



European  
Commission



# Energy efficiency financing Sustainable Energy Investment roundtable Sofia, 11 June 2019

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# The challenge for 2030

The EU committed to **three ambitious climate and energy targets for 2030** in line with the Paris Agreement.



Minimum **40%** cut in greenhouse gas emissions compared to 1990 levels



At least a **32%** share of renewables in final energy consumption



At least **32,5%** energy savings compared with the business-as-usual scenario

Public money  
MFF

The yearly investment gap to meet these targets is estimated to be **between € 150 to 200 billion.**

Private capital

Public support alone will not be sufficient to meet those investment needs. The private sector will have to play a huge role and a smart policy framework is needed to incentivise private investment.

# 2050 vision- Long-Term Strategy

## Commission long term vision for a climate-neutral economy by 2050

Long Term Strategy Options								
	Electrification (ELEC)	Hydrogen (H2)	Power-to-X (P2X)	Energy Efficiency (EE)	Circular Economy (CIRC)	Combination (COMBO)	1.5°C Technical (1.5TECH)	1.5°C Sustainable Lifestyles (1.5LIFE)
<b>Main Drivers</b>	Electrification in all sectors	Hydrogen in industry, transport and buildings	E-fuels in industry, transport and buildings	Pursuing deep energy efficiency in all sectors	Increased resource and material efficiency	Cost-efficient combination of options from 2°C scenarios	Based on COMBO with more BECCS, CCS	Based on COMBO and CIRC with lifestyle changes
<b>GHG target in 2050</b>	-80% GHG (excluding sinks) ["well below 2°C" ambition]					-90% GHG (incl. sinks)	-100% GHG (incl. sinks) ["1.5°C" ambition]	
<b>Major Common Assumptions</b>	<ul style="list-style-type: none"> <li>Higher energy efficiency post 2030</li> <li>Deployment of sustainable, advanced biofuels</li> <li>Moderate circular economy measures</li> <li>Digitisation</li> </ul>				<ul style="list-style-type: none"> <li>Market coordination for infrastructure deployment</li> <li>BECCS present only post-2050 in 2°C scenarios</li> <li>Significant learning by doing for low carbon technologies</li> <li>Significant improvements in the efficiency of the transport system.</li> </ul>			
<b>Power sector</b>	Power is nearly decarbonised by 2050. Strong penetration of RES facilitated by system optimization (demand-side response, storage, interconnections, role of prosumers). Nuclear still plays a role in the power sector and CCS deployment faces limitations.							
<b>Industry</b>	Electrification of processes	Use of H2 in targeted applications	Use of e-gas in targeted applications	Reducing energy demand via Energy Efficiency	Higher recycling rates, material substitution, circular measures	Combination of most Cost-efficient options from "well below 2°C" scenarios with targeted application (excluding CIRC)	COMBO but stronger	CIRC+COMBO but stronger
<b>Buildings</b>	Increased deployment of heat pumps	Deployment of H2 for heating	Deployment of e-gas for heating	Increased renovation rates and depth	Sustainable buildings			CIRC+COMBO but stronger
<b>Transport sector</b>	Faster electrification for all transport modes	H2 deployment for HDVs and some for LDVs	E-fuels deployment for all modes	Increased modal shift	Mobility as a service			<ul style="list-style-type: none"> <li>CIRC+COMBO but stronger</li> <li>Alternatives to air travel</li> </ul>
<b>Other Drivers</b>		H2 in gas distribution grid	E-gas in gas distribution grid				Limited enhancement natural sink	<ul style="list-style-type: none"> <li>Dietary changes</li> <li>Enhancement natural sink</li> </ul>

• **Radical transformations necessary:** central role of energy system, buildings, transport, industry, agriculture.

• There are a number of pathways for achieving a climate neutral EU, challenging but feasible from a technological, economic, environmental and social perspective

• **8 strategy options** (including 2 options for 1.5°C ambition)

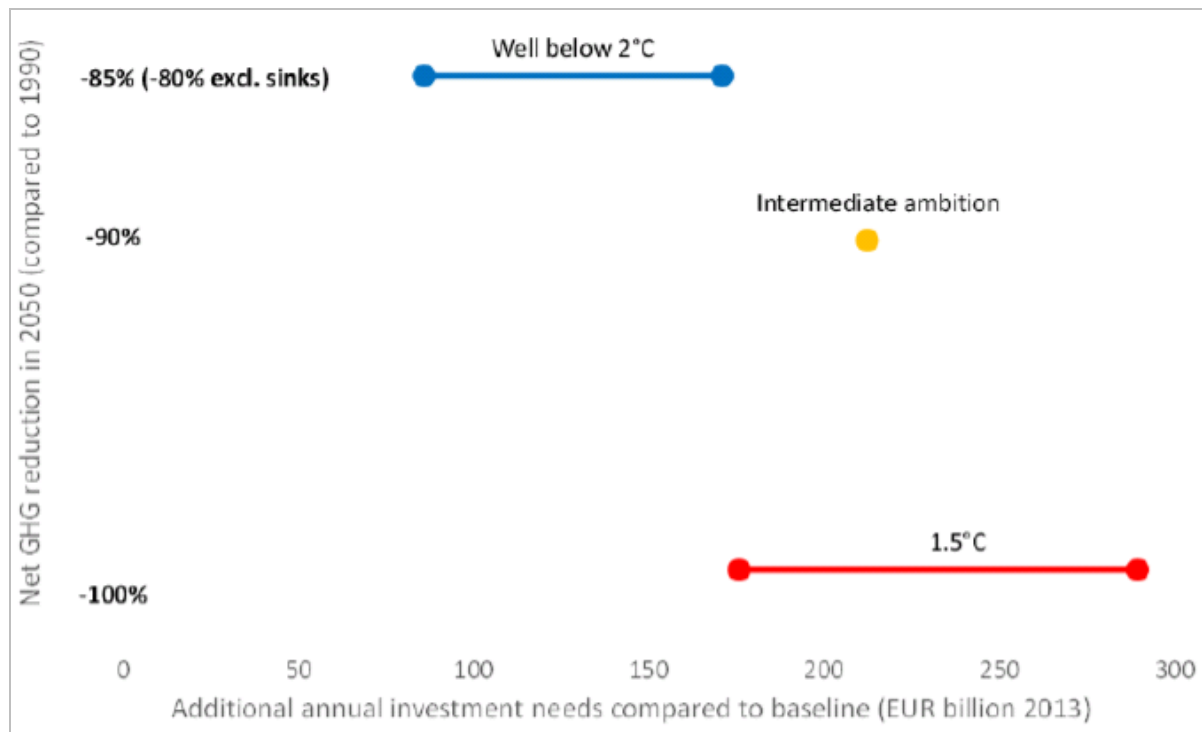
# 2050 Long-Term Strategy

## Additional investments in the EU economy

- Modernising and decarbonising the EU's economy will stimulate **significant additional investment**
- **From 2% of EU GDP** invested in the energy system today **to 2.8%** to achieve a net-zero greenhouse gas emissions economy:
  - **Up to €575 billion** per year\*
  - **Up to additional €290 billion** per year compared to baseline
- **Investments in Residential** sector in the range of **€ 200 - 230 billion per year (the vast majority in Energy Efficiency)**
- Positive for growth and jobs, with GDP higher by up to 2% in 2050
- **Co-benefits:** energy imports down, public health, etc.

\* Excluding transport costs

### Additional annual investments needs compared to baseline



## 7 Building Blocks

### 2050 Long-Term Strategy







1. Energy efficiency
2. Deployments of renewables
3. Clean, safe & connected mobility
4. Competitive industry and circular economy
5. Infrastructure and inter-connections
6. Bio-economy and natural carbon sinks
7. Tackle remaining emissions with carbon capture and storage

## Building Block 1 Energy efficiency

- **Central role**, energy consumption reduced by as much as half in 2050 compared to 2005
- **Buildings key**, most of the housing stock of 2050 existing already today, higher renovation rates, fuel switching
- Requires **adequate financial instruments** and skilled workforce, integrated policy approach and **consumer engagement** to sustain higher renovation rates

# Energy Efficiency Policy Update- 2030 & beyond

4 areas for action identified:

-  Consistent regulatory framework
-  Assistance and aggregation
-  De-Risking
-  More effective use of public funds

## A reinforced policy framework

Revised EPBD entered into force on 9 July 2018

- **Long-term renovation strategies:** decarbonisation by 2050 + **strong finance**

Revised EED – entered into force on 24 December 2018

- **New energy efficiency target of 32.5% for 2030**, with an upwards revision clause by 2023
- Extended energy savings obligation for the next period 2021-2030

Revised and new Ecodesign & Energy Labelling regulations – publication in OJ expected July 2019

- household and commercial fridges, dishwashers, washing machines, electronic displays, lighting...

**Implementation at national level**



# Strengthened long term renovation strategies


## A STRENGTHENED LEGAL FRAMEWORK WITH A 2050 VISION

### Stronger long term renovation strategies

- ✓ - Decarbonisation by 2050
- ✓ - Solid financial component

### Obligation on Member States to support the mobilisation of investments

- Article 2a (3) - Member States shall facilitate access to appropriate mechanisms for:
  - (a) the aggregation of projects, ...
  - (b) the reduction of the perceived risk of energy efficiency ...
  - (c) the use of public funding ...
  - (d) guiding investments into an energy efficient public building stock, ...
  - (e) accessible and transparent advisory tools...

19 6 2018  Official Journal of the European Union L 154/73

**DIRECTIVE (EU) 2018/844 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**  
of 30 May 2018  
amending Directive 2010/31/EU on the energy performance of buildings and Directive 2012/27/EU on energy efficiency  
(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 194(2) thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national parliaments,

Having regard to the opinion of the European Economic and Social Committee<sup>(1)</sup>,

Having regard to the opinion of the Committee of the Regions<sup>(2)</sup>,

Acting in accordance with the ordinary legislative procedure<sup>(3)</sup>,

Whereas:

(1) The Union is committed to developing a sustainable, competitive, secure and decarbonised energy system. The Energy Union and the Energy and Climate Policy Framework for 2030 establish ambitious Union commitments to reduce greenhouse gas emissions further by at least 40 % by 2030 as compared with 1990, to increase the proportion of renewable energy consumed, to make energy savings in accordance with Union level ambitions, and to improve Europe's energy security, competitiveness and sustainability.

(2) To reach those objectives, the 2014 review of the Union's energy efficiency legislative acts combines a re-assessment of the Union's energy efficiency target for 2020 as requested by the European Council's conclusions of 2014, a review of the core provisions of Directive 2012/27/EU of the European Parliament and of the Council<sup>(4)</sup> and Directive 2010/31/EU of the European Parliament and of the Council<sup>(5)</sup>, and a reinforcement of the financing framework, including the European Structural and Investment Funds (ESIF) and the European Fund for Strategic Investments (EFSI), which will ultimately improve the financial conditions of energy efficiency investments on the market.

(3) Directive 2010/31/EU required the Commission to carry out a review by 1 January 2017 in the light of the experience gained and progress made during the application of that Directive, and, if necessary, to make proposals.

(4) To prepare for that review, the Commission took a series of steps to gather evidence on how Directive 2010/31/EU had been implemented in the Member States, focusing on what worked and what could be improved.

(5) The outcome of the review and the Commission's impact assessment indicated that a series of amendments are required to strengthen the current provisions of Directive 2010/31/EU and to simplify certain

(6) The Union is committed to developing a sustainable, competitive, secure and decarbonised energy system. To meet that goal, Member States and investors need measures that aim to reach the long-term emission goal and that decarbonise the building stock, which is responsible for approximately 40 % of greenhouse gas emissions in the Union, by 2050. Member States should seek a cost-efficient equilibrium between energy supplies and reducing final energy consumption. To that end, Member States and invest



# 2021-2027 Multiannual Finance framework under development /EC Proposal/

The EC proposed to increase spending for climate and clean energy transition, with a target of **25% of EU budget** contributing to climate objectives

## Energy Efficiency funding– key sources:

- **Capacity building and policy support - LIFE/Clean Energy**

New separate sub-programme “Clean energy transition” for EE and RES (Eur 1 billion)

- **Direct support towards clean energy investments - ESIF**

EE primarily under Policy Objective 2: “a greener, low-carbon Europe”. Reinforced, streamlined enabling conditions linking policy implementation and funding. Climate mainstreaming: ERDF – 30%

- **Mobilising private investments through de-risking (EU guarantee) – InvestEU**

EE primarily under Sustainable Infrastructure window (Eur 11,5 billion out of the 38 billion). EIB main Implementing Partner (75%). ELENA under the InvestEU advisory Hub.

- **R&I and technology development - Horizon Europe**

EE under Cluster Climate, Energy and Mobility (EUR 15 billion)



# What are the tools? Energy Efficiency Financing

## THE STRATEGY. SMART FINANCE FOR SMART BUILDINGS INITIATIVE

### More effective use of public funds

- Deploying **Financial Instruments** and flexible energy efficiency and renewable financing platforms
- Building on EFSI blending with ESIF funds
- **Energy Performance Contracting** more accessible for **Public sector**



### Assistance and aggregation

- Supporting the project pipeline at EU and local level
- **Project Development Assistance** facilities
- **"One-stop-shops"**



### De-risking

- **Understanding the risks and benefits** for financiers and investors
- The De-risking Energy Efficiency Platform
- Commonly accepted underwriting framework



## Smart Finance for Smart Buildings Guarantee Facility

European Commission > News >

NEWS | 7 February 2018 | Brussels | Energy

### Smart finance for smart buildings: investing in energy efficiency in buildings

At its meeting yesterday (6 February), the Board of the European Investment Bank (EIB) approved the creation of a brand new financial instrument, the Smart Finance for Smart Buildings initiative. The aim is to make investments in energy efficiency projects in residential buildings more attractive to private investors, through the intelligent use of EU grants as a guarantee.

[https://ec.europa.eu/info/news/smart-finance-smart-buildings-investing-energy-efficiency-buildings-2018-feb-07\\_en?pk\\_campaign=ENERNewsletterFebruary2018](https://ec.europa.eu/info/news/smart-finance-smart-buildings-investing-energy-efficiency-buildings-2018-feb-07_en?pk_campaign=ENERNewsletterFebruary2018)



#### Objective of SFSB Guarantee Facility:

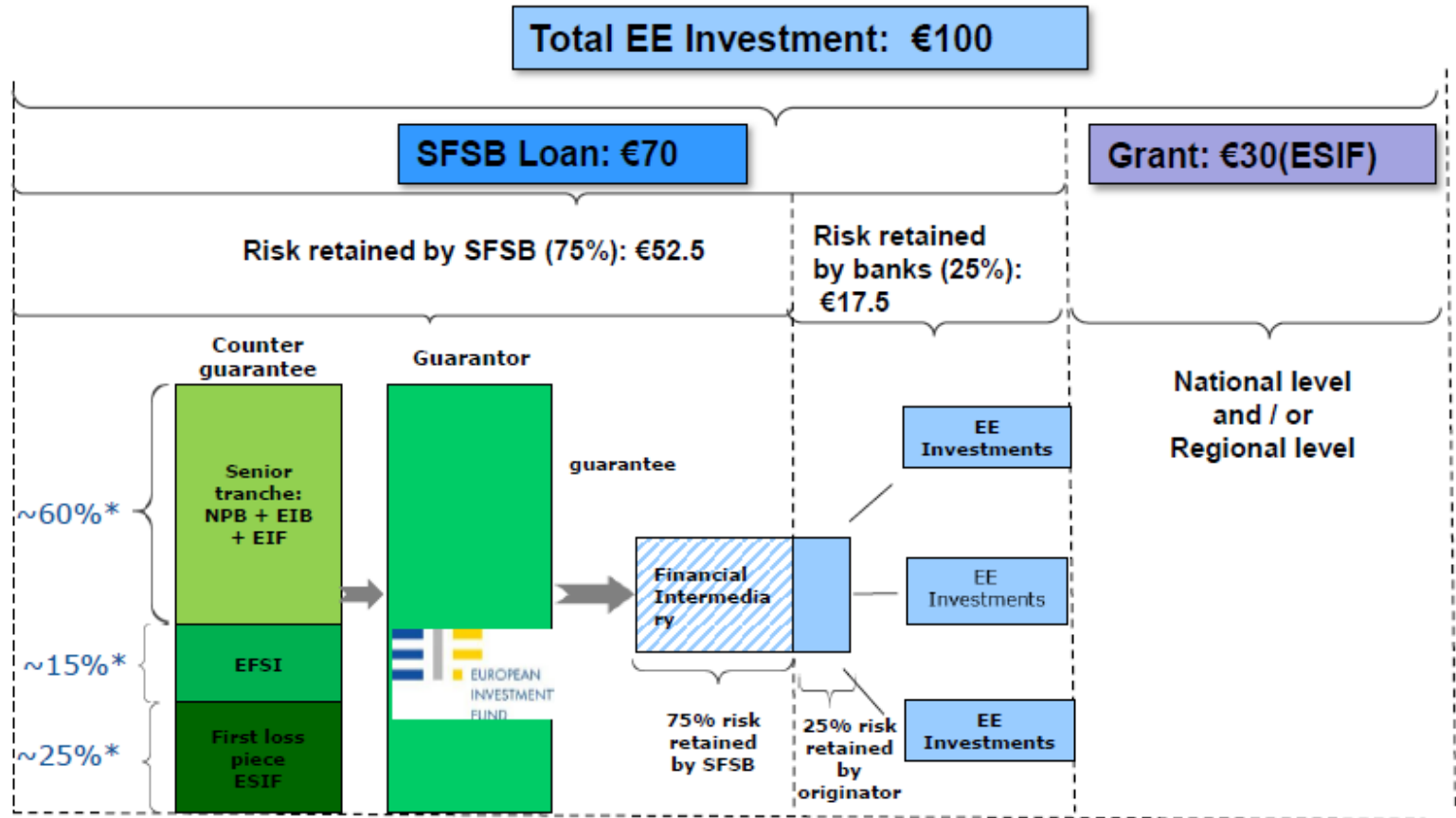
- to expand EE lending activities by financial institutions,
- to intensify EE investments in buildings:
  - primarily residential buildings, HoA, and
  - secondarily (indicatively up to 30% of projects' value of the whole scheme): SMEs, local authorities, public and private partnerships, others.

#### Scalability is crucial to reach volumes

#### Components of SFSB:

- guarantee facility (e.g. ESIF+EFSI+ other: EIB, EIF, NBP – if interested);
- Technical Assistance;
- capital grant.

## Smart Finance for Smart Buildings Guarantee Facility. Exemplary Guarantee Structure



\* estimations are indicative

**SFSB  
Guarantee  
Facility**



- ❖ SFSB Loan: Financial intermediaries will have to retain at least 20% exposure to the principal amount of each transaction included in the Portfolio. Up to 80% exposure is retained by SFSB. ESIF component (FLP): 20-25% of the guarantee.
- ❖ Grant component: volume assessed project-by-project.
- ❖ Leverage: 4-7 (dynamic: at later stage FLP might be reduced making the leverage higher)

# One more tool in our hands- One-stop shops

## ENERGY EFFICIENCY FINANCE- 2<sup>ND</sup> PILLAR SFSB

**Setting up, development and replication** of dedicated local or regional one-stop-shops:

- Single entry point covering the whole customer journey
- Tackling fragmentation on the supply and demand for finance

Funding through

- PDA facilities (ELENA, PDA EASME) **for setting-up, aggregation, replication and structuring** of one-stop-shop projects
- ESI Funding

Exchange of good practices through SEI Forums and Manag'Energy'

# Exploring Innovative Energy Efficiency Financing

- ✓ Green municipal bonds
- ✓ Earmarking environmental or energy taxes
- ✓ Energy performance contracting
- ✓ Renewable energy communities and local energy cooperatives
- ✓ Soft loans for home renovation works
- ✓ On-tax financing
- ✓ Third-party investment
- ✓ On-bill financing
- ✓ Crowdfunding



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## Thank you!

Energy Efficiency Unit  
DG ENER, European Commission

<https://ec.europa.eu/energy/en/news/commission-proposes-new-rules-consumer-centred-clean-energy-transition>