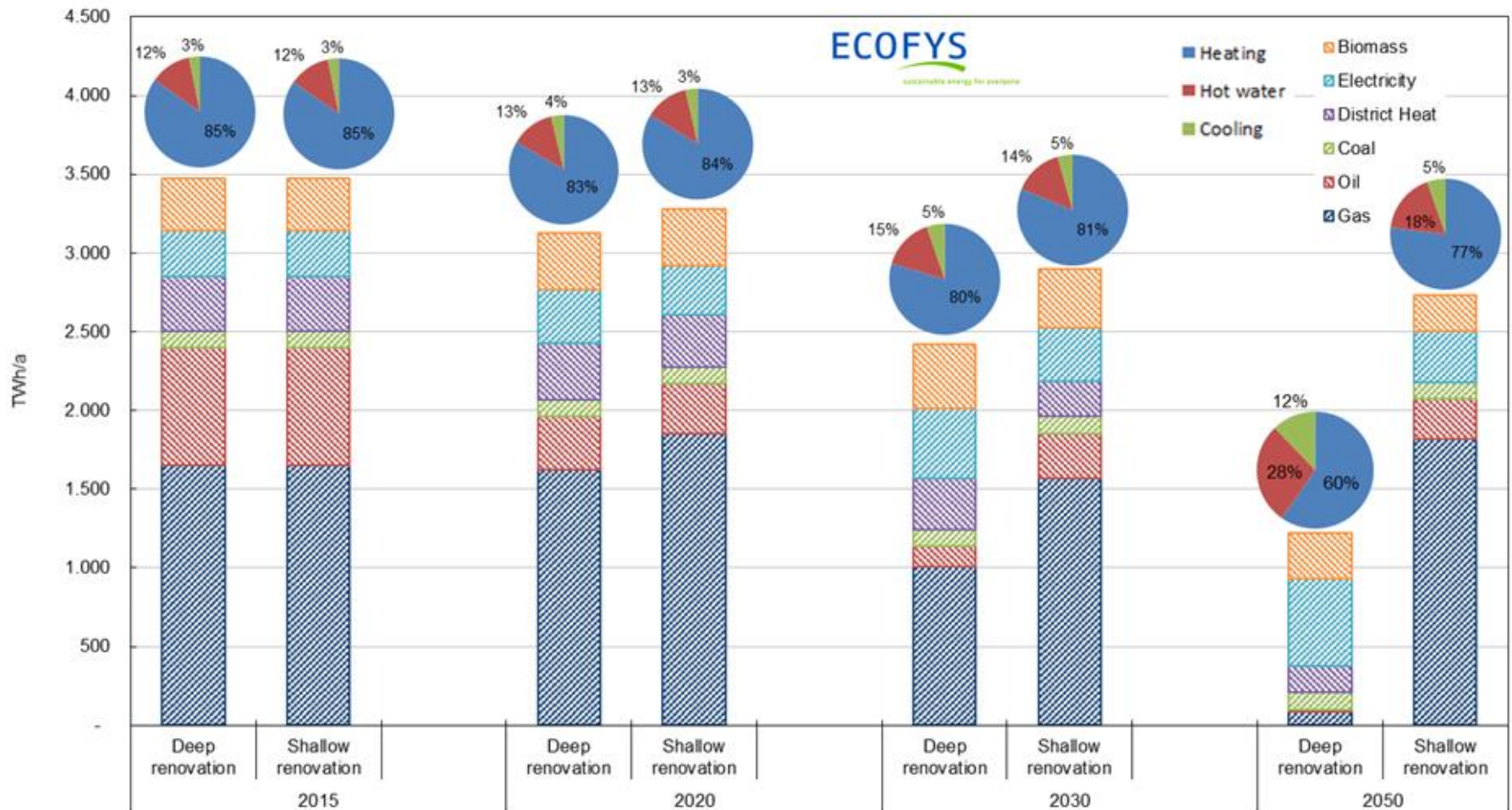


The Cost of Non-Renovation in the EU

17/06/2015

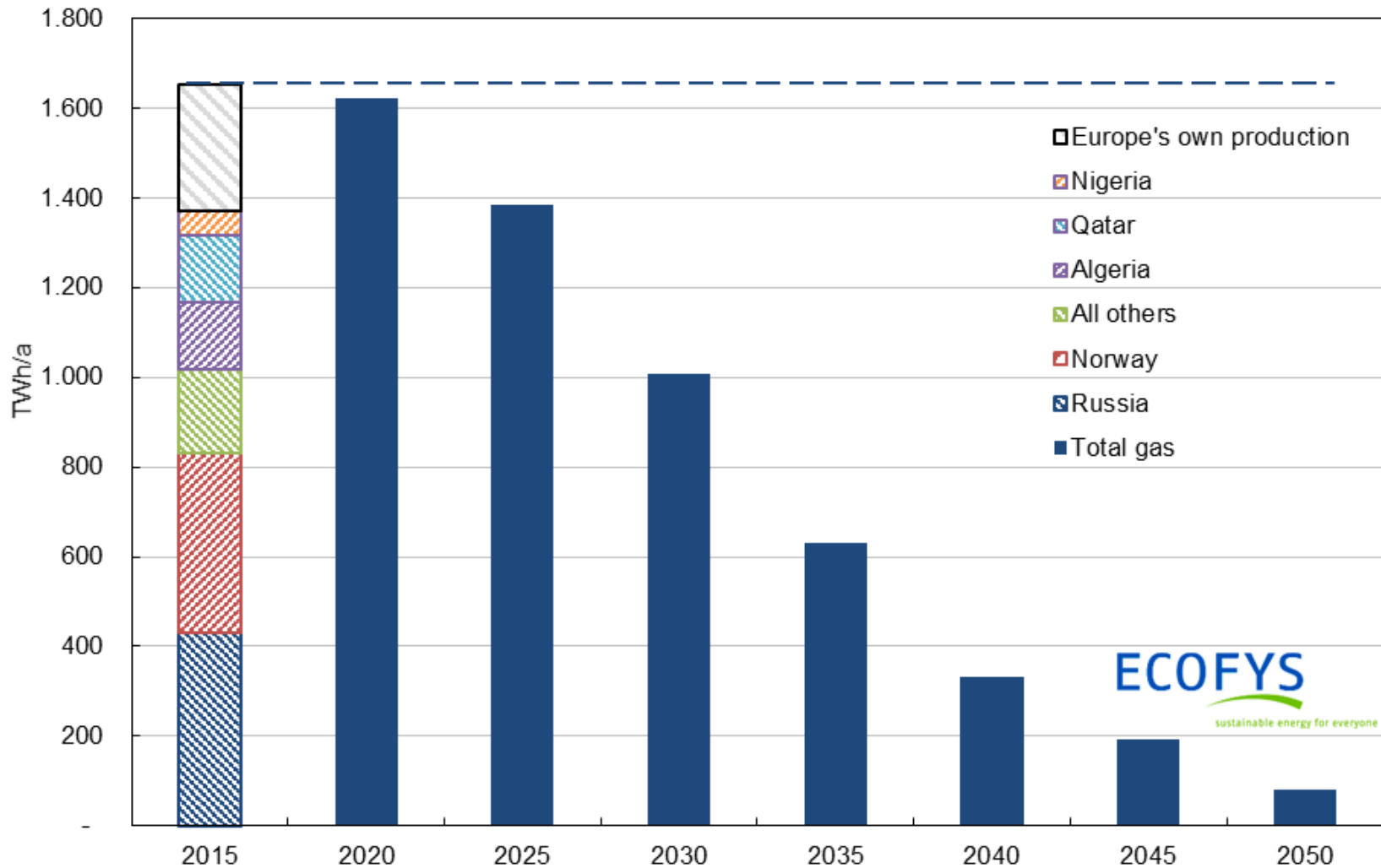
Thomas Boermans

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



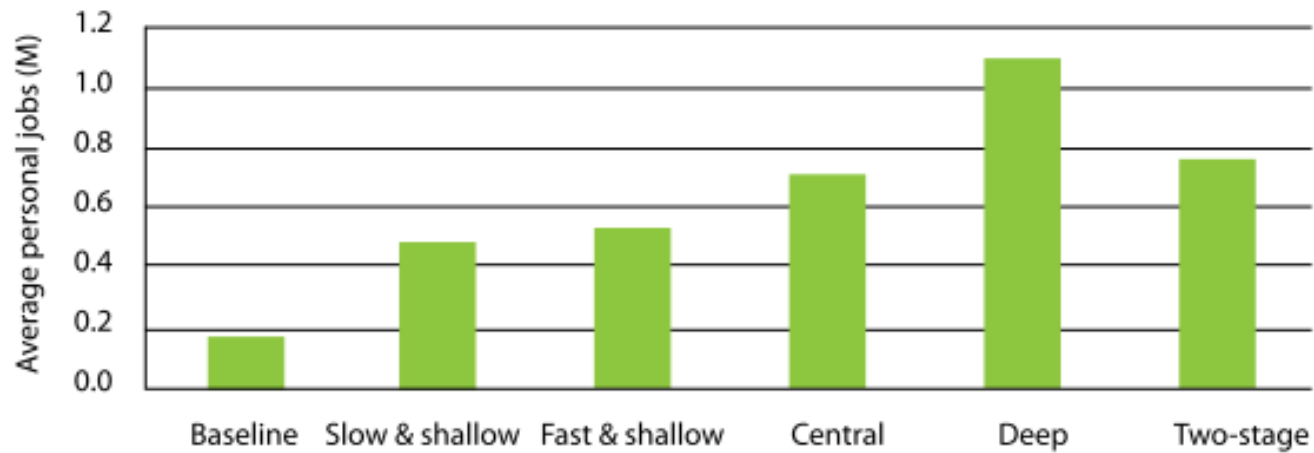
Source: Deep renovation of buildings. An effective way to decrease Europe's energy import dependency [Ecofys 2014]

Annual added value of the building sector on EU economy

2011/ EU 28	Value added (EUR billion)	Number of persons employed (million)
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

E: t.boermans@ecofys.com

T: 0221 27070 151

Ecofys Germany GmbH

Am Wassermann 36

50829 Cologne

Germany

T: +49 (0) 221 270 70 100

E: info@ecofys.de

W: **www.ecofys.de**



“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

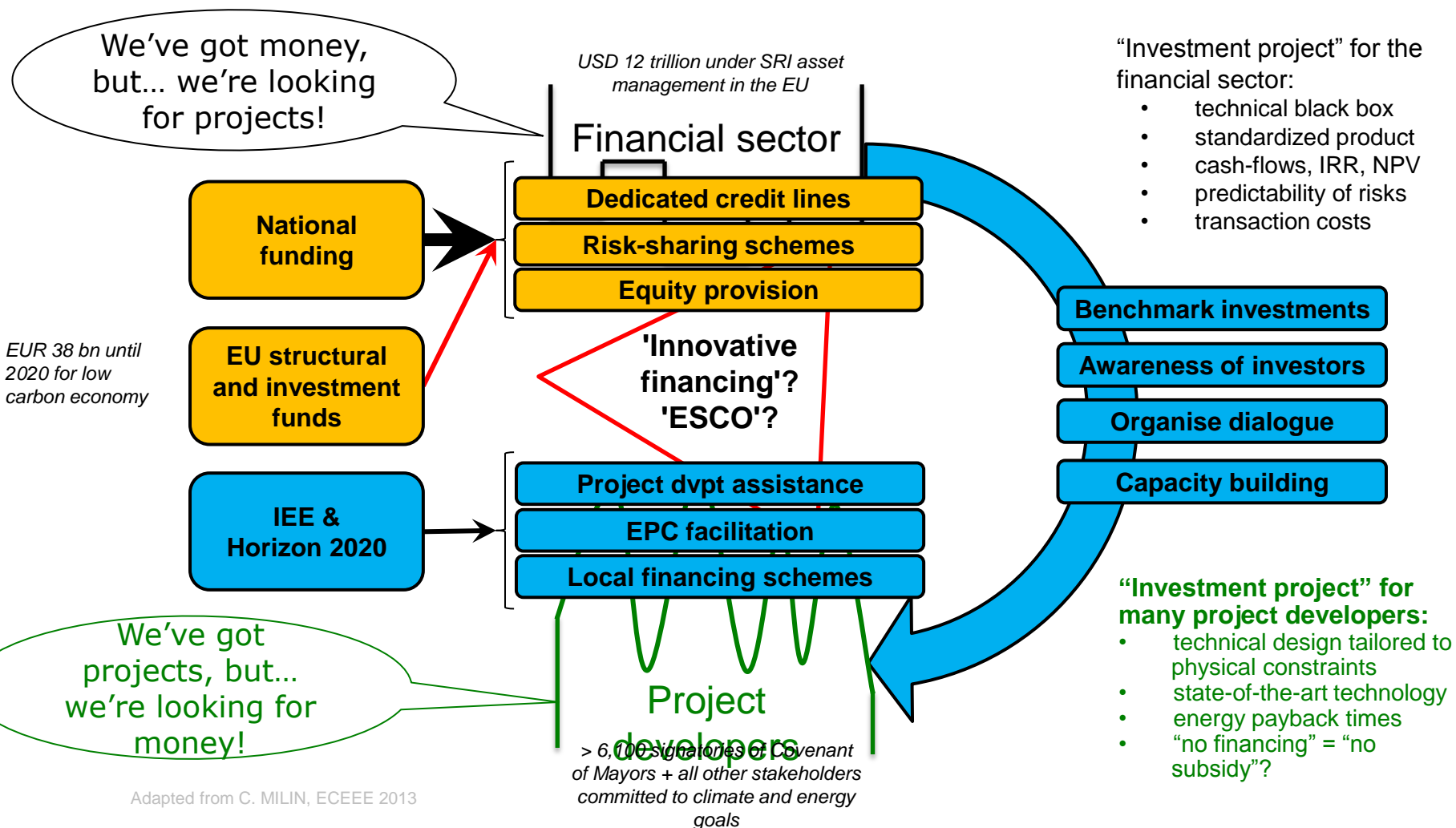
Project Advisor, Intelligent Energy Europe and Horizon 2020 programmes

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

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
- Energy Efficiency Financial Institutions Group (EEFIG) – 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

VELUX®

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

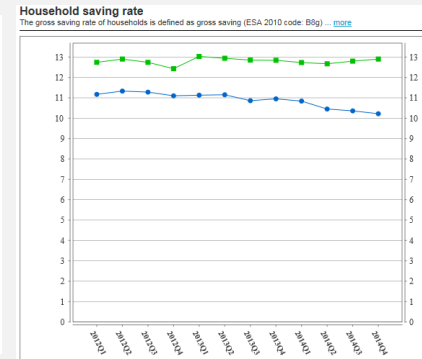
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In 2050

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

- 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**

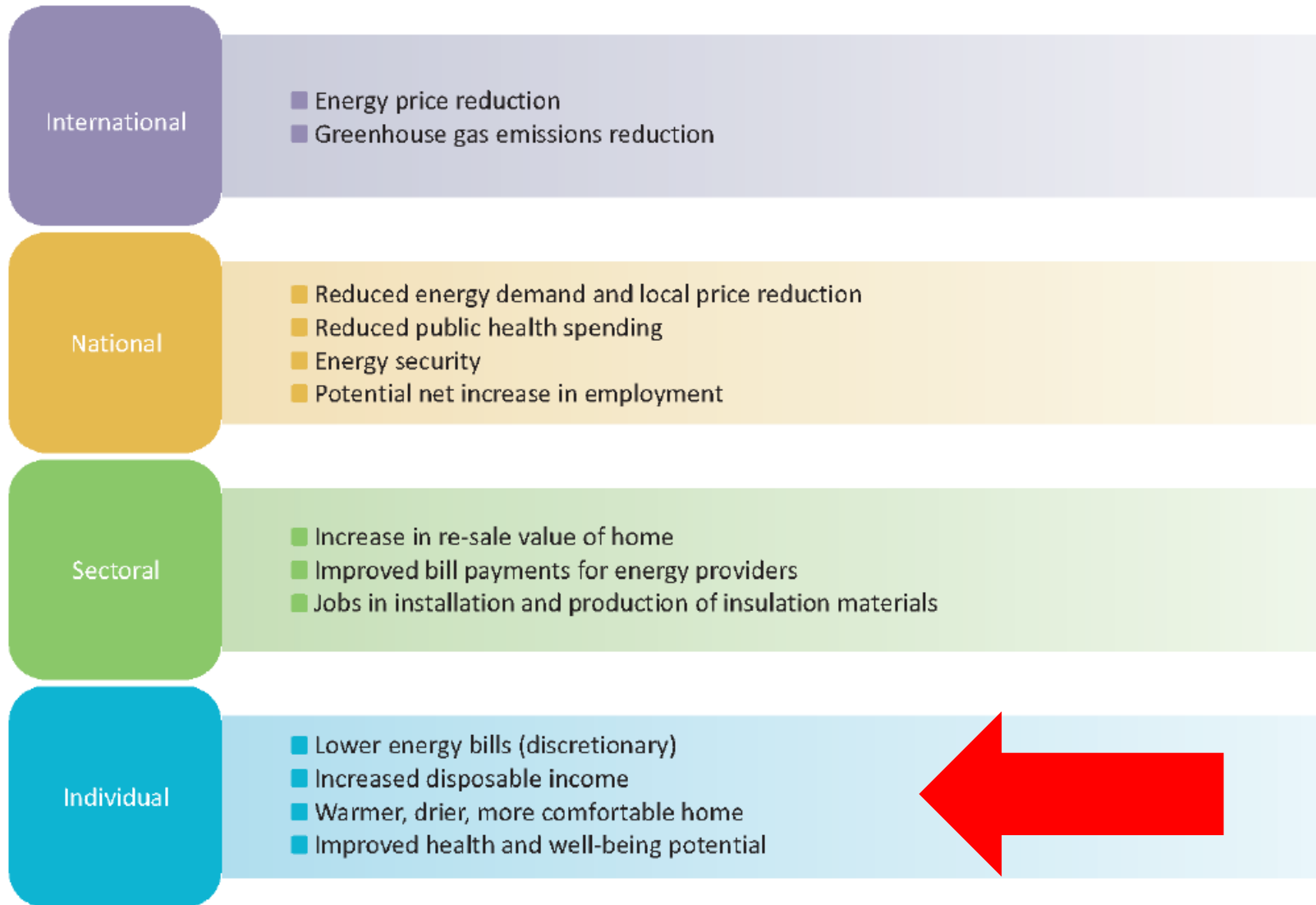


* The Nielsen Global Survey of Consumer Confidence and Spending Intentions, Q4, 2015.

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

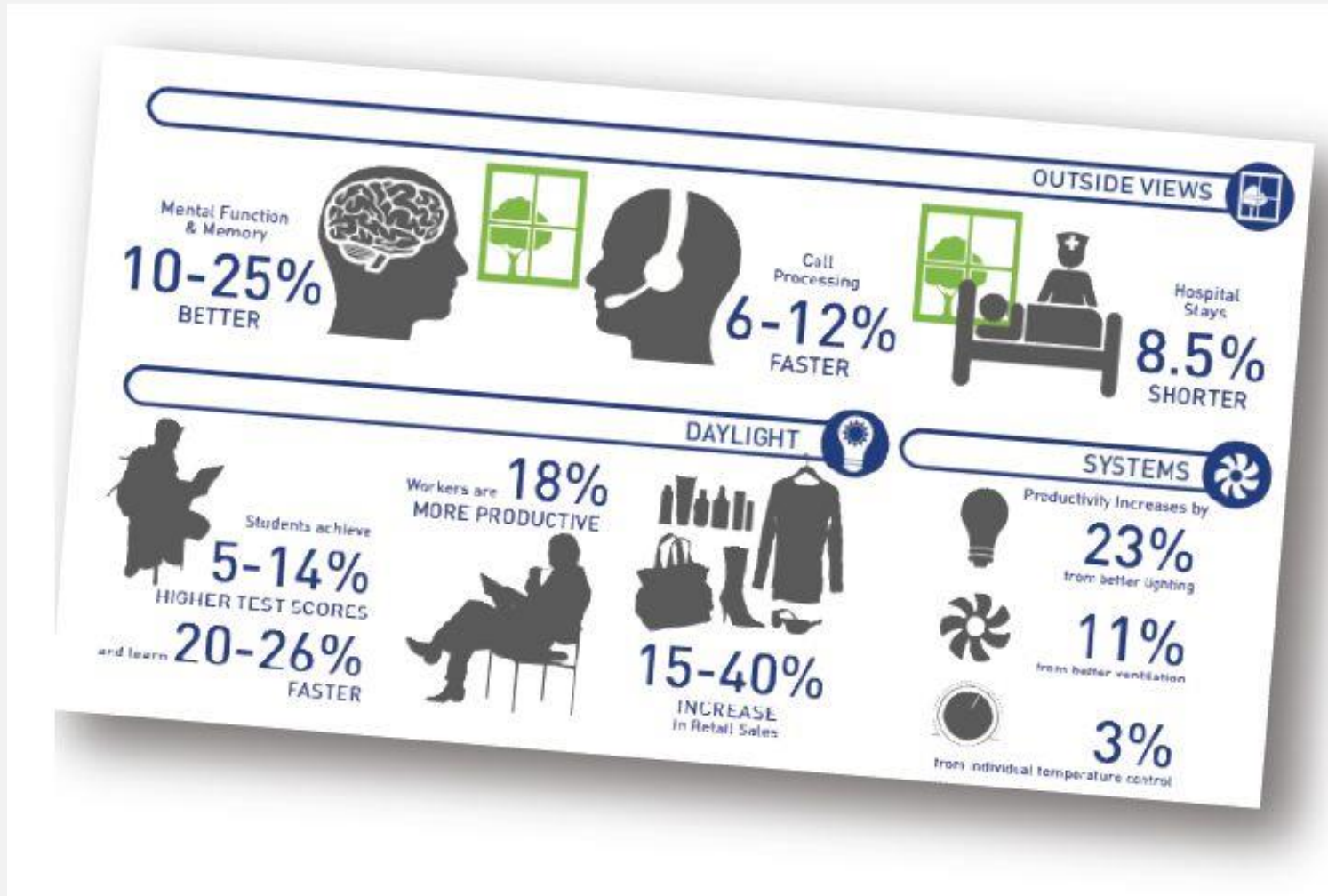
*** Eurostat, Household Saving Rate Q4 2014.

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

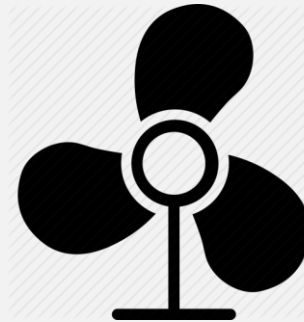
Impact indoor climate on health

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



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



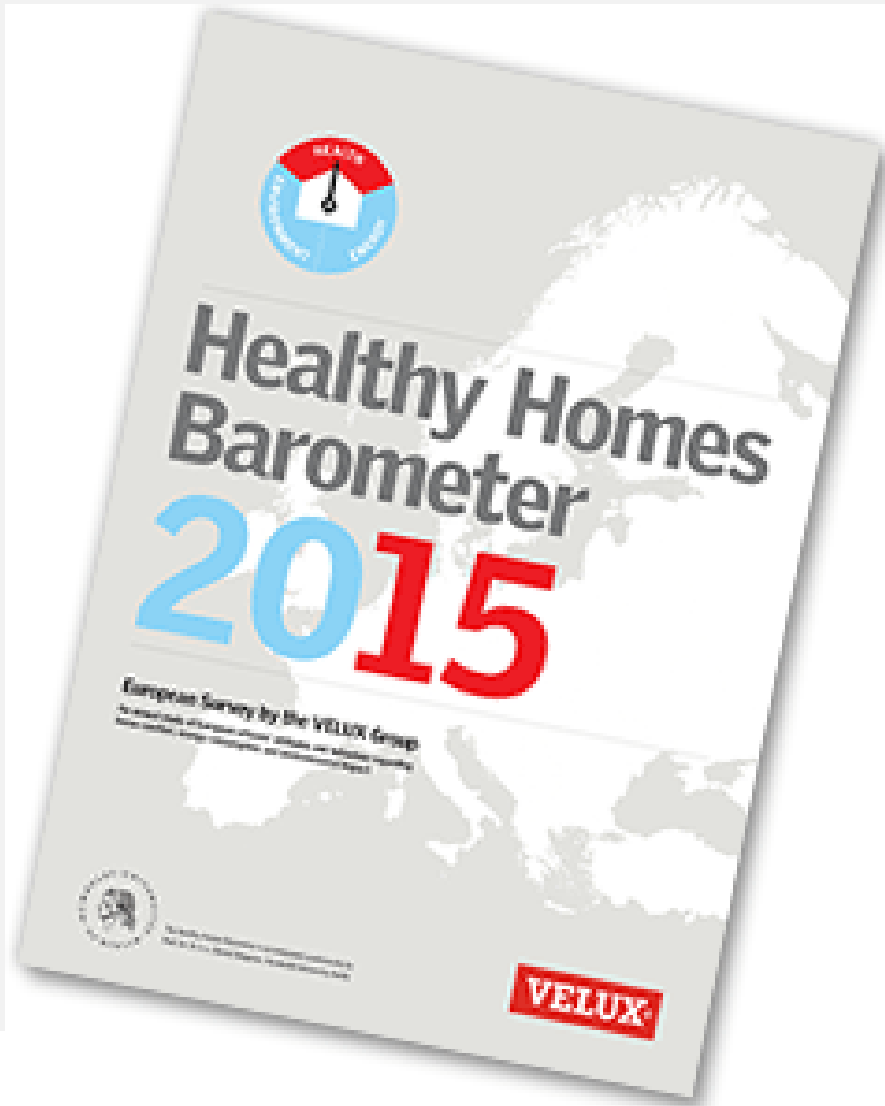
In 2012, EU Member States collectively spent

€421bn

on energy imports

Healthy Homes Barometer – what drives European citizens?

VELUX®



- ▶ **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

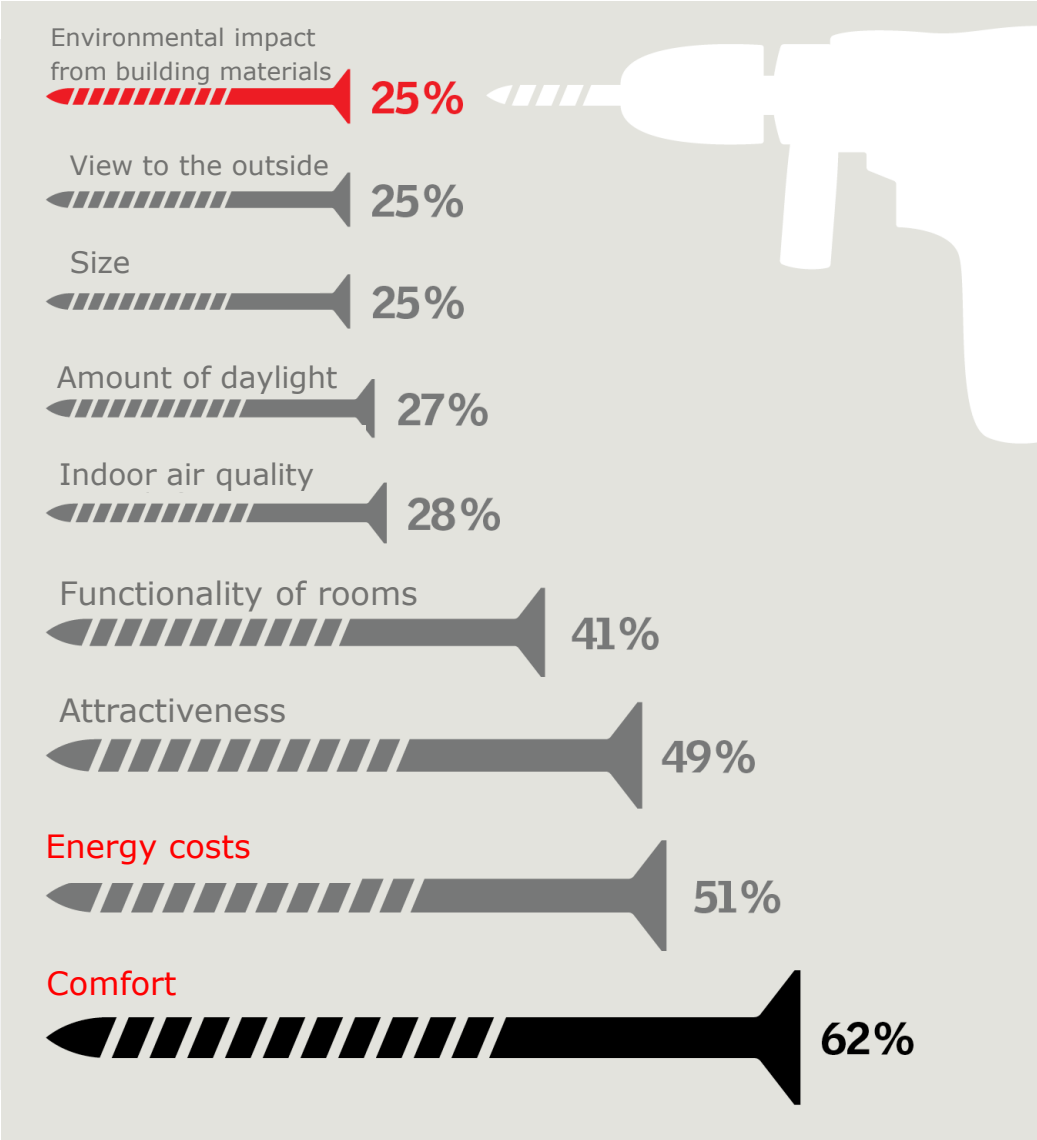
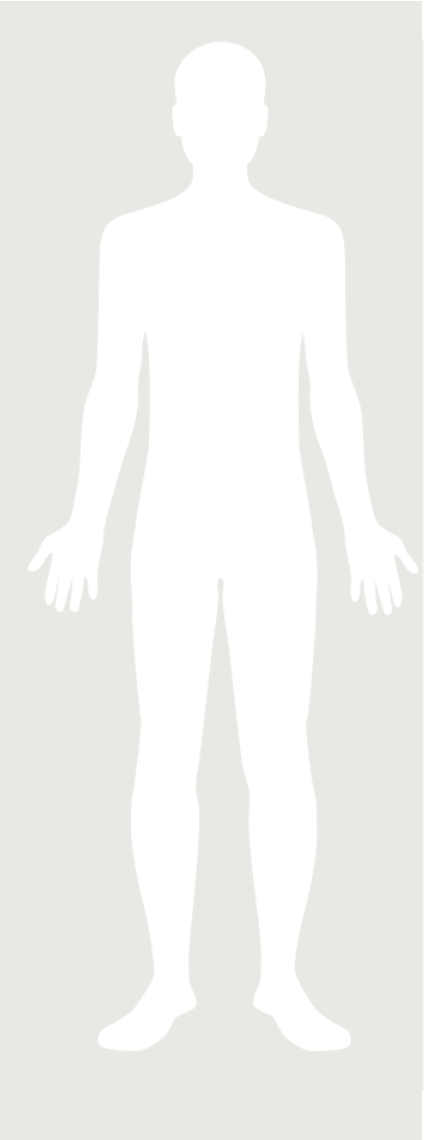


4

- ▶ # 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



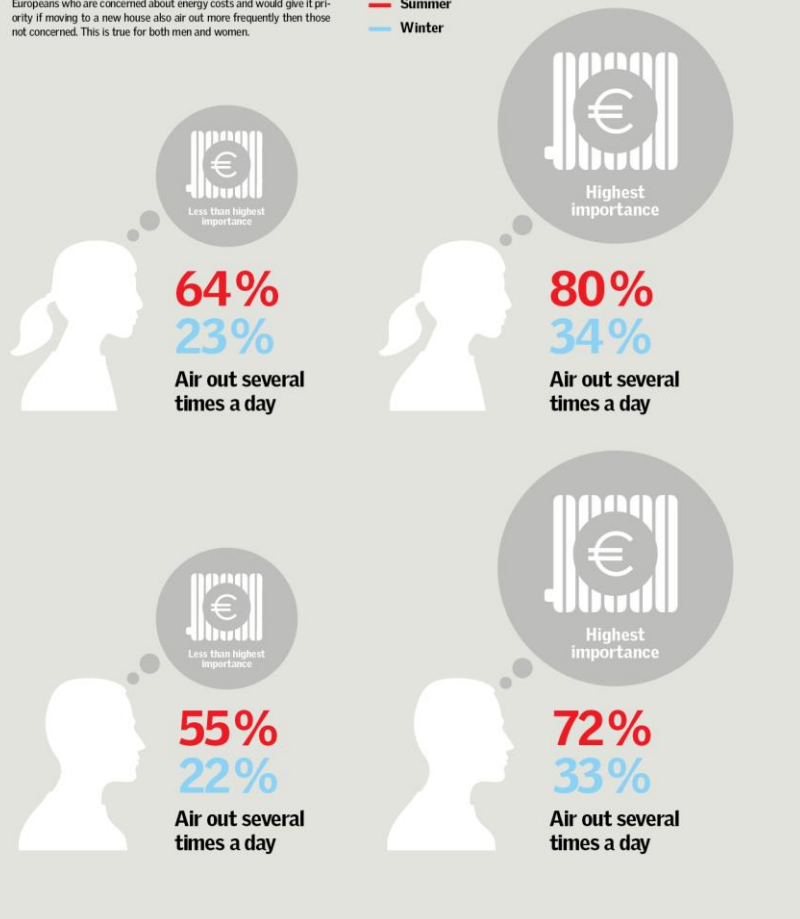
European citizens: **We expect performance on energy *and* comfort**

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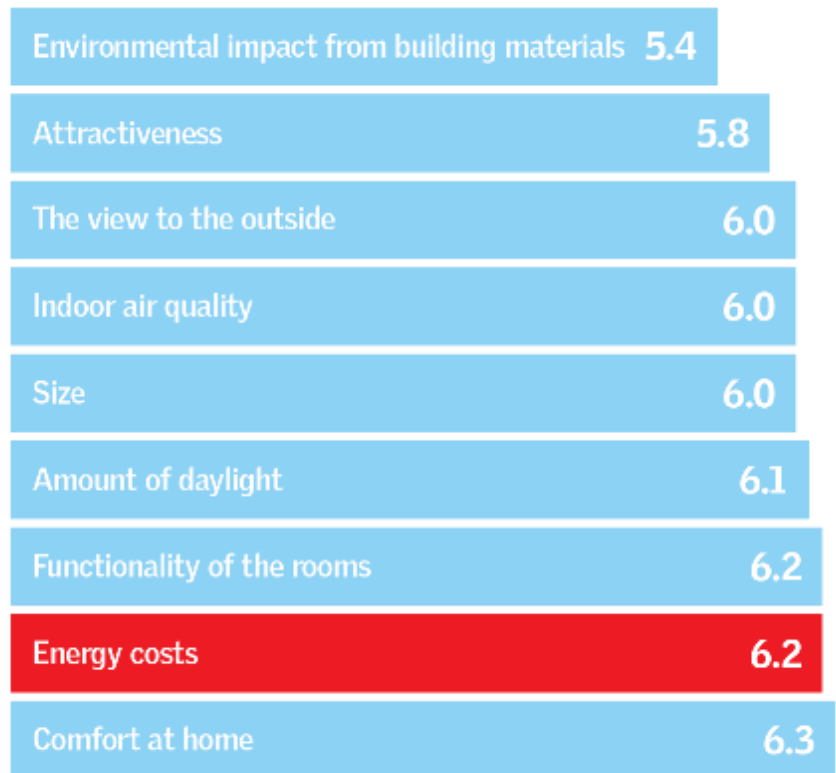
Hand in hand: Energy and health awareness go together

Europeans who are concerned about energy costs and would give it priority if moving to a new house also air out more frequently than those not concerned. This is true for both men and women.

— Summer
— Winter



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

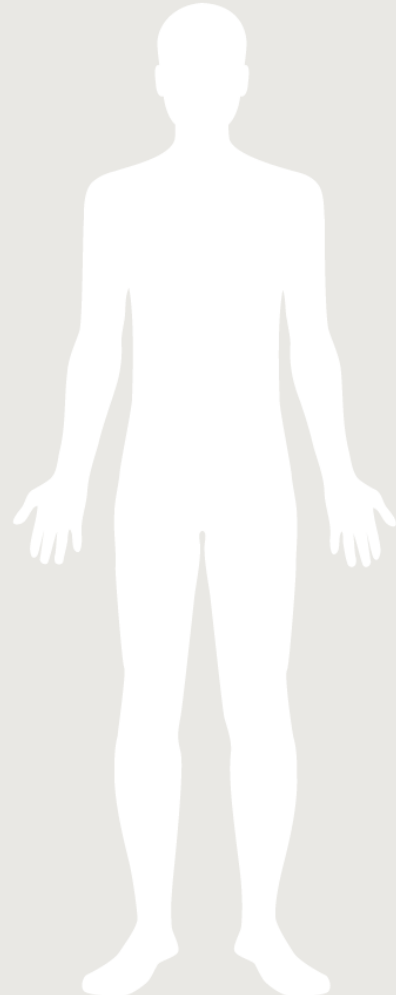
 4.1 Dietary supplements

... 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.

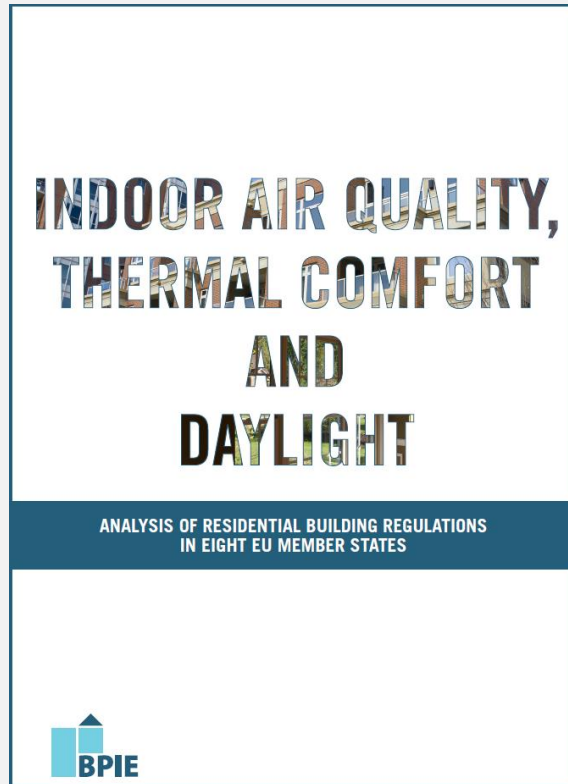
How to ensure healthy intake

 **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: ???

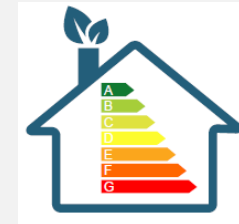
Better regulation needed to guarantee efficient and healthy buildings*



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**



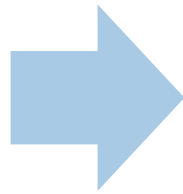
A decade of full scale experiments – 21 Active Houses in 12 countries



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



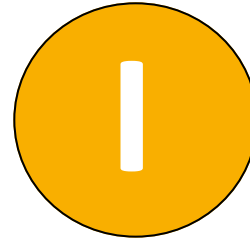
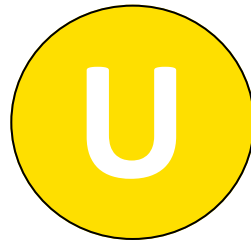
Thank you

Questions?

Bringing light to life™

#HealthyBuildings
@kurtemil

VELUX®



Conclusions

Adrian JOYCE, Secretary General, EuroACE



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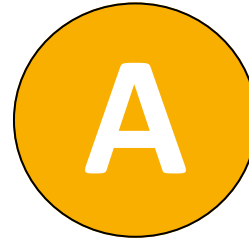
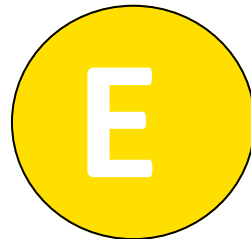
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See you next



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