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 at 2.30pm on February 26th 2015

How to Increase the Flow of Energy Efficiency Investments in EU

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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

EEFIG's work has benefited from:

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

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

EEFIG Participant Expertise Distribution

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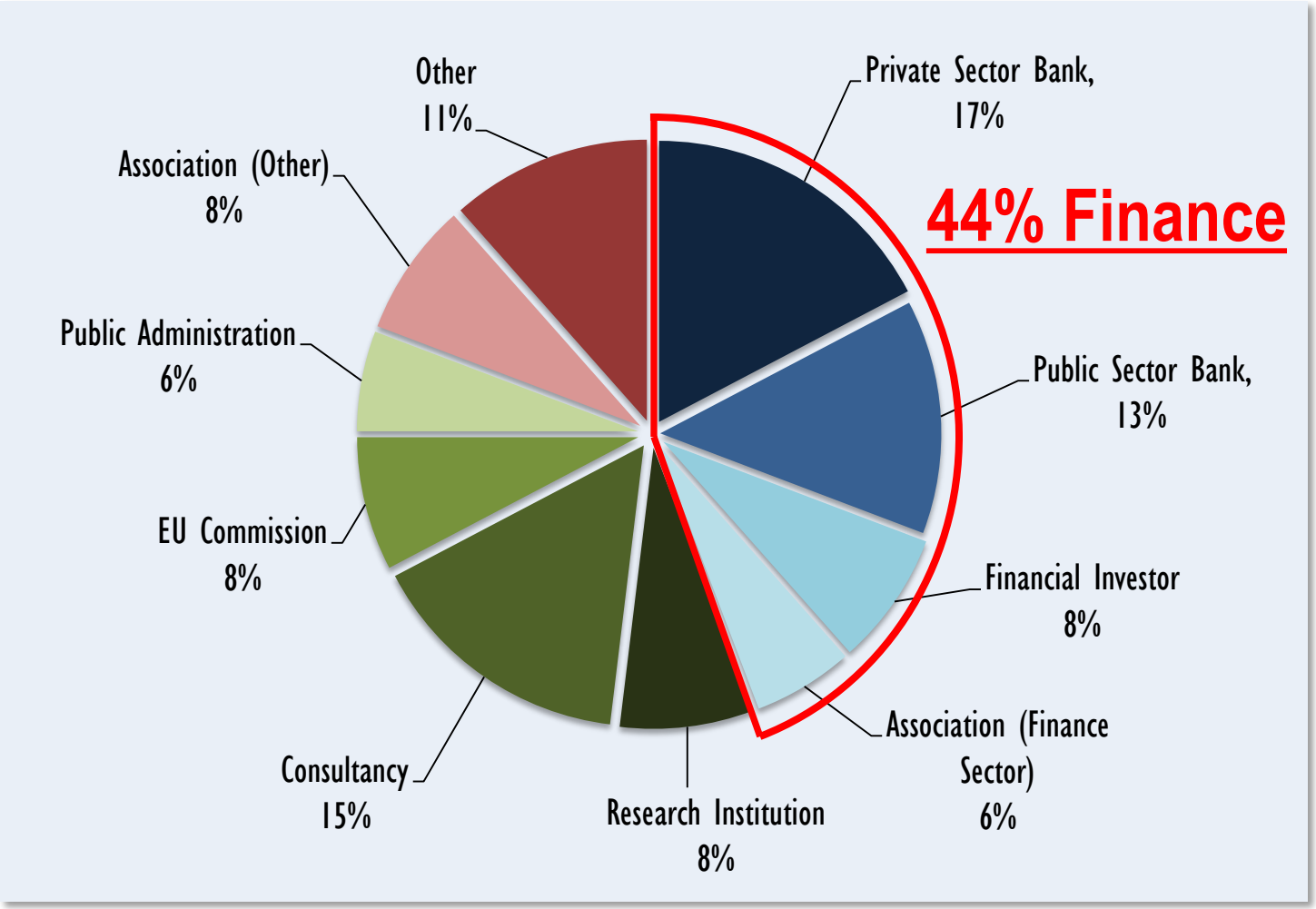

Setting the Scene:

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

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Energy Efficiency is Europe's First Fuel

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Energy Efficiency Investments

Characterized by their **MULTIPLE BENEFITS**

- Direct energy returns
- Additional value streams to private owners and asset operators
- Significant Public Benefits
  - Increased employment
  - Lower emissions
  - Increased energy security and reduced dependence on foreign imports
  - Improvements to a country's fiscal balance

One of the most cost effective ways to enhance the security of its energy supply

One of the most cost effective ways decrease the emissions of greenhouse gases and other pollutants

EE investment is the most cost effective manner to reduce the EU's reliance, and expenditure, on energy imports costing over €400 billion a year

Energy Efficiency has been described as the EU's largest energy resource

Increasing Energy Efficiency Investment is a Strategic Priority

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2014 Ceres Global:

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

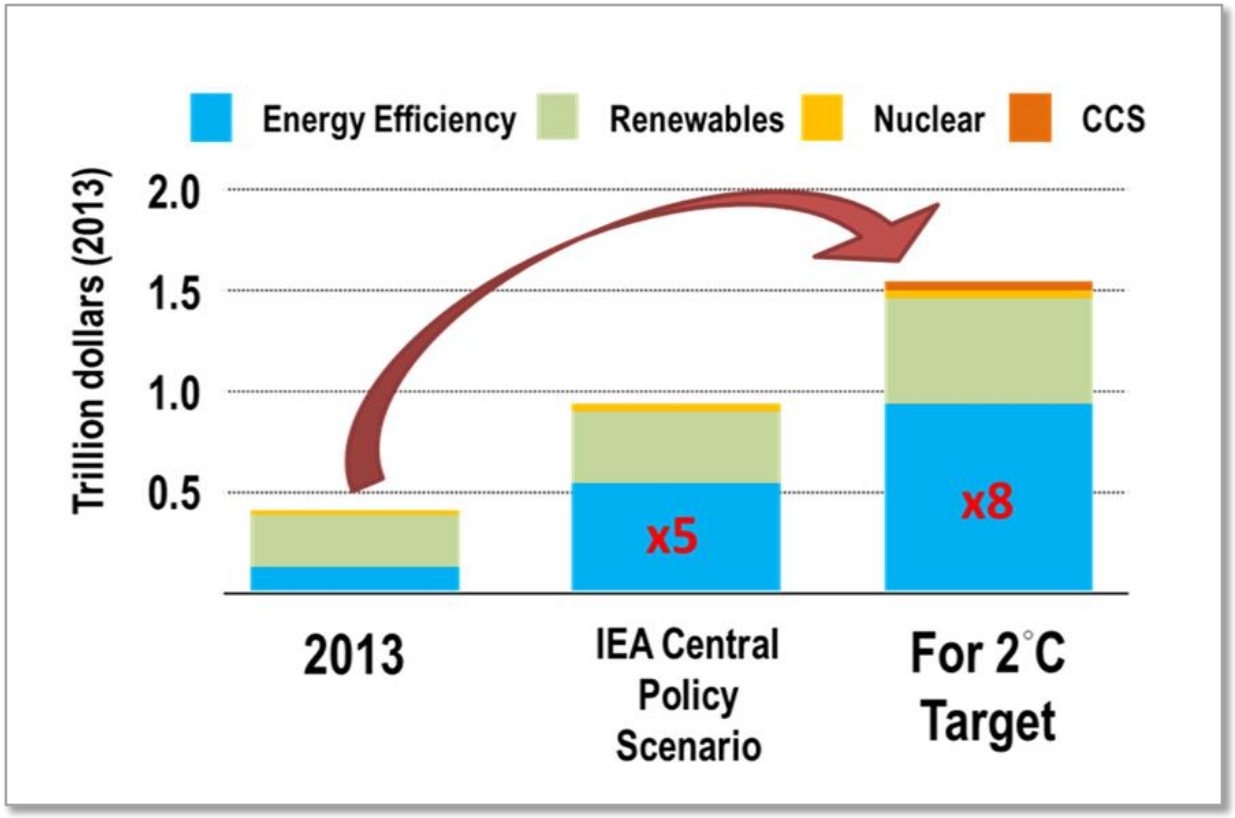
- $300 billion in buildings' energy systems
- $30 billion in industry

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

Global Annual Investment Need (2010-2020, IEA)



Oil & Gas Price Volatility is an Opportunity

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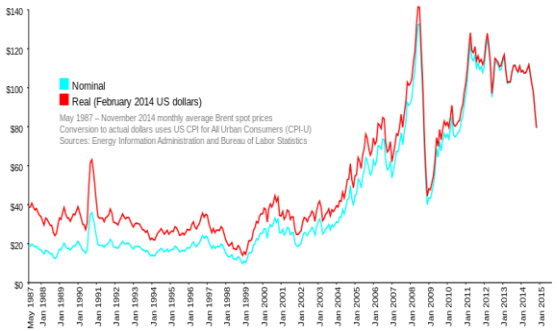

Lower, but Volatile Oil & Gas Prices

Opportunity

- **Enforce Existing Regulations**
- **Greater Use of Fiscal Tools to...**
  - Incentivize efficiency
  - \+
  - Increase Pollution Costs
- **Market Participants to turn short term gains into:**
  - Long term value
  - \+
  - Resilience

Energy Efficiency Investments in EU Buildings

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EU Buildings are in Need of Renovation

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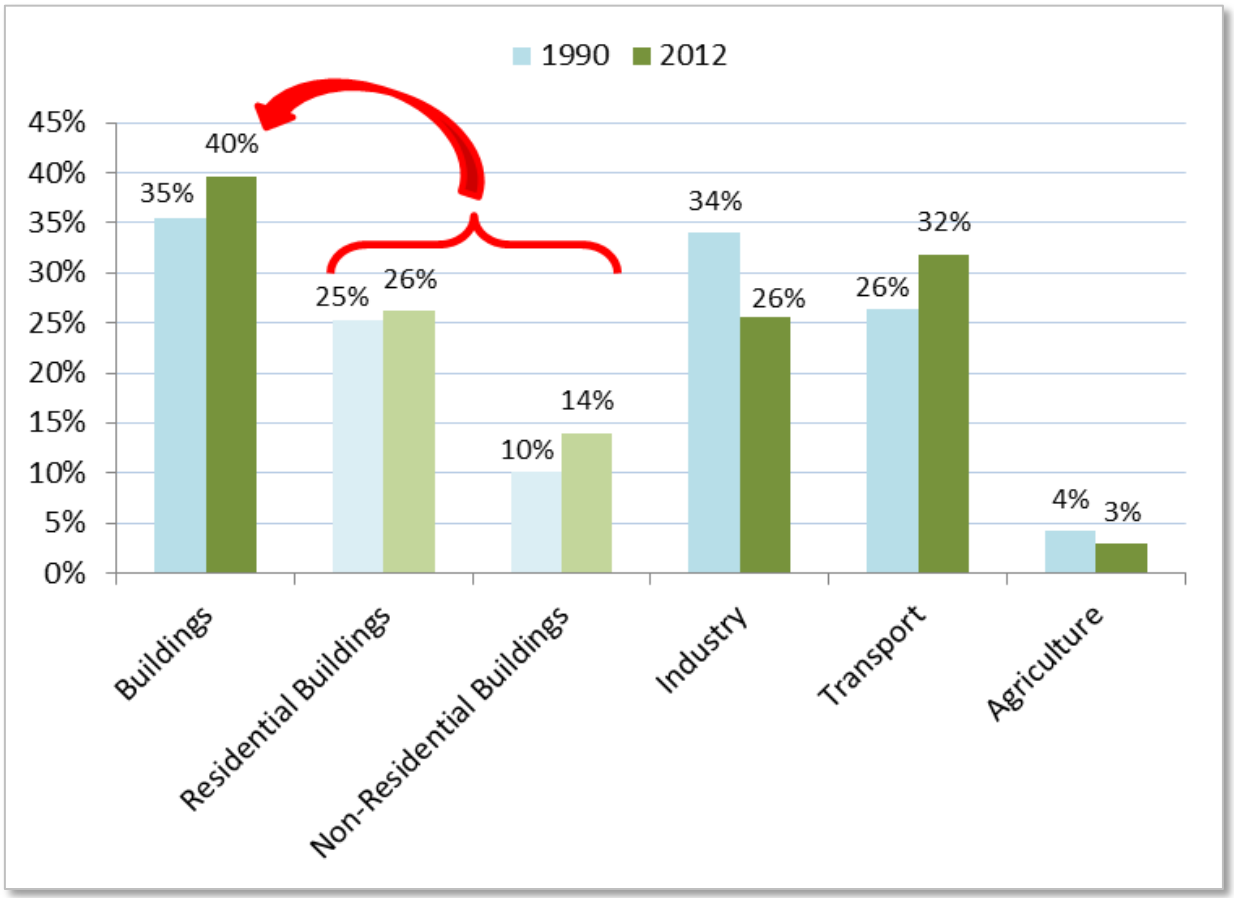
75% of Standing EU Buildings Built with no, or minimal, energy-related building codes

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.

Buildings 40% share in final energy consumption in EU-28



Graph Source: Eurostat

EEFIG's Approach to EU Builidngs

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High Level

Europe's Energy Efficiency and GHG Targets will not be reached without concerted effort from policy-markers and markets participants

EU Buildings renovation rate and depth must increase by 2.5x by 2020 to secure 2050 targets

Private Investments into EU Buildings must increase by x5

Segments

- Commercial
- Public
- Public-Rental
- Owner Occupied
- Private Rental

Outputs

Regulatory Environment
- Pragmatic
- Predictable
- Long-term
- Supportive

+

Behaviour Change
Among sector stakeholders

Facilitated by

Public Funds

Using Participant Surveys to Understand Drivers by Segment

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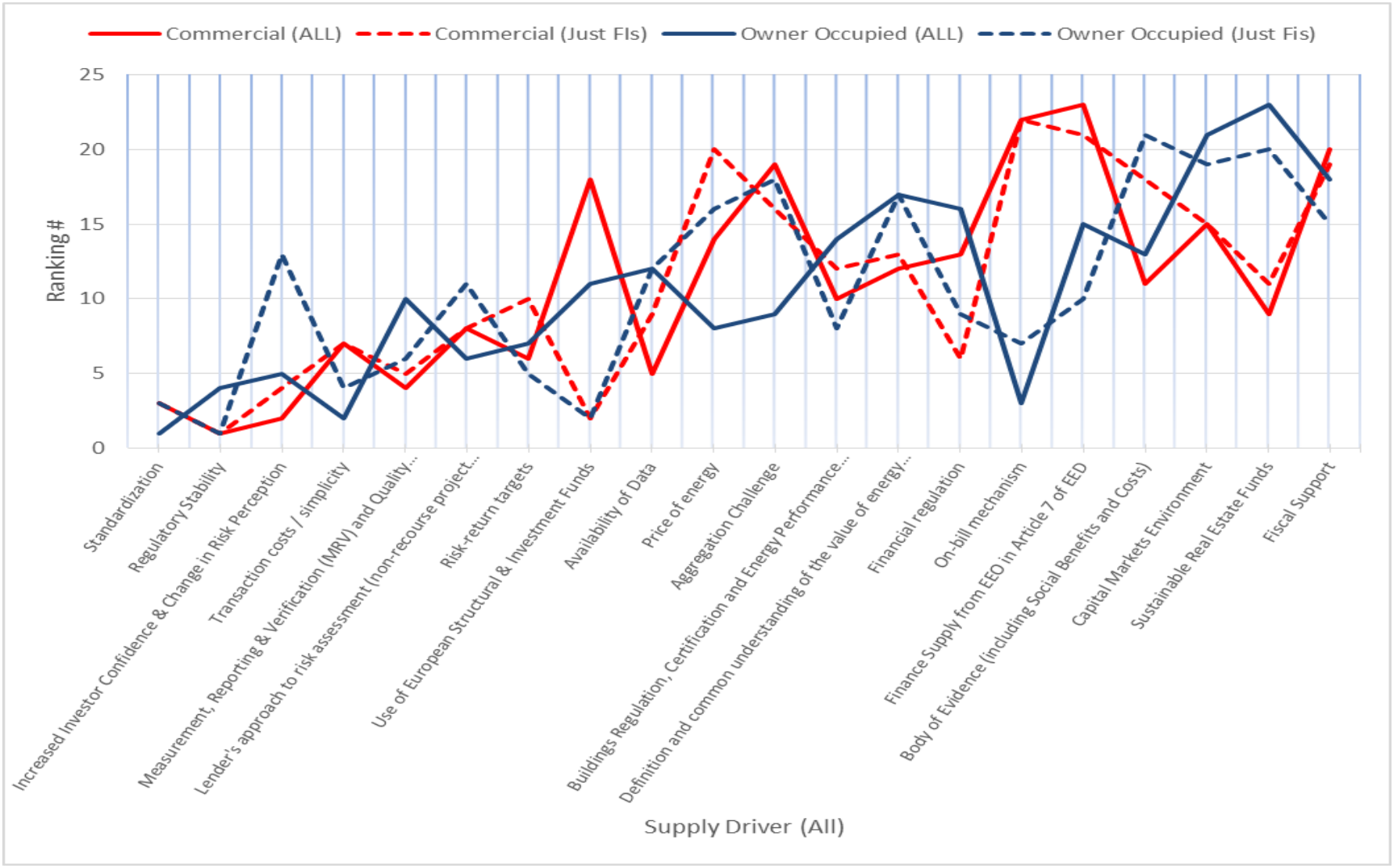

Demand Drivers for Energy Efficiency Investments in Buildings

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Strong Regulatory Framework with Effective Enforcement of Regulation

Only Demand Driver truly "Cross-cutting" across all Buildings Segments

Strong Drivers of Energy Efficiency Investment Demand:

Public Buildings	Commercial & Public Buildings	Commercial Buildings	Private Residential Buildings
• Rules guiding public authority accounting, procurement and reporting and facilitation • Technical assistance	• Awareness of the opportunities at the key decision maker level • Buildings regulation, building certification and energy performance certificates • Standardization	• Clear business case • Assured regulatory stability	• Transaction Costs / simplicity • Individual owner payment capacity • Awareness, communication and marketing

Supply Drivers for Energy Efficiency Investments in Buildings

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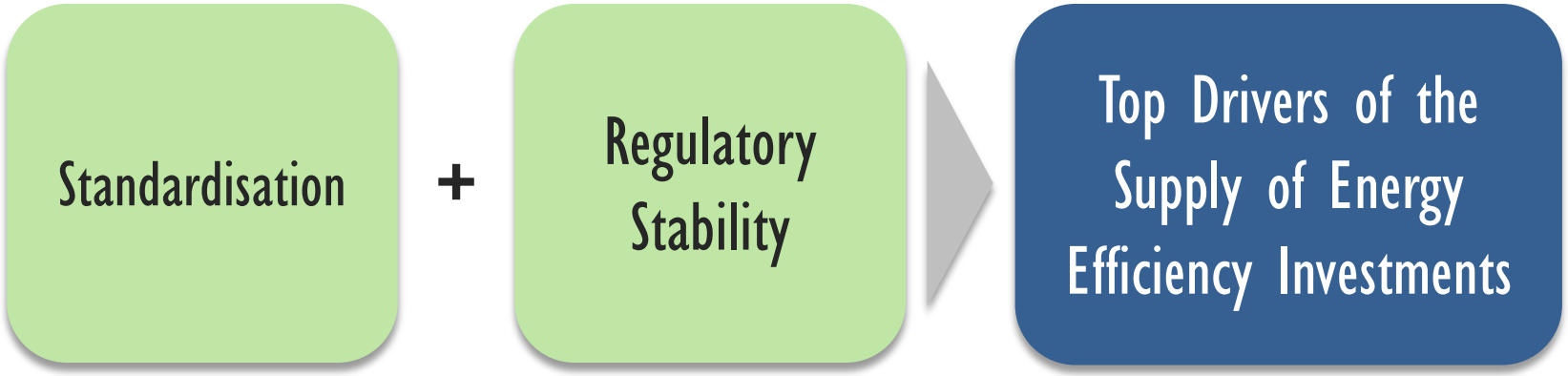

Strong Drivers of Energy Efficiency Investment Supply:

Residential Buildings	Commercial & Public Buildings	Commercial Buildings
• Reduced transaction costs • On-bill repayment mechanisms	• Measurement Reporting & verification (MRV) combined with quality assurance	• Increased investor confidence • Changes in risk perception

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

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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

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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

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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)

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

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EU Industry:

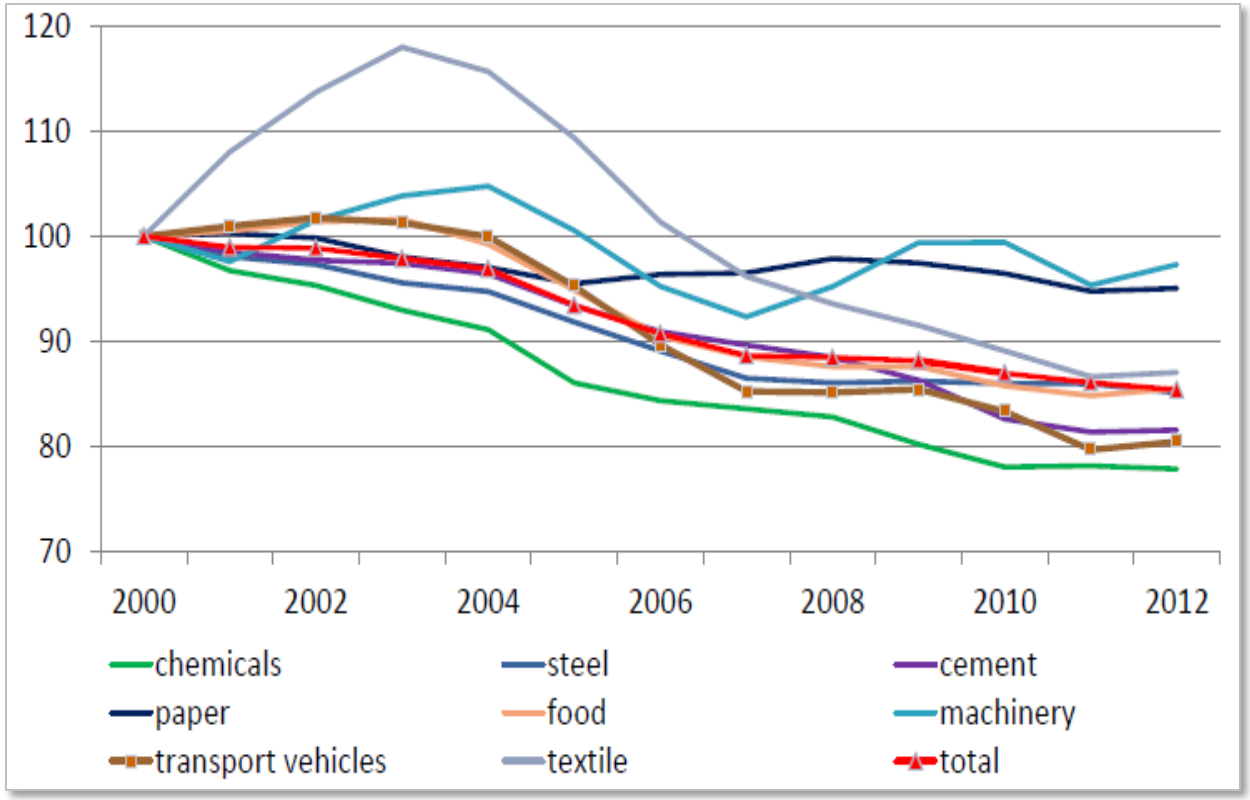
- Responsible for (26%) of European final energy consumption
- World leader in EE

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

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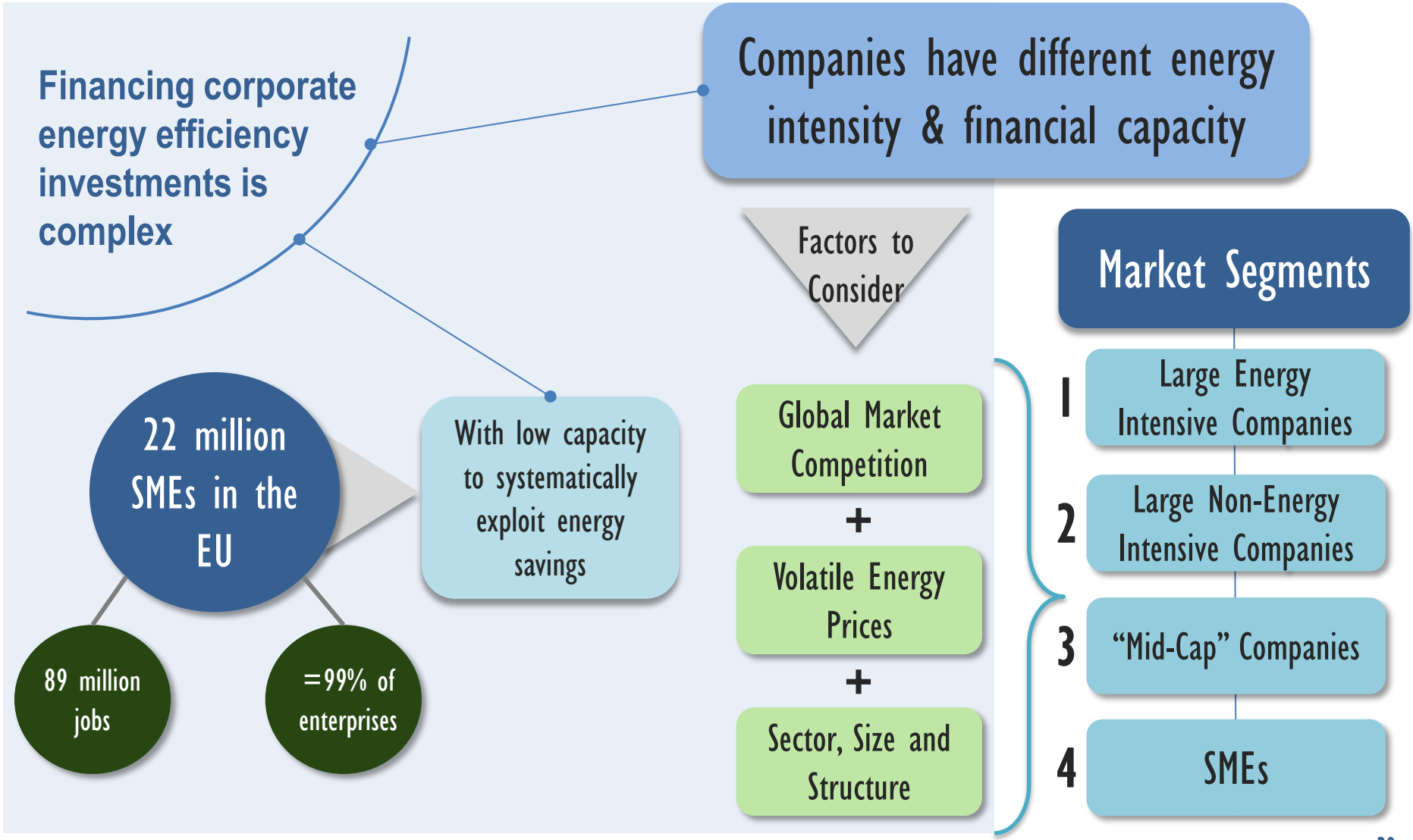

Using Participant Surveys to Understand Drivers by Segment

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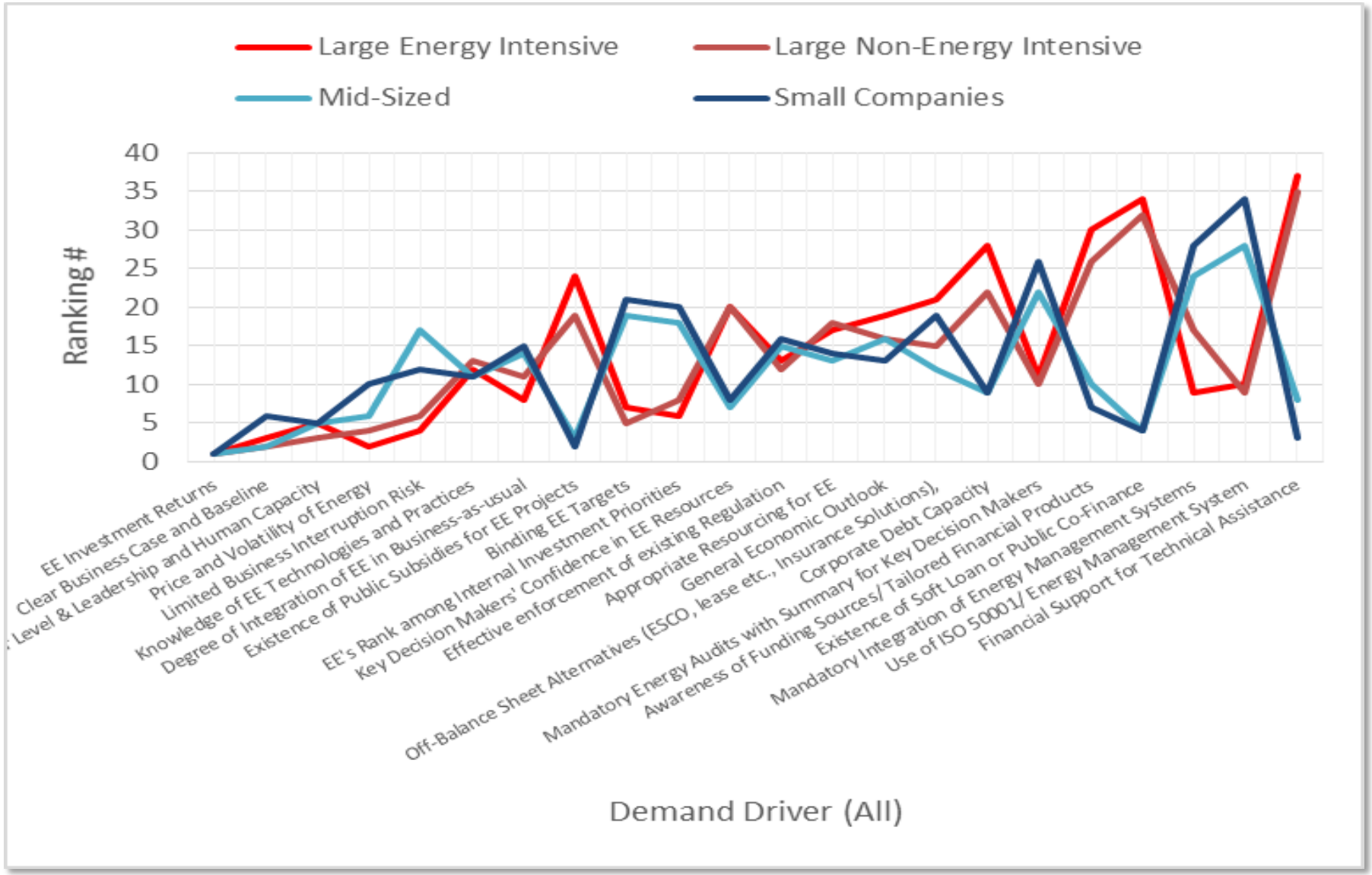

Noticing Divergent Opinions from Financial Institutions

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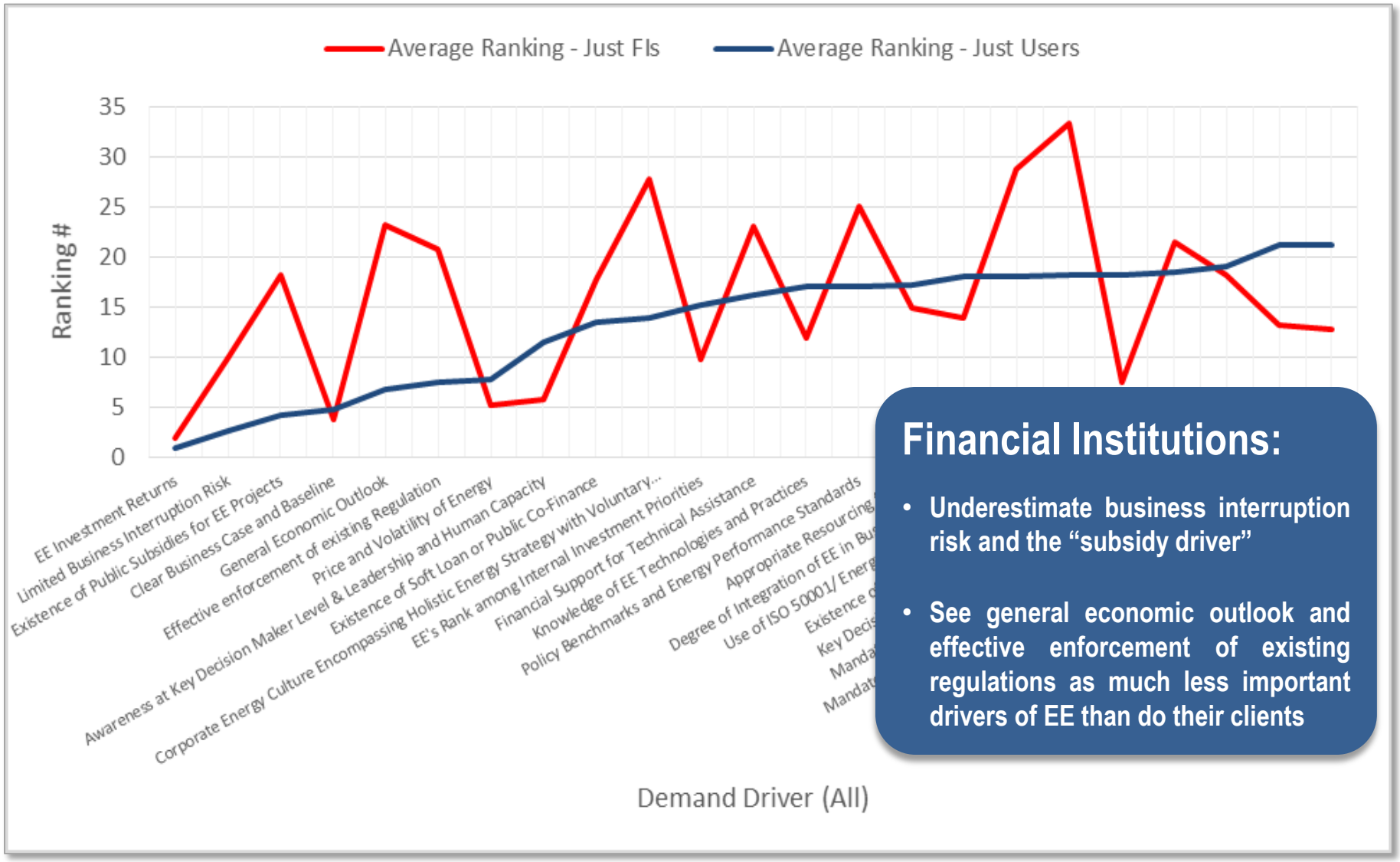

Financial Institutions:

- **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

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EEFIG's Survey Reveals → Energy Efficiency Investment Returns #1 Demand Driver → Across all Corporate Segments

Other Strong Drivers of Energy Efficiency Investment Demand:

Large Energy Intensive Companies	Large Non-Energy Intensive Companies	Mid-Cap	SMEs
• Price Volatility of Energy • Clear Business Case Baseline • Use of ISO 50001/ Energy Management Systems	• Clear Business Case Baseline • Awareness of the opportunities at the key decision maker level	• Clear Business Case Baseline • Existence of Public Subsidies for EE Projects	• Existence of Public Subsidies for EE Projects • Financial Support for Technical Assistance

Supply Drivers for Corporate Energy Efficiency Investments

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 # 1 Regulatory Stability

 # 2 Performance data availability with clear & transparent MRV system for energy savings vs baseline

 # 3 Overall supply of long-term finance

Top Drivers of the Supply of Energy Efficiency Investments

Other Strong Drivers of Energy Efficiency Investment Supply:

Large Energy Intensive Companies	Large Non-Energy Intensive Companies	Mid-Cap	SMEs
• Industry/Sector Risk • Knowledge of EE Technologies and Necessary Skills to Assess EE Investments	• Industry/Sector Risk • Knowledge of EE Technologies and Necessary Skills to Assess EE Investments	• Awareness of the opportunities at the key decision maker level • Developed Easy-to-Use Standards for All Steps in EE Investment Process	• 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

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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

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EEFIG Participants Identified 13x EE Financial Instruments

6x "Mature" Instruments

- Widely used to fund energy efficiency investments directly or indirectly

7x "Emerging" Instruments

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

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

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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

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What are the Most Imminent Challenges to Overcome?

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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 <u>both</u> 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

EEFIG's Recommendations to the EU Commission

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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.

EEFIG's Recommendations for Financial Institutions

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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**

Next Steps for EEFIG Report and its Content

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1. **Full Dissemination Strategy** (Internal EC and External). **Country teams with local events in Member States.**

2. **Follow-up on EEFIG Recommendations by the Commission Services**

3. EEFIG Members to **proactively support Markets-led Recommendations in the context Energy Union.**

EEFIG Support and Legal Disclaimer ("Thank you")

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EEFIG was supported by Climate Strategy and Partners (www.climatestrategy.com @ClimateSt) which was contracted to support the coordination and drafting of the EEFIG report, and supporting materials, on behalf of EEFIG and whose Chief Executive is group moderator, rapporteur and active participant in the group.

This document is a summary of the EEFIG Final Report prepared for the European Commission by the members and participants of the Energy Efficiency Financial Institutions Group ("EEFIG") as listed herein and represents a group consensus view. The views and opinions expressed herein are wholly those of EEFIG reached by consensus at the time of writing. The consensus view does not necessarily reflect, in its entirety, the individual view of the Commission nor any EEFIG member or participant nor should membership or participation in EEFIG bind any member or participant to the consensus views described here. EEFIG views and opinions are subject to change without notice. Neither EEFIG, the Commission, Climate Strategy or any individual member or participant of EEFIG may individually or collectively be held responsible for any use which may be made of the information contained herein. The examples and case studies described in this document have been provided by specific participants to EEFIG meetings and are based upon information gathered by these individuals; the references used to develop these illustrative examples (which are quoted) should always be considered as the most accurate and complete source of information. EEFIG members and participants note that many are specialists in either buildings or industrial energy efficiency and have therefore only provided input into the sections relevant to their specialist area.