

Energy Efficiency – the first fuel for the EU Economy

How to drive new finance for energy efficiency investments

Final Report - Covering Buildings and Industry

Launch Presentation, EC Conference, Brussels



Energy Efficiency
Financial Institutions Group

Presented by

EEFIG Rapporteur, Peter Sweatman on February 26th 2015

How to Increase the Flow of Energy Efficiency Investments in EU

EEFIG's work has benefited from:

The Energy Efficiency Financial Institution Group (“EEFIG”) was established to determine how to overcome the well documented challenges to obtaining long-term financing for **energy efficiency**

Active input of some 120 expert participants (8,000 hours)

40% of the EEFIG participants either work for, or represent the views of, financial institutions. Participation from financial institutions, policy makers, finance users (buildings, industry or SME) and energy efficiency experts

EEFIG's Mandate

1

What are the most imminent challenges that must be overcome?

2

Who would be the right party to address them?

3

What should the European Commission/ EU do?

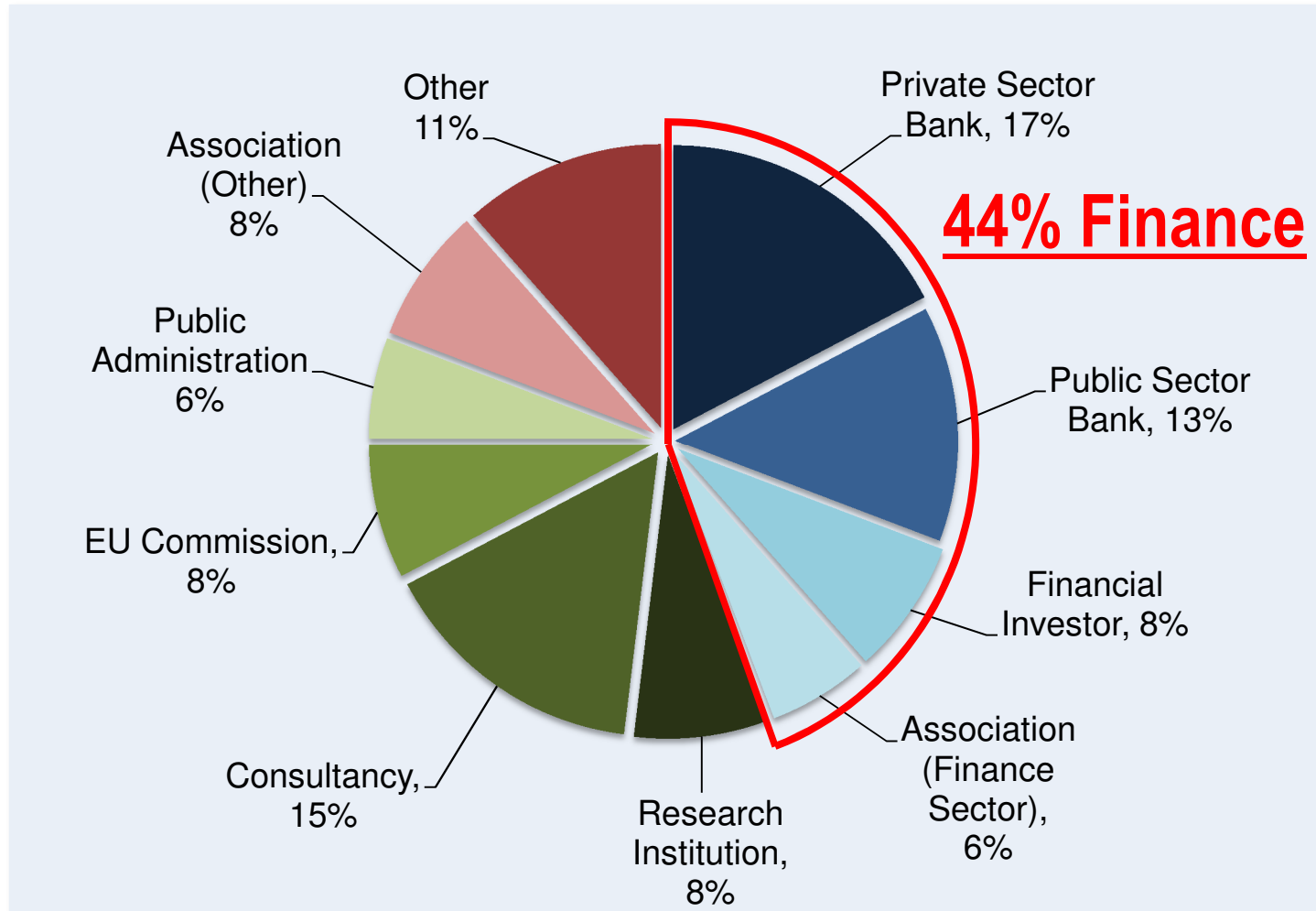
EEFIG's 120 Participants Represent over 100 Organizations



Energy Efficiency
Financial Institutions Group

ABB	European Commission (EC)	Institutional Investors Group on Climate Change (IIGCC)
Agentschap NL	Econoler	Investor Confidence Project
Allianz Global Investors	EDF FENICE	IPEEC
Europe GmbH	EEP – Institute for Energy Efficiency in Production, University of Stuttgart	KfW Bankengruppe
Allianz Climate Solutions	Energy Efficiency in Industrial Processes (EEIP)	Munich Re
Allianz Real Estate	EFIEES	Network of European Financial Institutions for SMEs (NEFI)
ASN Bank	Efinovia Europe	NRW Bank
Aurubis Belgium N.V./S.A.	EIIF	Orgalime
Aviva Investors	Emerson Electric Co.	Parhelion
Bank Nederlandse Gemeenten (BNG)	European Association of Energy Service Companies (eu.esco)	Polish Bank Association
Bank of Valetta p.l.c.	European Builders Confederation (EBC)	Polish National Fund for Environmental Protection and Water Management
Banque Public d' Investissement	EuroACE	RICS
Belesco asbl	Eurobank Ergasias SA	Schneider Electric
Belfius	Eurochambres	Siemens
Bloomberg New Energy Finance	European Association of Public Banks (EAPB)	Siemens Financial Services GmbH
BNG Bank	European Bank for Reconstruction and Development (EBRD)	Societe Generale
BNP Paribas Asset Management	European Climate Foundation	SPIRE
BNP Paribas Investment Partners	European Investment Bank (EIB)	Spire2030
Buildings Performance Institute Europe (BPIE)	European Property Federation	Susi Partners
Caisse des Dépôts et Consignations	FIEC (European Construction Industry Federation)	Sustainable Development Capital Limited
Cassa Depositi e Prestiti	Green Investment Bank	Tera srl
CDC Climat	HBOR – Croatian Bank for Reconstruction and Development	The CO-Firm GmbH
CECIMO	Hermes Investment Management	The Energy Managers
Cembureau	Honeywell	Turboden
Citi Handlowy	Huber Dixon	UNEP Finance Initiative (UNEP FI)
Bank Handlowy w Warszawie S.A.	Hungarian Development Bank (MFB)	Unicredit
Climate Strategy & Partners	IFIEC (International Federation of Industrial Energy Consumers)	UNIDO - United Nations Industrial Development Organization
Cogen Europe	ING Commercial Banking	Union Européenne de l'Artisanat et des Petites et Moyennes Entreprises – UEAPME
Credit Suisse Securities (Europe) Limited	International Energy Agency	Linköping University
Deneff		World Business Council for Sustainable Development
Deutsche Bank		
DNV GL		
E3G		
EASME		

EEFIG Participant Expertise Distribution



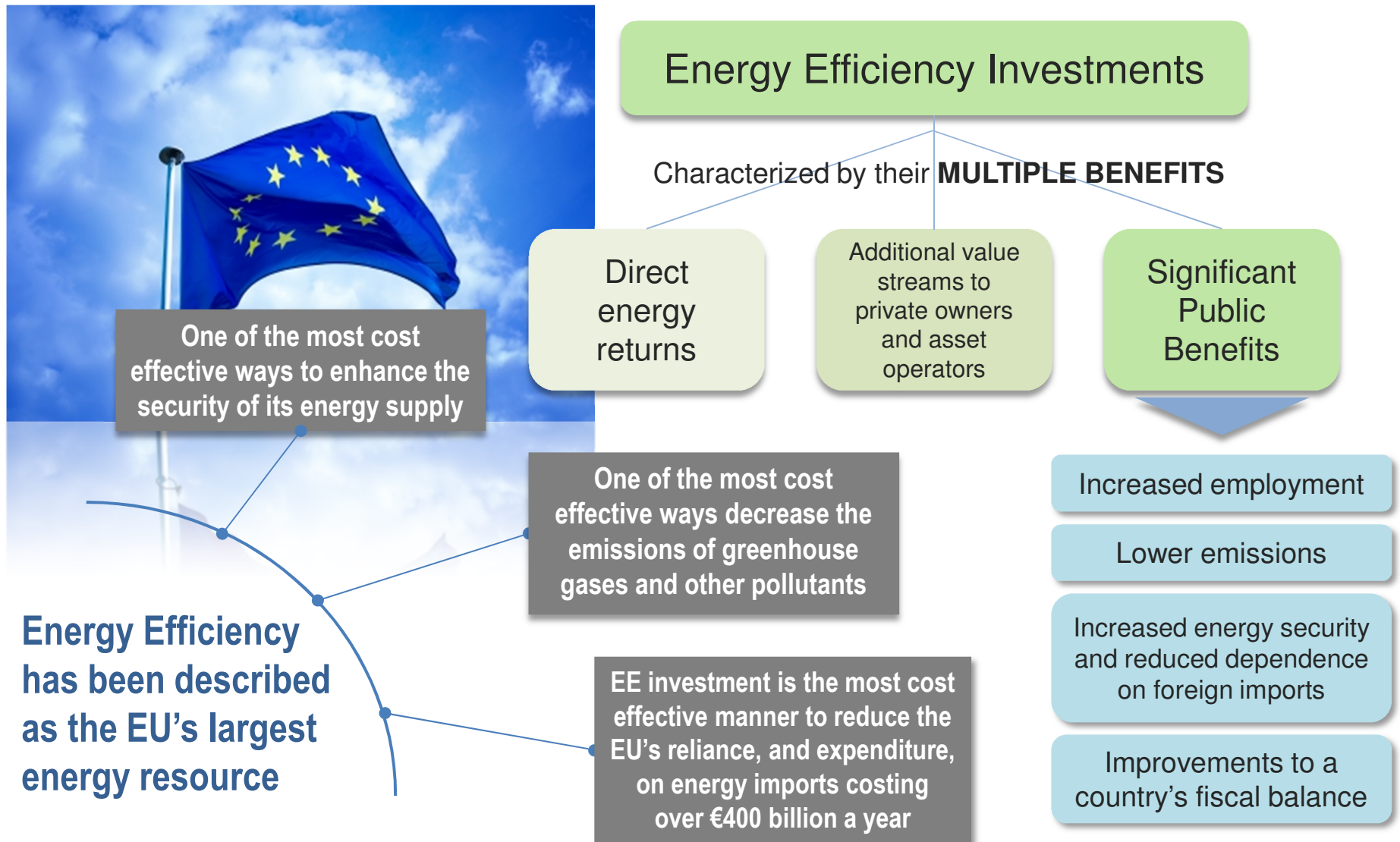
Setting the Scene:

The Need for EE Investments
in EU Buildings, Industry & SMEs





Energy Efficiency is Europe's First Fuel



Increasing Energy Efficiency Investment is a Strategic Priority

Global Annual Investment Need (2010-2020, IEA)

2014 Ceres Global:

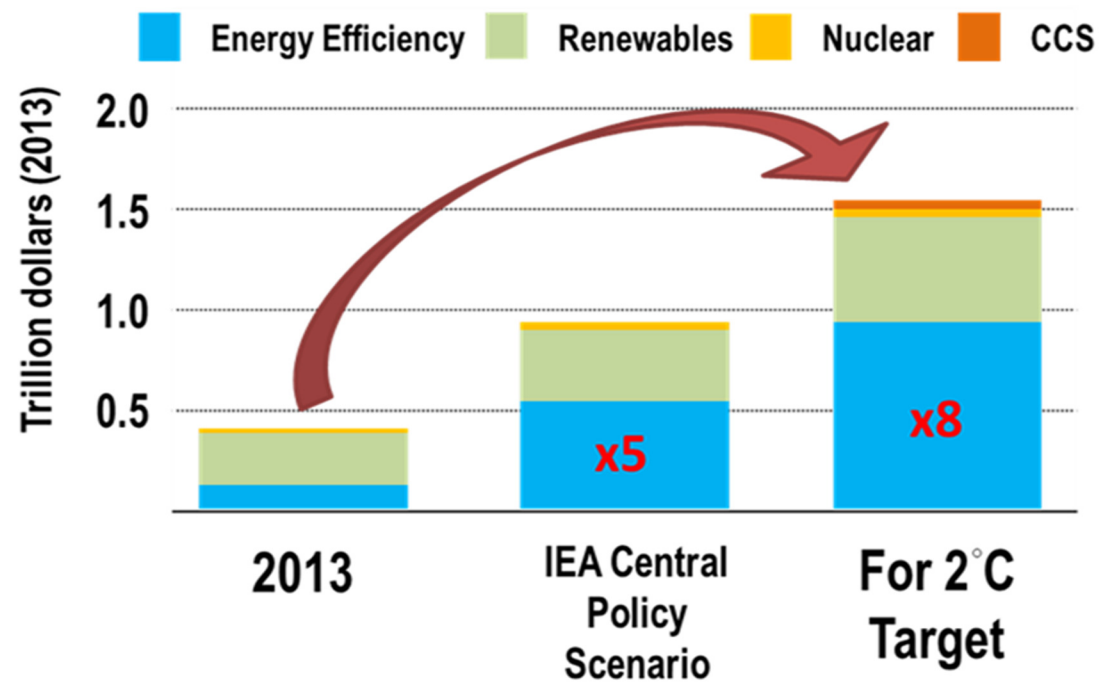
Projects global annual investment need (2010-2020) to limit global temperature rises to a 2°C scenario:

- \$300 billion in buildings' energy systems
- \$30 billion in industry

EU needs to invest:

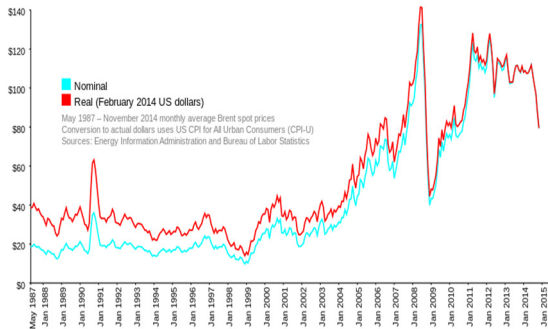
(for 2°C scenario, IEA)

- \$1.3 trillion in energy efficiency in buildings from 2014-2035
- \$154 billion in energy efficiency in industry





Oil & Gas Price Volatility is an Opportunity



Lower, but Volatile
Oil & Gas Prices



Opportunity

Enforce Existing
Regulations

Greater Use of
Fiscal Tools to...

Market Participants
to turn short term
gains into:

Incentivize efficiency

Long term value

+

+

Increase
Pollution Costs

Resilience

Energy Efficiency Investments in EU Buildings





EU Buildings are in Need of Renovation

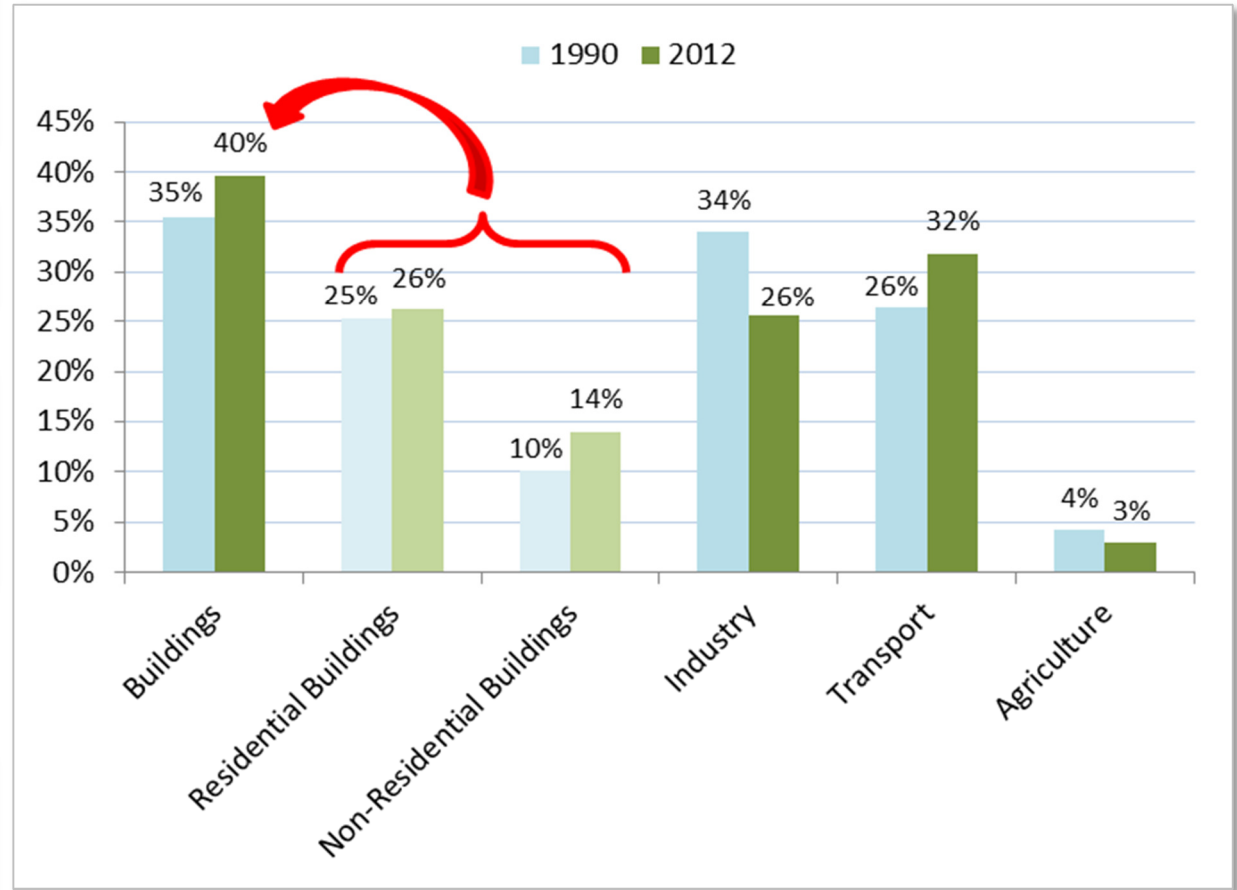
Buildings 40% share in final energy consumption in EU-286

75% of Standing EU Buildings Built with no, or minimal, energy-related building codes

75%-90% of today's buildings still in use in 2050

Low Demolition Rates
+
Low Renovation rates
+
Low Highly Energy Efficient New-build

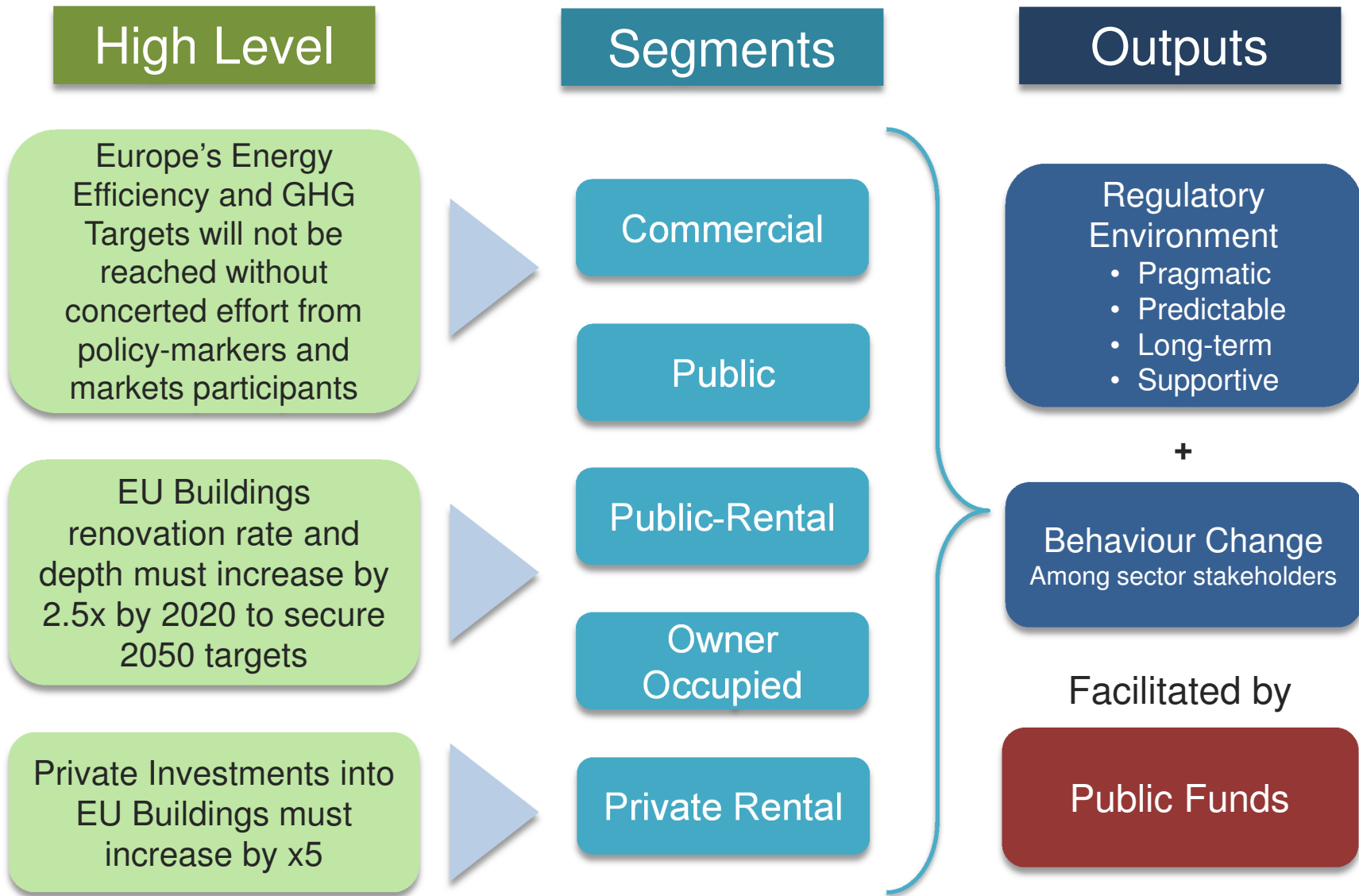
Europe's EE challenge in buildings mainly concerns the energy efficient renovation and investments in its existing buildings stock.



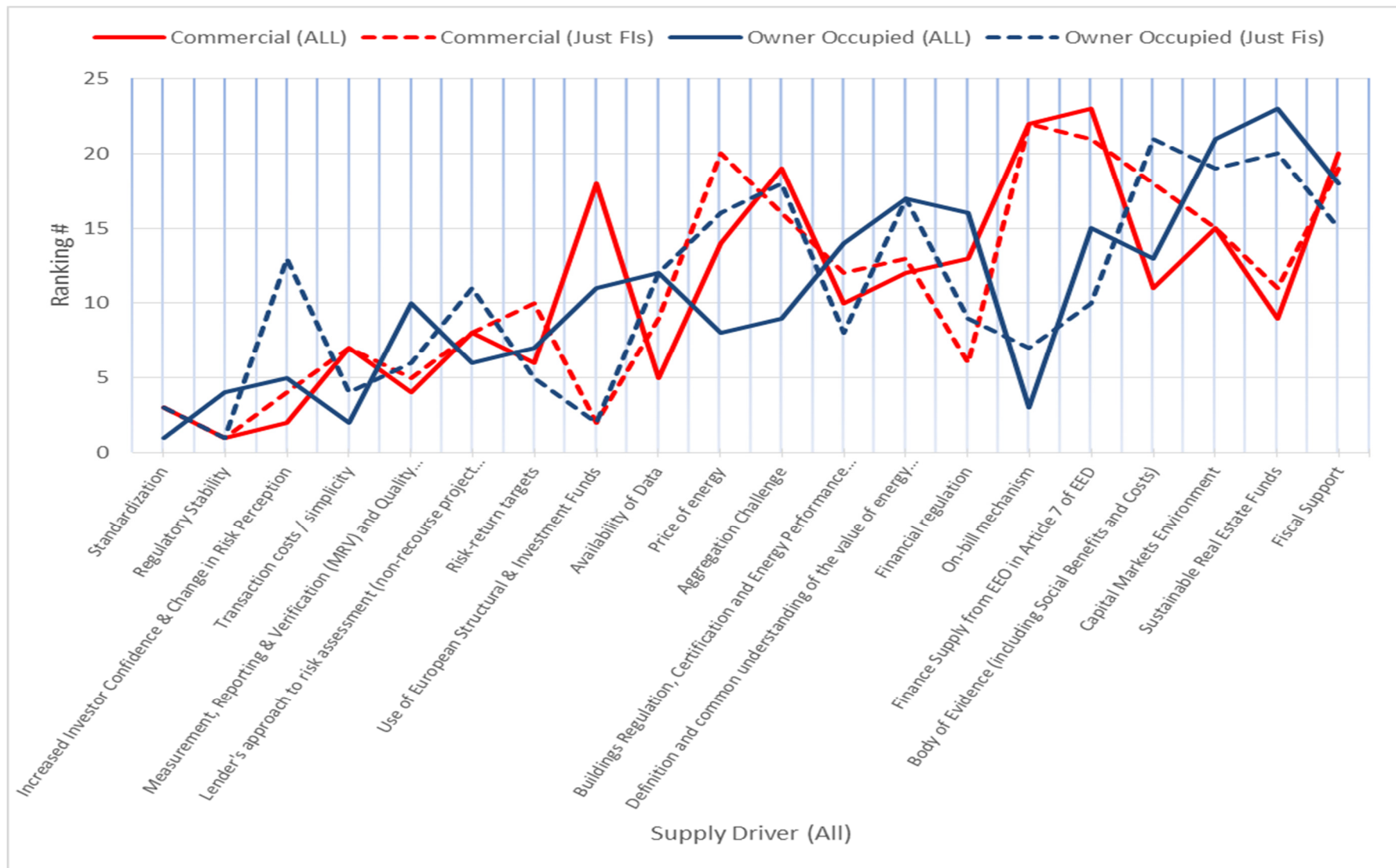
Graph Source: Eurostat



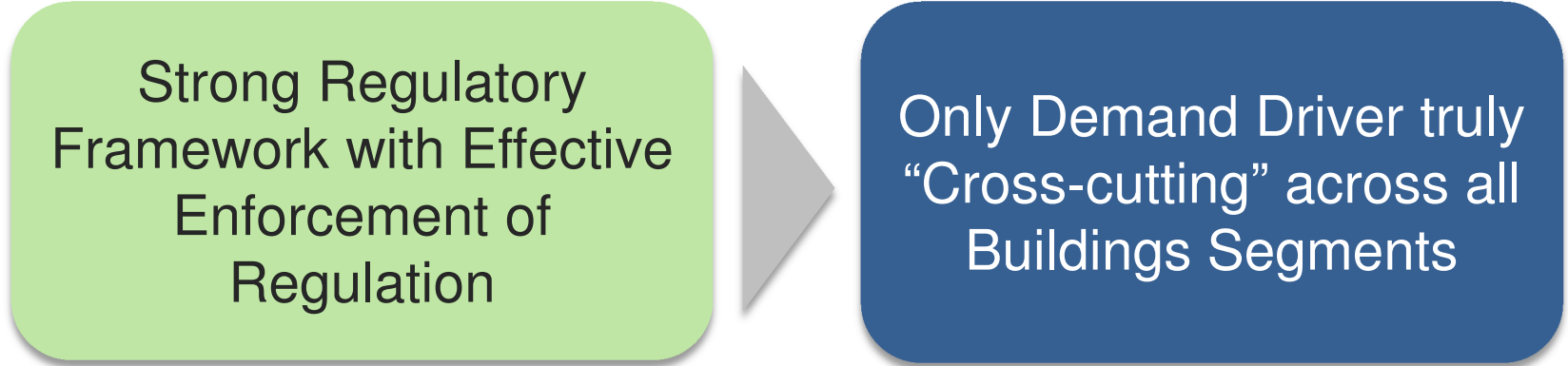
EEFIG's Approach to EU Buildings



Using Participant Surveys to Understand Drivers by Segment



Demand Drivers for Energy Efficiency Investments in Buildings



Strong Drivers of Energy Efficiency Investment Demand:

Public Buildings	Commercial & Public Buildings	Commercial Buildings	Private Residential Buildings
<ul style="list-style-type: none"> • Rules guiding public authority accounting, procurement and reporting and facilitation • Technical assistance 	<ul style="list-style-type: none"> • Awareness of the opportunities at the key decision maker level • Buildings regulation, building certification and energy performance certificates • Standardization 	<ul style="list-style-type: none"> • Clear business case • Assured regulatory stability 	<ul style="list-style-type: none"> • Transaction Costs / simplicity • Individual owner payment capacity • Awareness, communication and marketing

Supply Drivers for Energy Efficiency Investments in Buildings



Strong Drivers of Energy Efficiency Investment Supply:

Residential Buildings	Commercial & Public Buildings	Commercial Buildings
<ul style="list-style-type: none"> • Reduced transaction costs • On-bill repayment mechanisms 	<ul style="list-style-type: none"> • Measurement Reporting & verification (MRV) combined with quality assurance 	<ul style="list-style-type: none"> • Increased investor confidence • Changes in risk perception

Policy and Markets-led Approaches to Stimulate Energy Efficiency Investments in Buildings

Policy-led Approaches

- **Optimize Use of EU Structural and Investment Funds for Energy Efficiency Investments in Buildings**
- **Standardization and Improvement of Buildings Certification and Energy Performance**
- **Open Source EU Buildings Energy Database**
- **Industry and Finance supported National Buildings Renovation Roadmaps**

Market-led Approaches

- **Common Underwriting and Investment Procedures**
- **More Proactive Engagement and Continuous Improvement and Usage of Energy Performance Certificates (EPCs) from Financial Institutions**
- **“Operational” Energy Performance Database**
- **Project Ratings**
- **Linking impact of building energy performance with investment performance**
- **Life cycle portfolio-wide sustainability programmes**

EEFIG's Assessment of Financial Instruments for Energy Efficiency Investment in EU Buildings

EEFIG Participants Identified
16x EE Financial Instruments

7x “Mature”
Instruments

- Widely used to fund energy efficiency investments directly or indirectly

9x “Emerging”
Instruments

- Are newer but have a varying potential to increase energy efficiency investing in EU buildings

Highlights from EEFIG's Survey, Working Group & Discussions

1. **Dedicated credit lines** have the widest applicability in all buildings segments
2. **Energy Performance Contracting** is growing in commercial and public buildings
3. **Risk-sharing facilities** are proving very useful
4. EE investing through **direct and equity investments in real estate and infrastructure** is important
5. **Subordinated loans and leasing** are presently “niche” instruments for buildings EE
6. Good potential for **on-bill repayment and on-tax finance (PACE)**
7. **EE funds and Energy Service Agreements** show good potential only in commercial and public buildings



EEFIG Recommendations for Buildings Sector

To Policy Makers

- Existing **Buildings Regulations to be fully implemented, harmonised and consistently enforced** across EU Member States
- Future Regulatory Pathways for EU Buildings should **provide concerted and consistent regulatory pressure to improve the EE of buildings**
- High quality decisions and low transaction costs can only be delivered by **easily accessible data and standard procedures**
- Reporting, accounting and procurement **procedures must facilitate, and not hinder, appropriate energy efficiency investments** in public buildings
- Reach “**at-scale**” **energy efficiency upgrade of residential buildings** by addressing specific investment demand & supply drivers of this segment plus the engagement and alignment of **retail distribution channels**
- To address of EE investment supply and technical assistance through **the smart deployment of ESIFs 2014-2020 and Horizon 2020 into risk sharing mechanisms and project development assistance**, working with partners with an successful track-record

To Market Participants

- **Engage key decision makers with a clear business case** that raises their awareness of the **multiple benefits** of buildings' EE refurbishments with evidence
- **Make it easy to get the right data to the right decision makers**
- **Improve the Processes and Standards** for Buildings Labels, Energy Performance Certificates and Energy Codes
- **Standards should be developed for each element in the energy efficiency investment process**
- **Leverage of private sector finance** through appropriate use of ESIFs and Member States funds

Corporate

Energy Efficiency Investments
(Industry & SMEs)



Energy Efficiency
Financial Institutions Group

EU Industry leads in EE, yet Substantial Savings Available...

EU Industry:

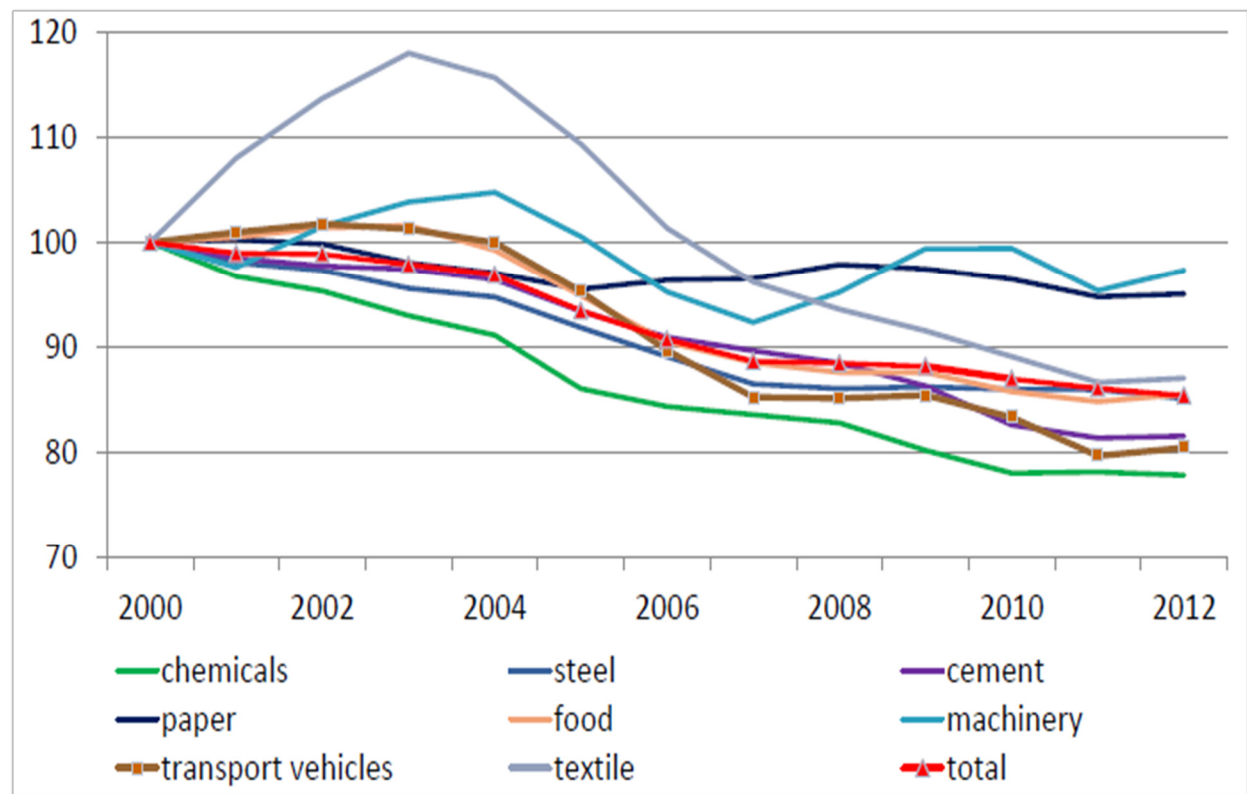
- Responsible for (26%) of European final energy consumption
- World leader in EE

EU Industrial Energy Efficiency:

- Improved on average by 1.3% per annum over the last 15 years
- Speed of progress has been reduced since the financial crisis

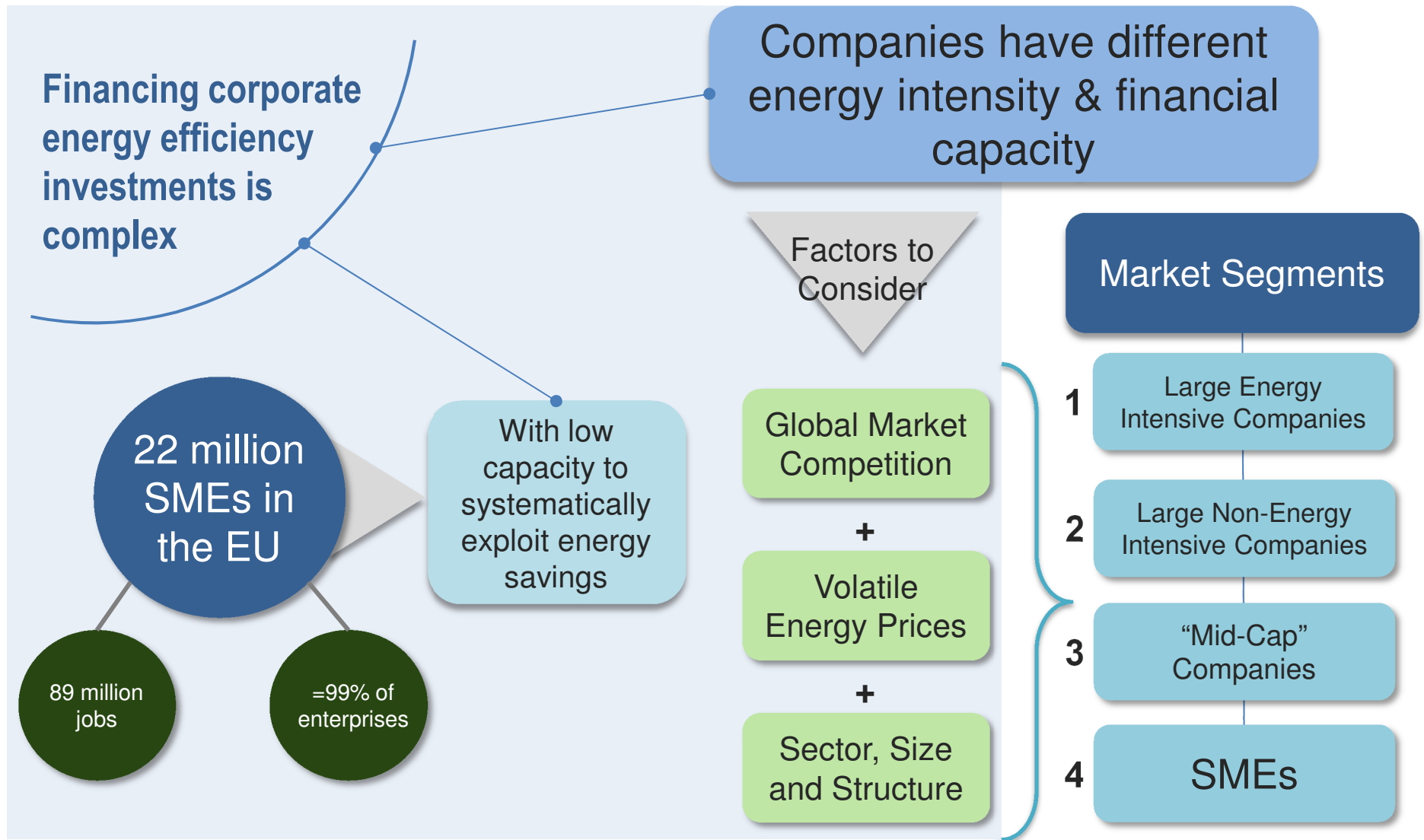
Yet Potential additional savings with a 2030-2050 horizon are substantial

Energy Efficiency Index (ODEX) in EU Manufacturing Industries calculated by ODYSSEE-MURE project and published November 2014, using industry data rebased from year 2000.

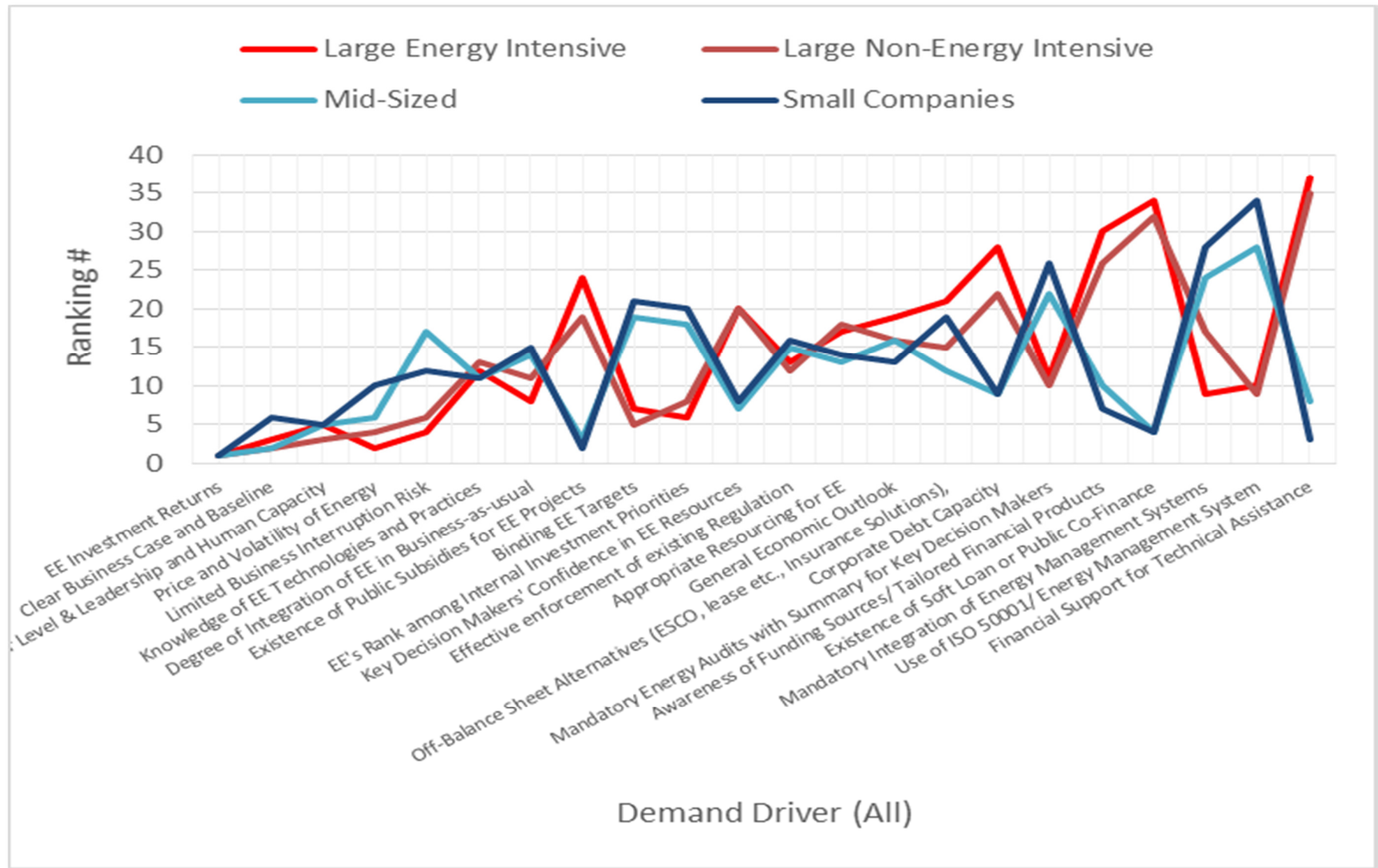




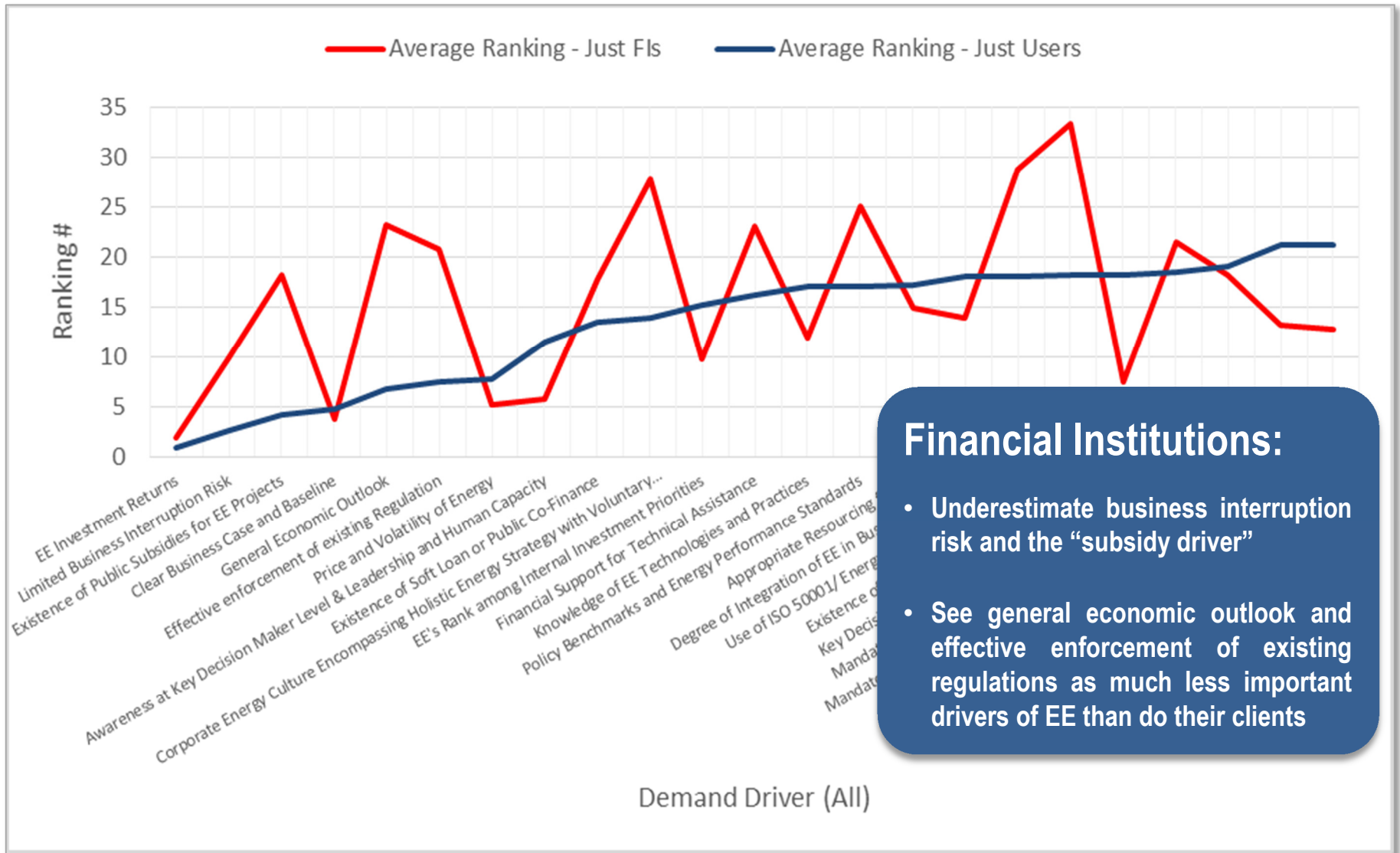
EEFIG's Approach to EU Industry & SMEs



Using Participant Surveys to Understand Drivers by Segment



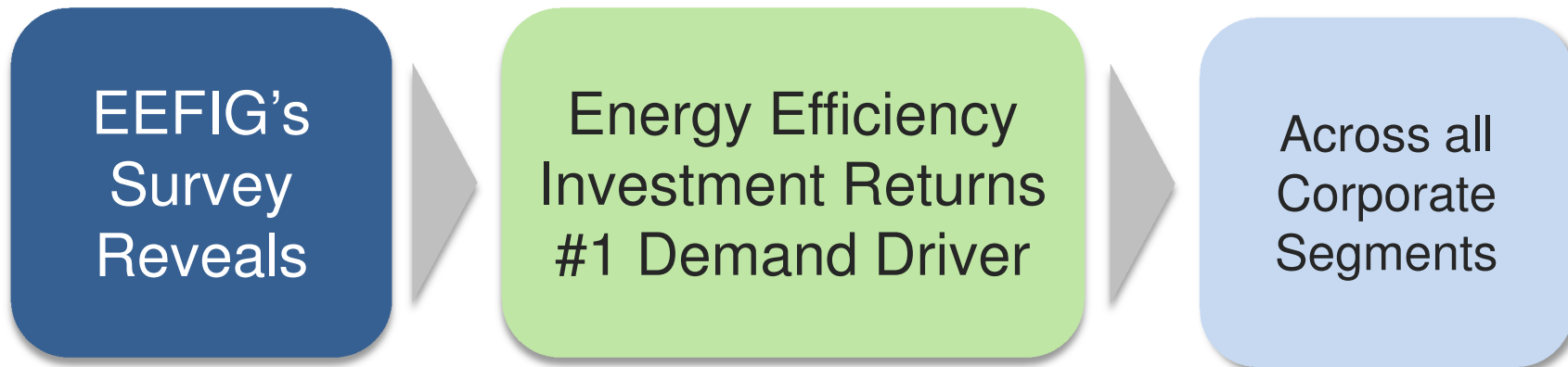
Noticing Divergent Opinions from Financial Institutions



Financial Institutions:

- Underestimate business interruption risk and the “subsidy driver”
- See general economic outlook and effective enforcement of existing regulations as much less important drivers of EE than do their clients

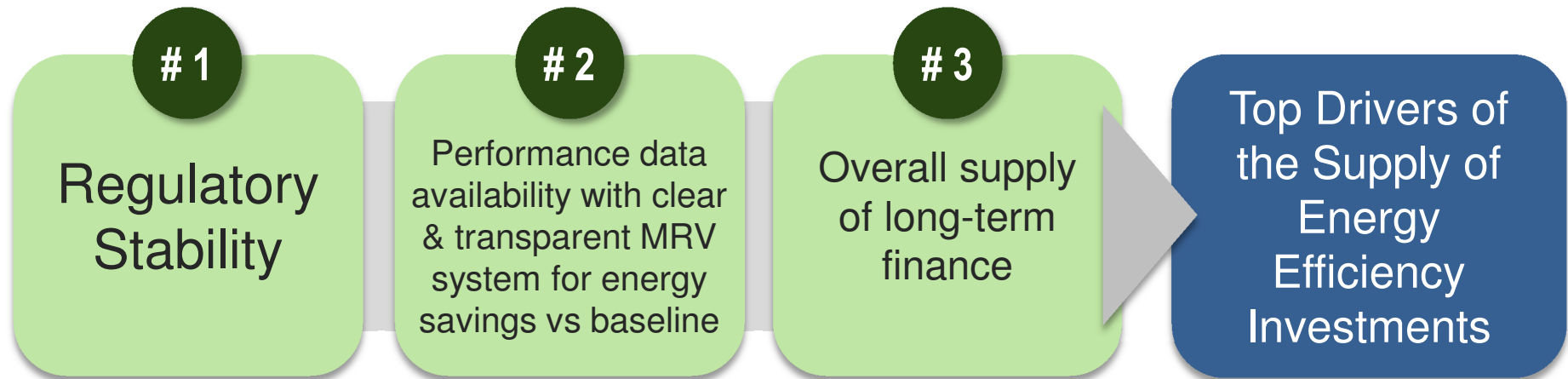
Demand Drivers for Corporate Energy Efficiency Investments



Other Strong Drivers of Energy Efficiency Investment Demand:

Large Energy Intensive Companies	Large Non-Energy Intensive Companies	Mid-Cap	SMEs
<ul style="list-style-type: none"> • Price Volatility of Energy • Clear Business Case Baseline • Use of ISO 50001/ Energy Management Systems 	<ul style="list-style-type: none"> • Clear Business Case Baseline • Awareness of the opportunities at the key decision maker level 	<ul style="list-style-type: none"> • Clear Business Case Baseline • Existence of Public Subsidies for EE Projects 	<ul style="list-style-type: none"> • Existence of Public Subsidies for EE Projects • Financial Support for Technical Assistance

Supply Drivers for Corporate Energy Efficiency Investments



Other Strong Drivers of Energy Efficiency Investment Supply:

Large Energy Intensive Companies	Large Non-Energy Intensive Companies	Mid-Cap	SMEs
<ul style="list-style-type: none"> Industry/Sector Risk Knowledge of EE Technologies and Necessary Skills to Assess EE Investments 	<ul style="list-style-type: none"> Industry/Sector Risk Knowledge of EE Technologies and Necessary Skills to Assess EE Investments 	<ul style="list-style-type: none"> Awareness of the opportunities at the key decision maker level Developed Easy-to-Use Standards for All Steps in EE Investment Process 	<ul style="list-style-type: none"> Developed Easy-to-Use Standards for All Steps in EE Investment Process Existence of Public Subsidies for EE Projects

Approaches and Instruments to Stimulate Energy Efficiency Investments in Industry & SMEs

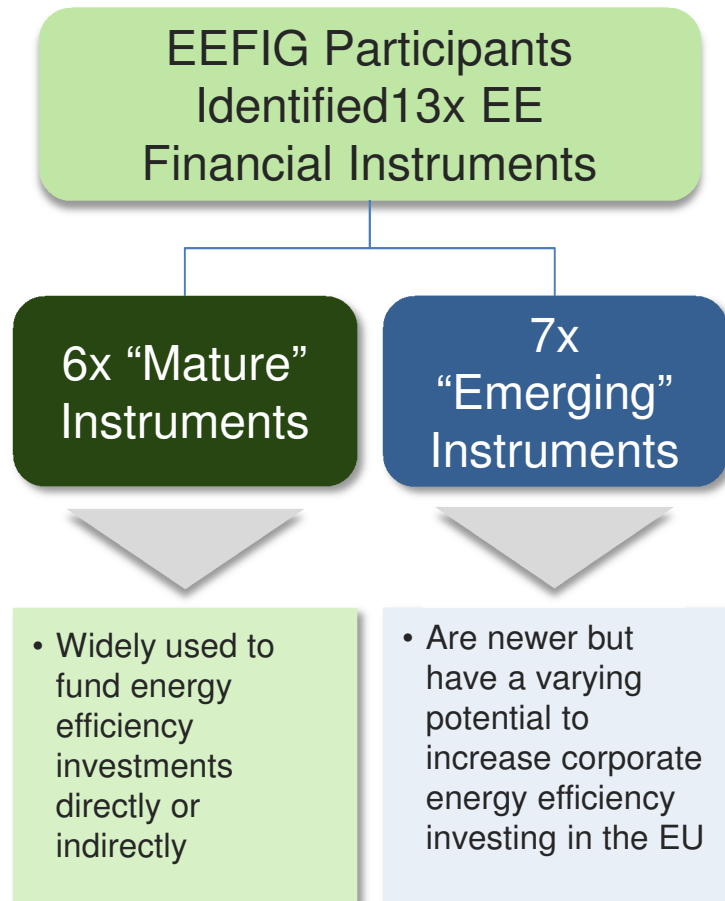
Policy-led Approaches

1. **Hybrid “Carrot and Stick” policies** to Encourage Energy Efficiency **focus at key points** in the Corporate Investment Cycle
2. Policy-led initiatives to **incentivise the integration of Energy Management Systems** and creation of **senior Energy Manager** roles
3. **Open Source EU Corporate Energy Efficiency Benchmarking Databases**
4. Industry and Finance supported **Energy Efficiency Sector Pathways**
5. Policy support for **Longer-term Energy Efficiency Investment Horizons** and Consideration of **Multiple Benefits**
6. **Project Development Assistance Facilities for SMEs**

Market-led Approaches

1. Energy Efficiency Investment Approach and Procedures **imbedded within “Standard” Corporate Finance**
2. **Promotion of Use of ISO 50001 and Energy Management Systems** within large energy consumers supported by Financial Institutions
3. **Contribute to Energy Efficiency Performance Benchmarking Database**
4. Raise Energy Efficiency as a **Strategic Priority at Executive Board level** and Link to Key Points in the Corporate Investment Cycle

EEFIG's Assessment of Financial Instruments for Corporate Energy Efficiency Investing



Highlights from EEFIG's Survey, Working Group & Discussions

1. Wealth of **mature financial instruments** used by all sizes of company to finance energy efficiency investments
2. **Energy performance contracting is widespread** and adaptable instrument
3. **Dedicated credit lines wide application** particularly for SMEs
4. **Risk-sharing facilities and subordinated loans** can enhance public-private finance leverage and help transition markets
5. **Leasing** can support the incorporation and **uptake of highly energy efficient equipment** purchases for companies
6. **Energy efficiency funds** and **Energy Service Agreements** show strong potential
7. **Green bonds have strong potential** to support large corporate investments in energy efficiency
8. A **factoring fund for energy performance contracts** may **alleviate the balance sheets** of small Energy Performance Contract providers



EEFIG Recommendations for Industry & SMEs

To Policy Makers

- Policy framework should positively support strong corporate **energy efficiency investment choices at key points in their investment cycle**, using a “carrot and stick” approach
- **Public resources and facilitation** should be engaged to establish dynamic and effective **systems for sharing information and technical experience**
- Ensure EU and national policies and resources are working effectively together to **drive R&D and optimal energy efficiency outcomes**
- Support the **clarification of the regulatory, fiscal and accounting treatment and standardisation of Energy Performance Contracts**
- Energy efficiency opportunity identification and investible project pipelines should be supported with **Project Development Assistance facilities for SMEs**

To Market Participants

- **Raise energy efficiency opportunities at board-level** and implement appropriate **strategic resource investments** to capture their **multiple benefits** within the **natural company investment cycle**
- **Financial institutions should more widely adopt existing “best practice” models** to stimulate client energy efficiency investments
- Encourage and support collaborative processes and consider **R&D whose objective is to reduce the cost of and improve the up-take of energy efficiency investments**
- **Standards should be developed for the legal terms in and process to negotiate energy performance contracts**

Conclusions & Recommendations for the EU Commission



What are the Most Imminent Challenges to Overcome?



Buildings and
Corporate sectors
are very different
Yet...

EEFIG participants identified
cross-cutting themes

which provide a framework to
describe challenges facing energy
efficiency investing in both EU
Buildings and Industry

Imminent Challenges

- 1 Driving Demand
- 2 Managing Uncertainty
- 3 Distribution and Aggregation
- 4 Blending Grants and Loans
- 5 Accounting Treatment
- 6 Horizon Period / Optimal Scope
- 7 Financial Regulatory Issues

Buildings

- Ensure **effective transposition and local enforcement** of EU Directives and increase Commission's buildings EE resources
- **Regulatory stability** for EE investments via coherent, **long-term EE regulatory pathway** and **internally consistent 2020, 2030 and 2050 targets**
- Address need for **high quality buildings performance data and standards**
- Initiate review and **benchmarking process** on decision making frameworks for public buildings to **remove accounting, reporting and procurement hurdles** and create **standard procurement procedures**
- Benchmark and compare the **relative successes of retail residential energy efficiency investment programmes** in the Member States
- Ensure Member States adequately identify **funding for their National Buildings Renovation Strategies** (Art. 4 of Energy Efficiency Directive).

Companies

- Ensure effective transposition of existing EU Directives ensuring **increased visibility and financial rigor of energy audits**
- Support regulatory stability and visibility for long-term EE, eg. **negotiated voluntary industry agreements with cost effective fiscal and accounting incentives**
- Address need for **information and experience sharing**, substantiate **corporate energy efficiency metrics and procedures** and consider role in process **energy intensity and EE investment performance databases**
- Initiate review to better understand and develop the **energy performance contracting** market
- Support **Project Development Assistance facilities to build SME capacity** and the networks which serve them.

1

Ensure that **new regulatory frameworks** for financial institutions **do not prejudice energy efficiency investments**

2

Ensure **technical assistance and project development assistance** facilities are **compatible and can be easily combined with market-based and concessional funding**

3

Ensure that public refinancing facilities, like those operated by the **European Central Bank**, **confirm eligibility for financial instruments relating to energy efficiency**

