



**RENONBILL**

Welcome to the

# RenOnBill Final Conference

Session 1: Introduction to on-bill schemes and to the RenOnbill project

5th April 2022, DoubleTree, Brussels and online

#RenOnBillFinalEvent

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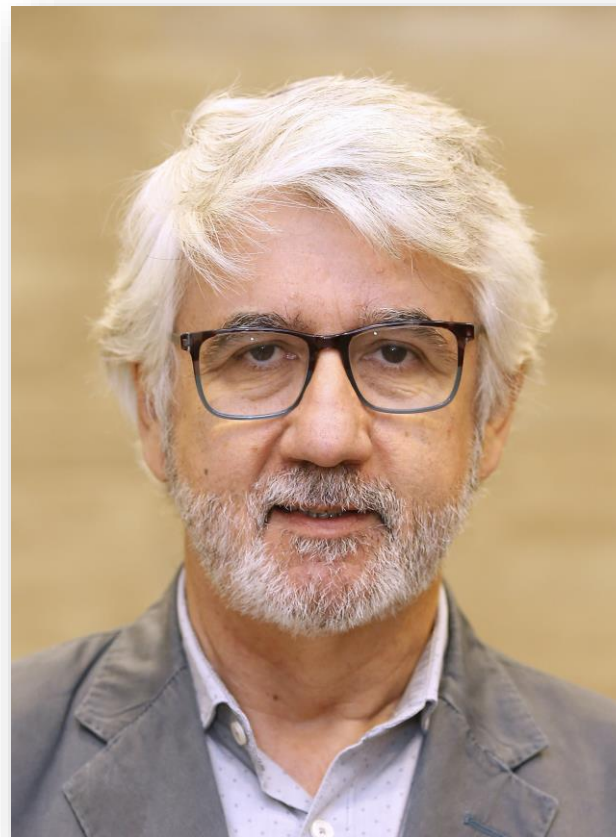
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 847056.



—● WELCOME BY THE MODERATOR

# Emilio Miguel Mitre

GBCe (AUNA H2020)



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#RenOnBillFinalEv

# AGENDA

Session 1: Introduction to the EU regulatory context, on-bill and other innovative financing schemes

- **09:00** Welcome by the moderator- **Emilio Miguel Mitre, GBCe (AUNA H2020)**
- **09:10** Introduction to RenOnBill and on-bill schemes - **David Pérez, Creara**
- **09:20** The EU regulatory context, with a special focus on the proposal for the revision of the EPBD - **Thibault Roy, Policy Officer, European Commission**
- **09:35** Importance of Integrated Home Renovation Services to support Homeowners and innovative financing schemes - **Christophe Milin, Project Officer, European Commission**
- **09:50** Keys to implement consumer-friendly OBS in the EU - **Guillaume Joly (BEUC)**
- **10:05** Panel discussion  
**Christophe Milin, Project Officer, European Commission**  
**Guillaume Joly (BEUC)**  
**Isidoro Tapia, European Investment Bank**  
**Paolo Michele Sonvilla, adelphi**
- **10:30** Coffee break





# AGENDA

## Session 2: The RenOnBill experience: Quo vadis?

- **10:45** Methodology and tool behind the RenOnBill pilots **Vincenzo Bianco, UNIGE**
- **11:15** On-bill schemes in the EU put into practice **Presentations from the three RenOnBill partner utilities Feníe (ES), Bluenergy (IT), Kauno (LT)**
- **11:45** Strategic and regulatory recommendations on the way forward - **Lukáš Dravecký, BPIE**
- **12:00** Panel discussion  
**José Maria Marcos, Feníe (Spain)**  
**Rimas Perevičius, Kauno energija (Lithuania)**  
**Carlo Chittaro, Bluenergy (Italy)**  
**Joost Declerck, Belfius Bank (BE)**  
**Vincenzo Bianco (UNIGE)**
- **12:25** Conclusions **David Pérez, Creara**
- **12:30** Lunch and networking
- **13:30** END

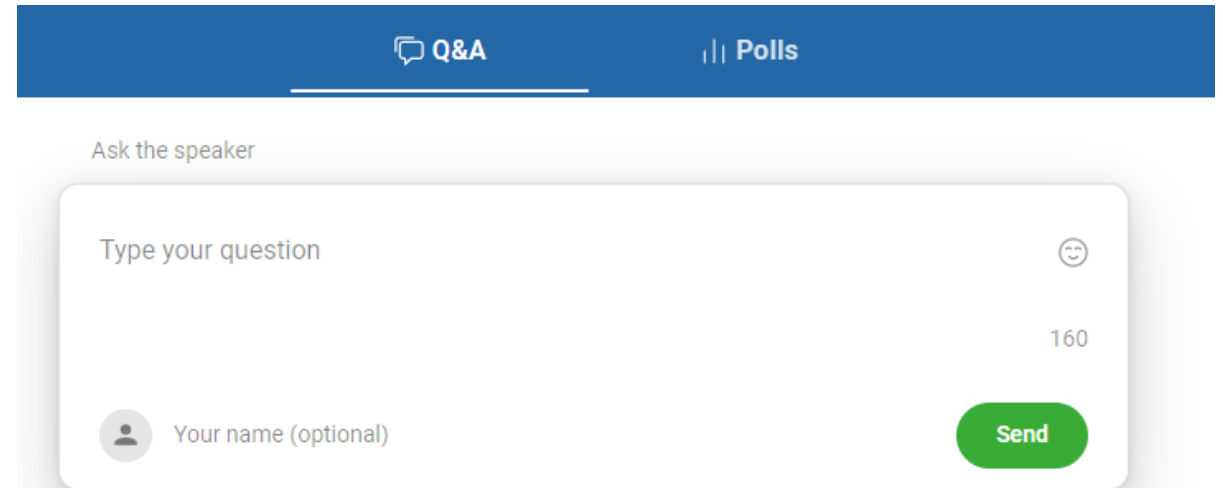


# —● HOW TO ASK QUESTIONS?

A few technicalities

For the attendees on spot:


- Go to **slido.com**
- Insert this code: **335966**
- Type your questions under Q&A



Ask the speaker

Type your question 😊

160

 Your name (optional) Send

For the remote attendees:

- Type your question in the chat box next to the live stream video

# The Spanish permanent multilateral Smart Finance FORUM for Smart Buildings

LC-SC3-B4E-12-2020

National roundtables to implement the Smart Finance for Smart Buildings initiative

Coordination: Emilio Miguel Mitre  
Green Building Council España



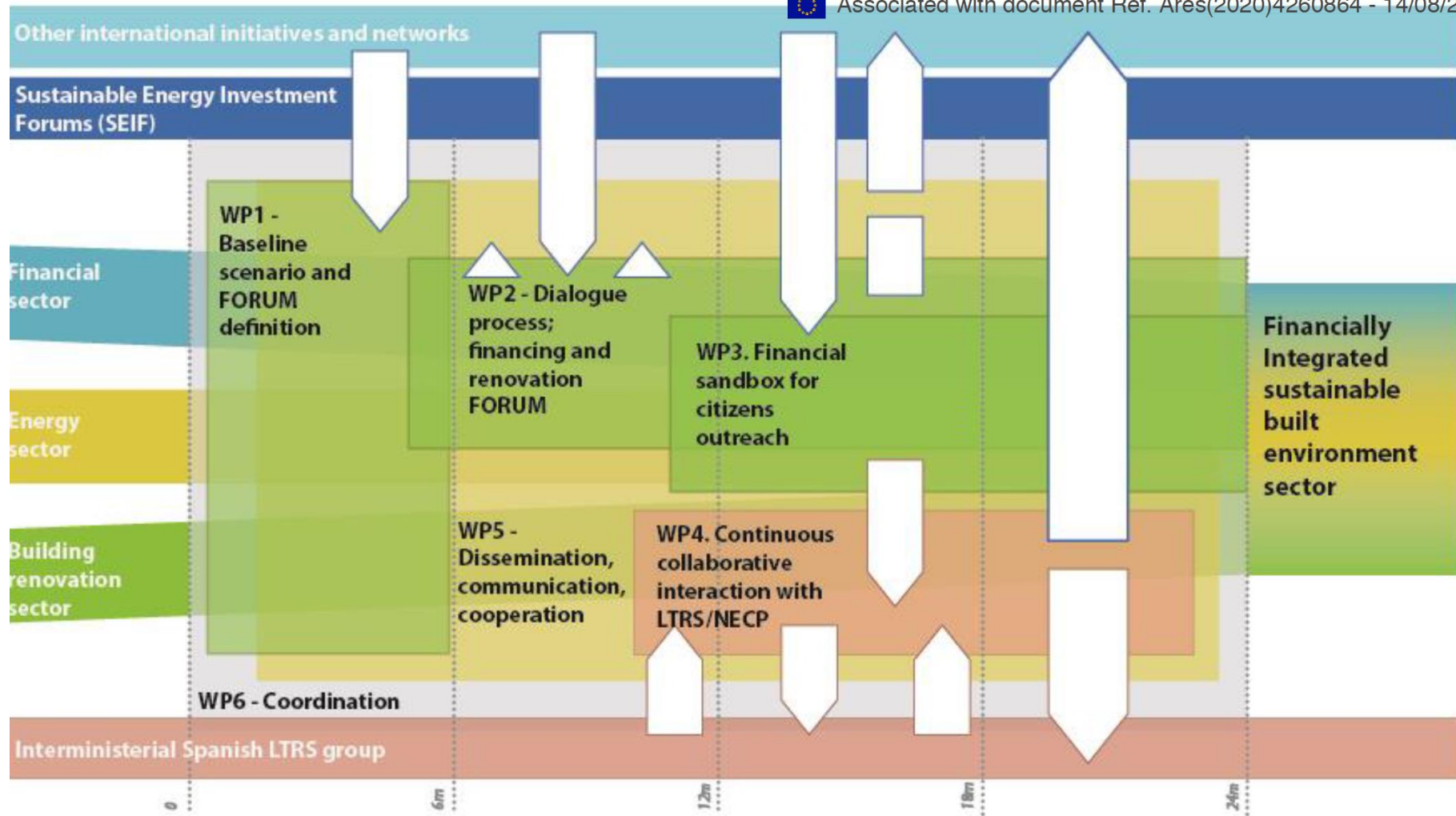
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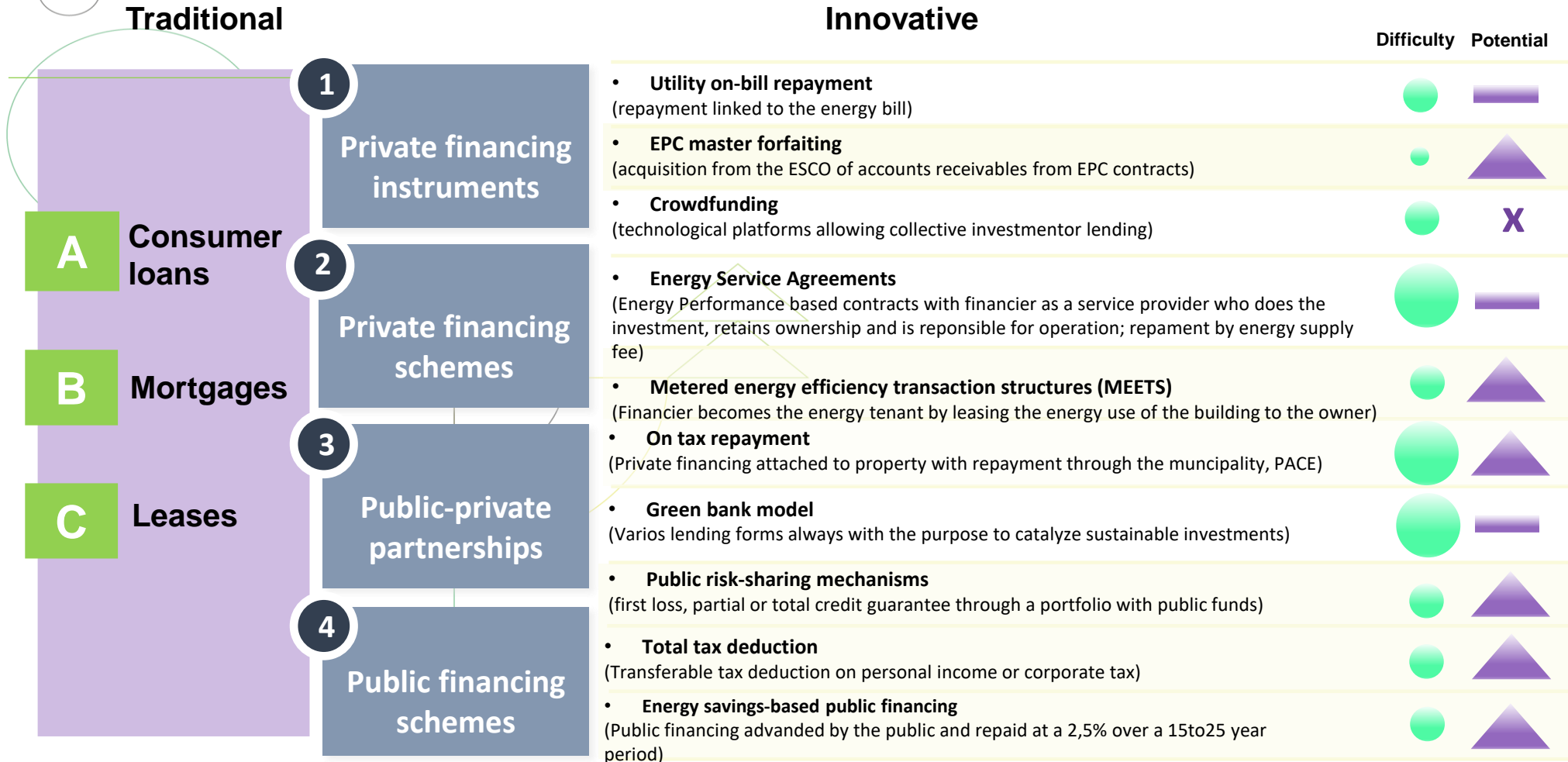


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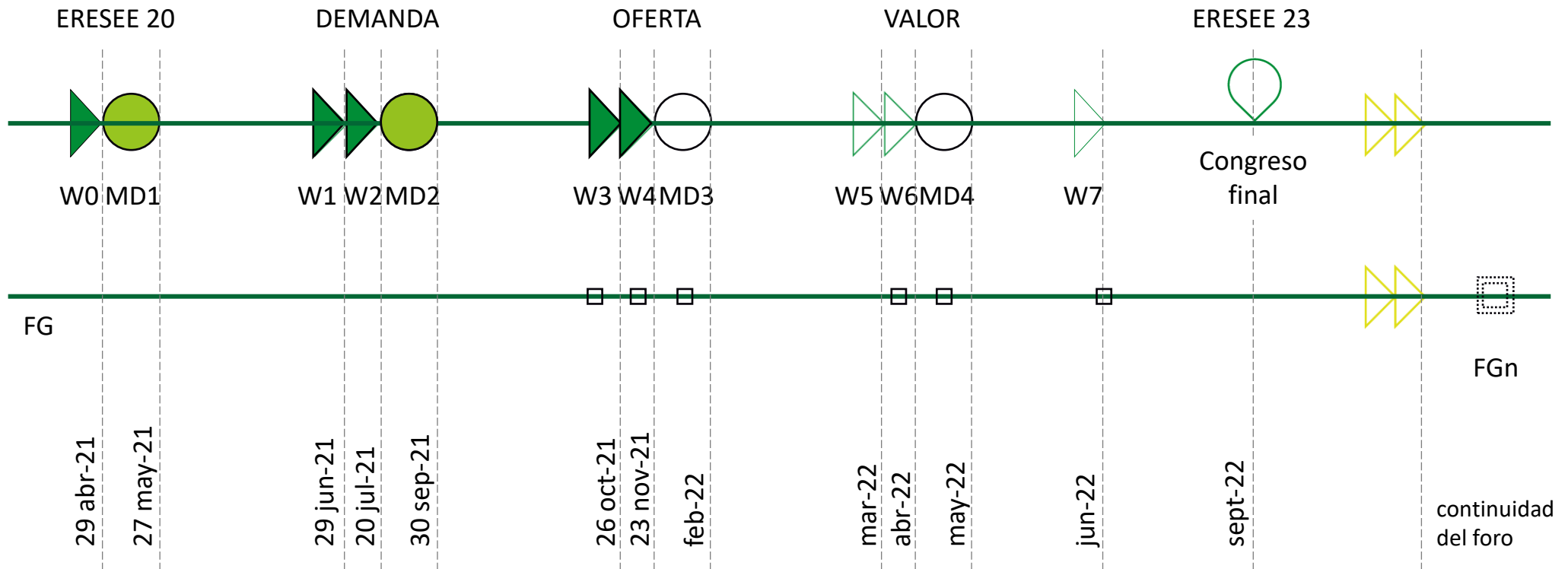
# From traditional financing to innovative financial instruments



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# Eventos del foro



W: webinario  
MD: mesa de debate  
FG: Focus Group

- Exposición de mejores prácticas (preparación de MDs)
- Diálogos con expertos de las materias de debate
- Reuniones de diálogo enfocado a la acción con vecinos motivados



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Kickoff

ERESEE 2020



**Λύνα** Foro de diálogo permanente y multilateral para impulsar la financiación sostenible en la rehabilitación del parque edificado

# W0

## Webinario 0

**Y Ahora Qué... hablemos de la demanda para comenzar**

Un acercamiento al presente momento socioeconómico desde una perspectiva tan esencial como pobremente considerada en la financiación de la rehabilitación: la **DEMANDA**.

**Λύνα** Foro de diálogo permanente y multilateral para impulsar la financiación sostenible en la rehabilitación del parque edificado

# MD1

## Mesa de Debate 1

**ERESEE 2020:**  
¿Cómo maximizar su impacto dentro del marco de **financiación** en el contexto actual?

27 de mayo de 2021  
de 9:30 a 14:30 horas

**Λύνα** Foro de diálogo permanente y multilateral para impulsar la financiación sostenible en la rehabilitación del parque edificado

# W1

## Webinario 1

**Nadie sueña con rehabilitar su casa... ¿verdadero o falso?**

Buenas prácticas en la **demanda de rehabilitación**, claves para generar interés de los agentes implicados

**Λύνα** Foro de diálogo permanente y multilateral para impulsar la financiación sostenible en la rehabilitación del parque edificado

# W2

## Webinario 2

**¿A qué teléfono llamo?**

**Λύνα** EL PROYECTO SE AÚNA MAPA DE ACTORES INNOVADORA DOCUMENTACIÓN NOTICIAS Y EVENTOS CONTACTA

30 DE SEPTIEMBRE DE 9:00H A 14:00H

# MD2

## Mesa de debate 2

**¿De quién depende la demanda?**

Del debate a la acción para escalar la renovación de edificios

MÁS INFO

Demanda

**Λύνα** Foro de diálogo permanente y multilateral para impulsar la financiación sostenible en la rehabilitación del parque edificado

# W3

## Webinario 3

**El momento de las soluciones**

**Λύνα** Foro de diálogo permanente y multilateral para impulsar la financiación sostenible en la rehabilitación del parque edificado

# W4

## Webinario 4

**¿Preparados? ¿listos? ¡Ya!**

Soluciones de financiación en rehabilitación

**Λύνα** EL PROYECTO SE AÚNA MAPA DE ACTORES INNOVADORA DOCUMENTACIÓN NOTICIAS Y EVENTOS CONTACTA

17 DE FEBRERO DE 9:00H A 15:30H

# MD3

## Mesa de debate 3

**Alianzas para el escalado de la rehabilitación**

MÁS INFO

Oferta



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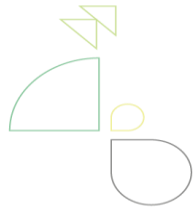


Valor...

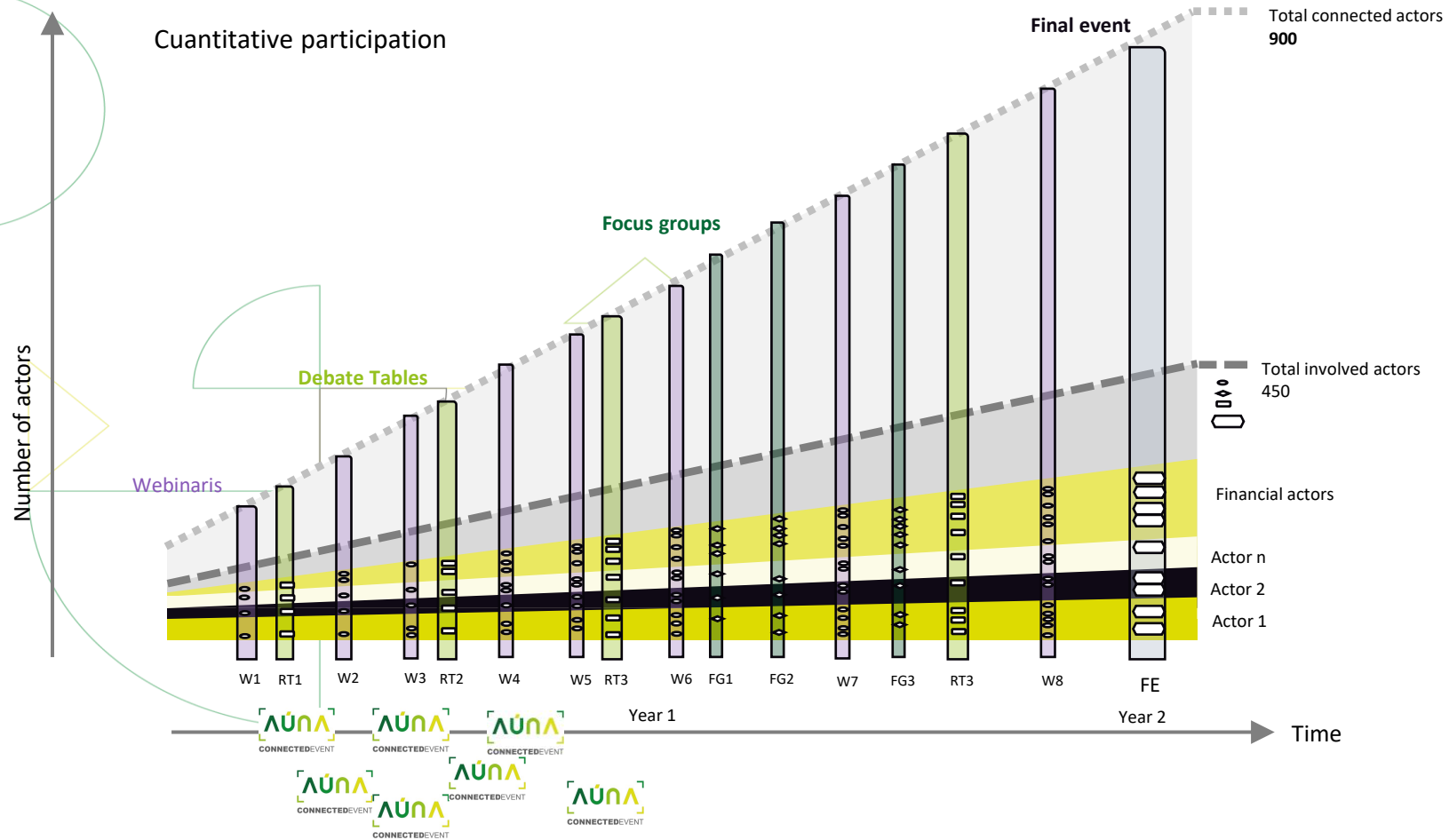


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# Evolution of the FORUM

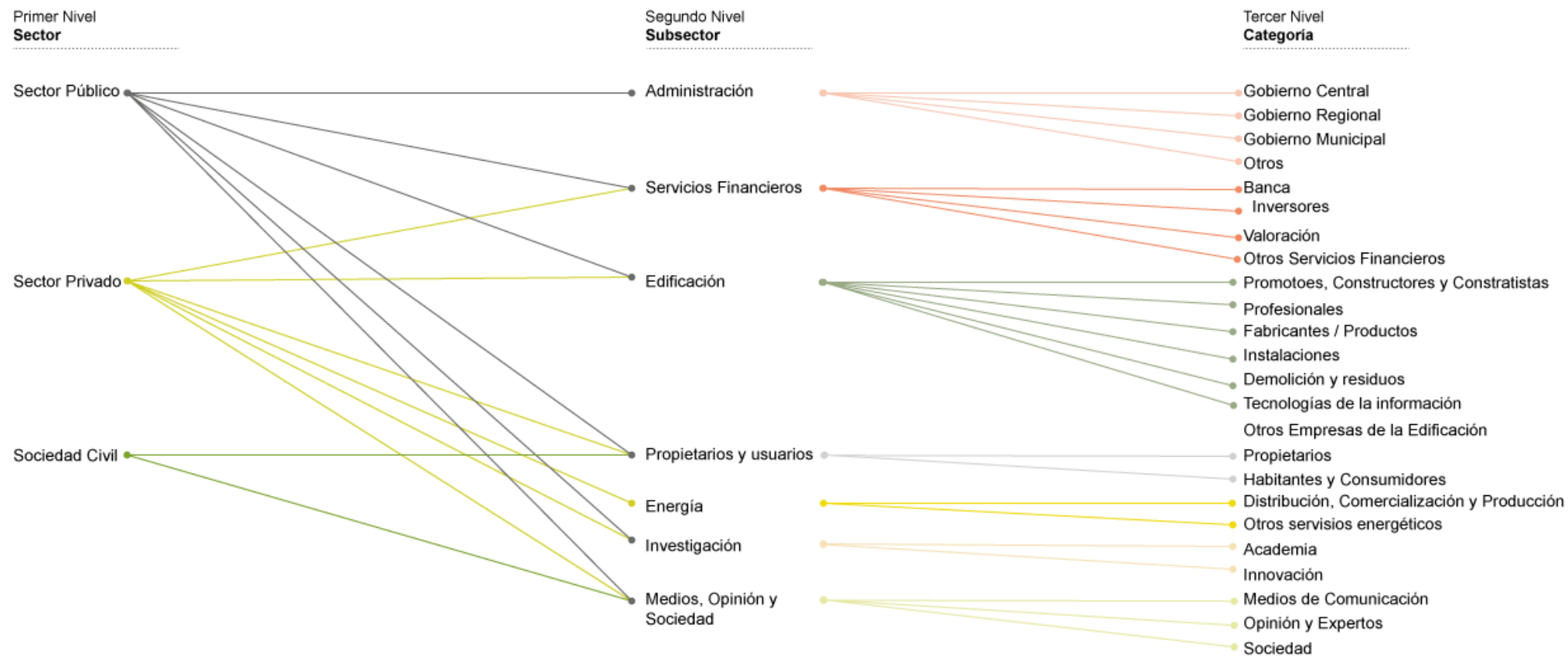


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# Community of actors

3 sectors, 7 subsectors, 23 categories and 102 subcategories to ascertain representation and scalability.



# Comunidad de actores del Foro

Con los botones puedes cambiar la visualización

Ver categorías



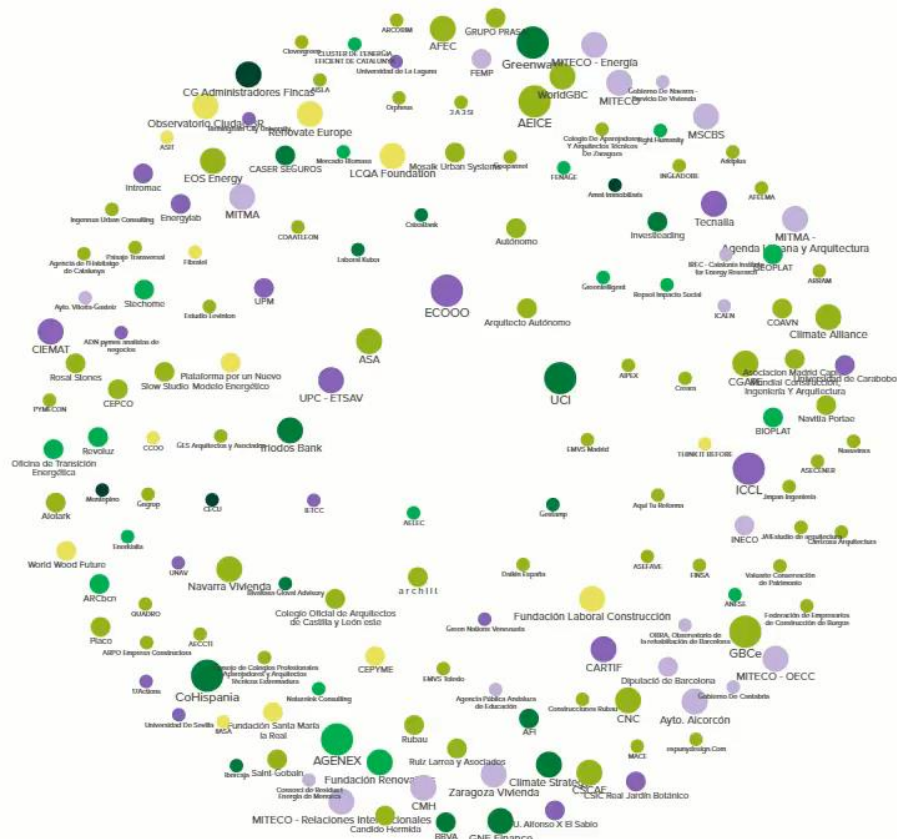
Foro de diálogo permanente y multilateral para impulsar la financiación sostenible en la rehabilitación del parque edificado. Si quieres saber más visita [aunaforum.com](http://aunaforum.com)

¿Quieres actualizar tu información o estar incluido en el mapa? Rellena el cuestionario del [Mapa de Actores](#) y actualiza tu información.

Mostrar/Ocultar tipos de organización ▾

### Legend

- Actividad: Participa, Lidera y Consorcio
- Administración Pública
- Servicios Financieros
- Sector de la Edificación
- Sector Energético
- Propietarios y Usuarios (de edificios)
- Investigación y Academia
- Medios, Opinión y Sociedad



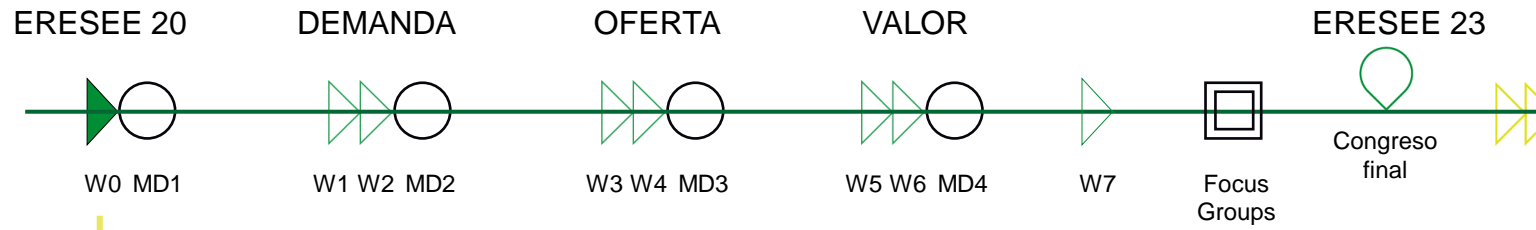
Este proyecto ha recibido financiación del programa de investigación e innovación **Horizonte 2020** de la Unión Europea.

web: <https://www.aunaforum.com/mapa-de-actores/>



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## Proyecto de rehabilitación del Poblado Dirigido de Orcasitas



### Avanza Credit, Deutsche Bank



### Javier Peña – HOPE!



### Opengela: Oficinas de Rehabilitación en el País Vasco



### canal a4 Urbanismo y Arquitectura



Este proyecto ha recibido financiación del programa de investigación e innovación Horizonte 2020 de la Unión Europea en virtud del Acuerdo de Subvención No. 957119. El contenido de esta presentación refleja únicamente la opinión del autor. La Comisión Europea y EASME no son responsables del uso que pueda hacerse de la información que contiene.





Webinario 4 - AÚNA. ¿Preparados? ¿Listos? ¡YA!

## Residential building energy renovations with on-bill schemes



On-bill sche  
down to zer  
repayment v



Webinario 4 - AÚNA. ¿Preparados? ¿Listos? ¡YA!  
EUSEW2021 | European project shows on-bill financing schemes boosts residential energy renovations

Adriana Villos...

Play (k)  
0:09 / 2:33  
18:57 / 2:08:28

Webinario 4 - AÚNA. ¿Preparados? ¿Listos? ¡YA!

we are looking at expanding the programme in time if the legislation allows us to.

zoom

21:17 / 2:08:28  
Desliza hacia abajo para ver más detalles



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# Debate Tables – MD2 - 3

Bloque 1 - PUNTO DE PARTIDA: CONOCIMIENTO DE LA DEMANDA



Bloqu

DO



Este proyecto ha recibido financiación del programa de investigación e innovación Horizonte 2020 de la Unión Europea en virtud del Acuerdo de Subvención No. 957119. El contenido de esta presentación refleja únicamente la opinión del autor. La Comisión Europea y EASME no son responsables del uso que pueda hacerse de la información que contiene.





Evento finalizado  
**Strategic Debrief: Six financial-policy levers to decarbonise EU Buildings**  
 Evento de Climate Strategy & Partners  
 Online  
 lun. 21 jun 2021  
 Enlace de registro

**Cumbre Madrid 2021: Innovación, la clave de la Ola de Renovación en España**  
 Martes 13 de Julio, 2021, Madrid  
 Ponentes en formato presencial y abierto a todo público vía online

Comité Organizador

Unidos para hacer de la OLA de Renovación una realidad

**Xarxa** **Diputació**  
 Barcelona **Barcelona**

**GNE FINANCE**  
 GNE Finance

**REFOI**  
 Fundació

**AUNA**  
 CONNECTE EVENT

**Seminaris tècnics**  
**Transició energètica al món local 2021**

**Sessió 5:**  
**Opcions de finançament per a la transició energètica local**  
**14 i 15 de juliol**

De 10:30 a 12:00h

Inscripcions: xarxasost@diba.cat  
 Les persones inscrites al cost no cal que es torni a inscriure.  
 Les cop inscrites rebran les dades d'accés a Zoom.

**Programa sessió 5.1**  
**14 de juliol del 2021.**

10:30h Benvinguda

10:40h Programes europeus per promoure la transició energètica.  
 Virginia Vivanco, IDAE (a confirmar)

10:55h Opcions de finançament per a la rehabilitació d'edificis.  
 Emilio Miguel Mitre, GBCe

11:10h Opcions de finançament participatiu a nivell local.  
 Jordi Solé Muntada, Ecrowd plataforma de crowdending.

Regístrate | Accede al evento

Descarga el programa >>

Organiza:  
**AUNA** **UCI** **COAM** | COLEGIO OFICIAL



**III EDICIÓN ITE+3R**

PROGRAMA | FOMENTADOR | INSCRIPCIÓN | ORGANIZACIÓN | DIÁLOGOS CONGRESO | MEDIA | 1ª EDICIÓN | CONTACTO

**III Edición 18 y 19 de octubre de 2021 en Ávila**  
 III EDICIÓN - 18 y 19 de Octubre 2021

**España Triple Impacto 2021**  
 Cautelan y despegan de España del Next Generation EU para la rehabilitación energética de octubre 2021-2022

Únete al evento en Eventbrite

**NUEVO MODELO ENERGÉTICO**

**VIII ENCUENTRO ESTATAL**  
 Lunes 20 de septiembre 18:30  
 Youtube Px1NME

Mesa redonda  
**Participación ciudadana para impulsar la transición energética**

**Moderación y recopilación de ejemplos innovadores**  
 Rosa Fraga  
 Coordinadora Plataforma por un Nuevo Modelo Energético

**Dinámicas de participación ciudadana**  
 Oihana Lorea  
 Fundadora de arlabas

**Rehabilitación energética de edificios**  
 Emilio Miguel Mitre  
 Coordinador de AUNA en Green Building Council España

**simapro**  
 THE PRO REAL ESTATE EXPERIENCE  
 Del 26 al 28 mayo 2021  
 Ifema Madrid

SUSCRIBIRSE NEWS

SIMAPRO MEETINGS | REPUTATION DAY | ASÍ FUE SIMAPRO 2021 | PARTNERS | PREMIOS | OTROS ENCUENTROS SIMA | ES EN

**SIMAPRO MEETINGS. SOSTENIBILIDAD: EL SECTOR INMOBILIARIO ANTE EL RETO CLIMÁTICO**  
 28 SEPTIEMBRE 2021. EVENTO PRESENCIAL

**simapro Meetings**

Comité Organizador  
 Organizado por:

**GNE** **Ship2B** **REFROI**  
 SOLUTIONS FUNDACIÓN

**MIRADAS A LA VIVIENDA PRODUCTIVA**

16, 17, 18 Y 19 DE NOVIEMBRE



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#webinario

Casos de Éxito en la Rehabilitación de Viviendas | AUNAFORUM

36 visualizaciones • 3 ago 2021

👍 3    💬 0    ➦ COMPARTIR    ≡+ GUARDAR    ...



**AUNAFORUM**  
49 suscriptores

SUSCRITO

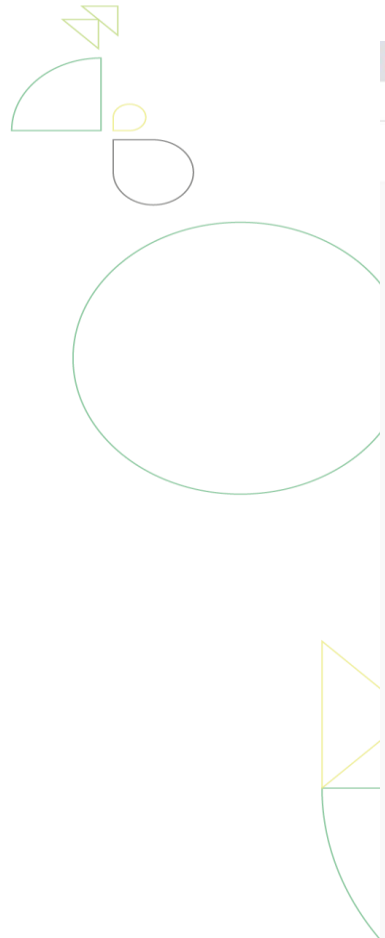


## Rehabilitación 133 viviendas en Valladolid. 30 años después



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inicio - aunaforum.com x Casos de éxito - Transforma M x +

youtube.com/watch?v=5-IBSJeSGEU

YouTube ES Buscar

### Simplificación y acompañamiento Por qué nace Transforma Madrid

TRANSFORMA MADRID transformamadrid.es



**Emilio Miguel Mitre**  
Coordinador de AÚNA



**Isabel Calzas**  
Arquitecta y Directora Gral. de vivienda y rehabilitación en el Ayto de Madrid.

0:15 / 1:39

Casos de éxito - Transforma Madrid ¿Cómo ayudar al ciudadano en el proceso de rehabilitación?

30 visualizaciones · 8 nov 2021

0 NO ME GUSTA COMPARTIR GUARDAR ...

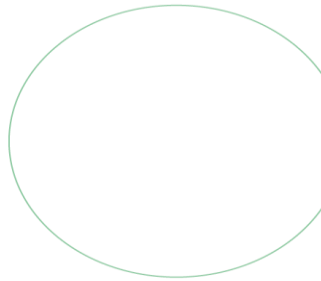
AUNAFORUM 75 suscriptores SUSCRITO



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# EVOLUTION



Clause	Description	Austria	Belgium-Brussels	Belgium-Flanders	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Luxembourg	Netherlands	Spain	Sweden	Average
1a	Overview of the national building stock	2	2	4	3	4	4	3	4	4	3	3	3	5	3	3.4
1b	Cost-effective approaches to renovation, including trigger points	1	2	4	3	2	4	2	3	4	3	2	3	4	2	2.8
1c	Policies and actions to stimulate cost-effective deep renovation	2	4	4	3	4	3	1	2	3	4	4	4	5	3	3.3
1d	Policies to target worst performing segments, split-incentives, market failures, alleviation of energy poverty	2	3	4	3	1	3	1	3	3	3	4	3	4	3	2.9
1e	Policies and actions to target all public buildings	3	3	4	2	2	2	1	2	3	2	3	4	4	2	2.6
1f	Smart technologies; well-connected communities; skills education	3	2	3		3	3	1	3	2	3	3	3	3	3	2.6
1g	Expected energy savings and wider benefits	2	0	2	2	2	2	2	2	2	2	2	2	5	2	2.1
2	Roadmap with measures, progress indicators, and indicative milestones	3	2	4	1	1	0		5	3	2	2	4	4	3	2.5
3	Mechanisms for mobilising investments	2	3	3	3	2	3	1	3	3	2	3	3	4	3	2.7
5	Consultation	2	0	1	2	0	2	2	4	3	2	2	4	3	3	2.1
6	Implementation details of latest LTRS	0	0	3	0	0	4	0	5	0	1	0	0	5	3	1.5
	Aggregate score	2	1.9	3.3	2.2	1.9	2.7	1.5	3.3	2.7	2.5	2.5	3	4.2	2.6	

0 missing 1 very superficial 2 incomplete 3 adequate 4 good 5 exemplary



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[www.aunaforum.com](http://www.aunaforum.com)

[emilio.miguelmitre@gbce.es](mailto:emilio.miguelmitre@gbce.es)



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# —● INTRODUCTION TO RENONBILL AND ON-BILL SCHEMES

## David Pérez

Creara



#RenOnBillFinalEvent



# Opening speech

## RenOnBill Final Conference

5th April 2022 | 9.00 – 14.00 CET

**David Pérez** | [dpn@creara.es](mailto:dpn@creara.es)  
[www.renonbill.eu](http://www.renonbill.eu)



**RENONBILL**



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 847056.



# Market and policy context for the RenOnBill project

## Market context

- Only **11%** of the EU existing building stock undergoes some level of **renovation** each year (but very rarely it addresses energy performance)
- The weighted annual **energy renovation rate** is ca. **1%**.
- **Deep renovations** (that reduce energy consumption by at least 60%) are carried out only in **0.2%** of the building stock per year



## Objectives

- The Commission has launched in 2020 the “**Renovation Wave**”, a strategy to improve these figures
- The objective is to at least **double the annual energy renovation rate** of residential and non-residential buildings by 2030 and to foster deep energy renovations.
- This will result in **35 million building units** renovated by 2030.



# Market and policy context for the RenOnBill

## Areas of intervention

- Strengthening information, legal certainty and incentives for owners and tenants

### Ensuring adequate and well-targeted funding

- Increasing the capacity to prepare and implement projects
- Promoting comprehensive and integrated renovation interventions
- Making the construction ecosystem fit to deliver sustainable renovation
- Using renovation as a lever to address energy poverty and access to healthy housing
- Promoting the decarbonisation of H&C

- Building **renovation** services + **energy efficiency** services will generate an **attractive business** proposition

- **Private financing** will be promoted

### National governments can:

- reduce risk perception and scale up market incentives
- explore innovative financing solutions: on-tax, **on-bill schemes**, property-linked finance and taxation tools

### Utilities and ESCOs can provide:

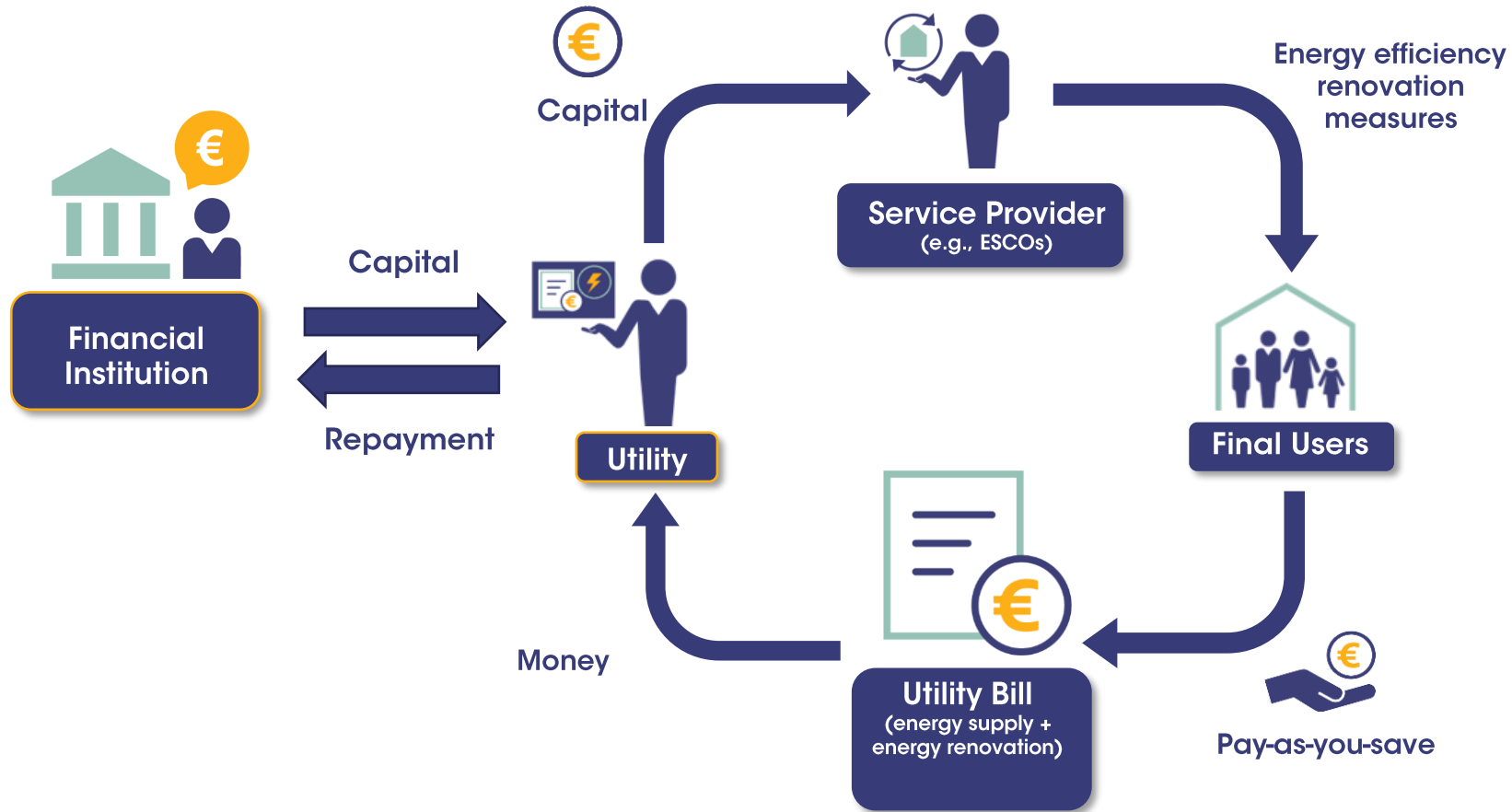
- support in terms of ideas and financing
- promote the aggregation of small projects



RENONBILL



# Snapshot of ON-BILL SCHEMES

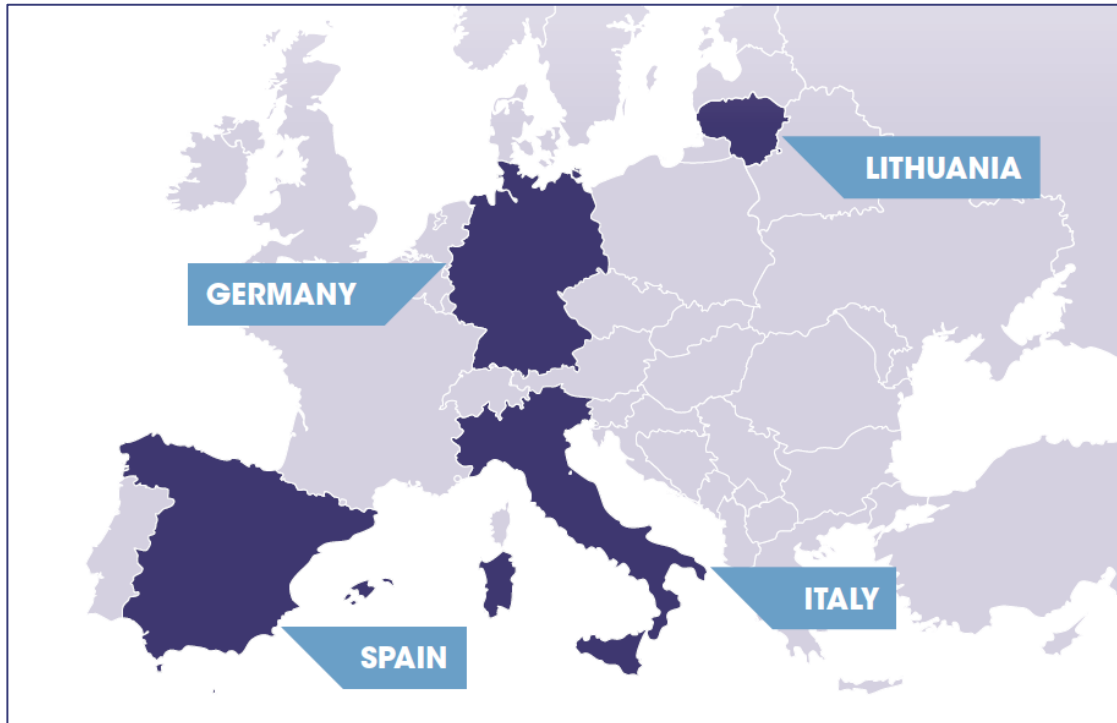


## Main advantages

- No upfront payment for the final user
- Possibility for utilities and banks to deal with very fragmented customer base
- Flexibility to deal with defaults

# THE RENONBILL PROJECT

RenOnBill promotes the development and implementation of **on-bill schemes** in Europe, to scale-up investments towards **deep energy renovations** of residential buildings.



**Focus countries** | Italy, Lithuania, Spain, Germany

**Client** | European Commission – CINEA

**Funding** | Horizon 2020 (1,66 Million Euros)

**Project duration** | 2019 – 2022

More information: [www.renonbill.eu](http://www.renonbill.eu)



**RENONBILL**

# The RenOnBill partners

## Pilot utilities



Lithuania



Spain



Italy

## Energy-specialised business consultants

Project coordinator



Spain



Germany



Italy

## Energy-specialised Researchers / Think tanks



Italy



Lithuania



Belgium



RENONBILL

# The RenOnBill results

## The work

- >200 person-months devoted
- 46 **interviews** with stakeholders
- 10 internal meetings / **workshops**
- Creation of **platforms** in 4 focus countries
- Communication work:
  - Project **website** (>7,000 visitors)
  - 1,350 **downloads** from website
  - 4 **scientific articles** published
  - 350 followers on **Twitter**
  - Presentations held in 14 **events**
  - 5 **newsletter** to 1,400 contacts (25% rate)

## Results

- Improved knowledge:
  - Analysis of building renovation **market** and replicability potential for OBS
  - Relevant details/issues about **real-life implementation** of an OBS business plan (guidelines)
  - Ways to **improve regulation** so that OBS become a reality in Europe (national roadmaps)
- Specialised and open-source **tool** analysing Technical & Economic features of Energy Renovations using OB financing



RENONBILL

# Winner of the EUSEW Citizen's award



- **EU Sustainable Energy Week**
- **Citizen's award 2021**



RENONBILL

# THANK YOU!

David Pérez | [dpn@creara.es](mailto:dpn@creara.es)  
[www.renonbill.eu](http://www.renonbill.eu)



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 847056.



# —● THE EU REGULATORY CONTEXT

WITH A SPECIAL FOCUS ON THE PROPOSAL FOR THE REVISION OF THE EPBD

## Thibault Roy

Policy Officer, European  
Commission





**Delivering on the European  
Green Deal and Fit for 55**

# The EU regulatory context

*focus on the proposal for the revision of the EPBD*

*RenOnBill Final conference*



Thibault Roy

European Commission, ENER/B - Just Transition, Consumers,  
Energy Efficiency and Innovation  
Unit ENER B.3 – Buildings and products



# Outline

- Objectives
- Barriers to renovation
- EPBD proposal
- Complementarities with other proposals
- Financing – including on-bill potential



# Objectives

## Twofold objective:

→ Contribute to reducing buildings' GHG emissions and final energy consumption by 2030

→ Provide a long-term vision for buildings and ensure an adequate contribution to achieving climate neutrality in 2050

**Climate Target Plan:** by 2030 the EU should reduce buildings':

- GHG emissions by **60%**
- final energy consumption by **14%**

# Barriers to renovation

- Economic and financial barriers
- Information and behavioural barriers
- Administrative barriers
- Technical barriers
- Organisational barriers



# EPBD proposal (1/3)

- **Minimum Energy Performance Standards (MEPS)**
  - Union-wide MEPS to phase out worst-performing buildings
    - Public and other non-residential buildings: at least EPC class F by 2027 & EPC class E by 2030
    - Residential buildings: at least EPC class F by 2030 & EPC class E by 2033
  - + ‘national MEPS’



# EPBD proposal (2/3)

- **Zero emission buildings (ZEBs)**
  - Benchmarks per climatic zones, to be applied by 2030 (2027 for public buildings)
  - On-site renewables, efficient district heating and energy communities
  - Zero-emission buildings become the level to be attained by a deep renovation as of 2030



# EPBD proposal (3/3)

- **Energy Performance Certificates (EPCs)**
  - By 2025, harmonised scale of energy performance classes (from A to G, with A = ZEB and G = 15% worst buildings)
  - Common template with energy and GHG indicators
  - Database and access to data





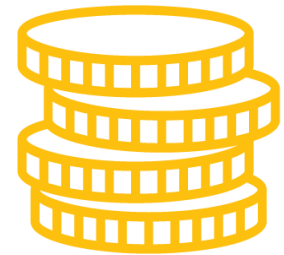
# Complementarities with other proposals

- **Complementarities with EED**
  - Need for targets
  - Exemplary role of public sector
- **Complementarities with new ETS**
  - Decarbonisation of heating and cooling
  - Addressing the different barriers to renovation



# Financing – including on-bill potential

- **Regulatory provisions on financing**
  - Innovative financing
  - Focus on deep renovations
- **On-bill potential**
  - Time to scale-up
  - Legal basis for this





**Thank you**



—● IMPORTANCE OF INTEGRATED HOME RENOVATION SERVICES  
TO SUPPORT HOMEOWNERS

**Christophe Milin**

Project Adviser  
LIFE Energy + LIFE Climate, CINEA



# Importance of Integrated Home Renovation Services to support Homeowners

Towards the implementation of on-bill and other innovative financing schemes for upscaling energy renovation in the EU

5<sup>th</sup> April 2022, RenOnBill Final conference

*Christophe MILIN, Project Adviser  
LIFE Energy + LIFE Climate, CINEA*

# Collective ambitions

## Climate neutrality by 2050

For buildings:

- Doubling renovation rates
- Mainstreaming low energy renovation





# The human factor behind home renovation



Source: YouTube.com

- Most residential buildings belong to **non-professional individuals**
- **Lack of demand** for home renovation: not only incentivize or constrain, but also **facilitate**
- Households **will not “build capacity”**: you won’t renovate so many homes in a lifetime
- **no lack of market participants**  
... but absence of coordination  
... and diverging interests

# The windy journey of home energy renovation

1. Information / Marketing
2. Detection
3. Simplified diagnosis and recommendations
4. Project design
5. Selection of companies
6. Financing plan
7. Financing solutions
8. Renovation work
9. Worksite supervision / reception of the work
10. Quality assurance, guarantees and follow-up

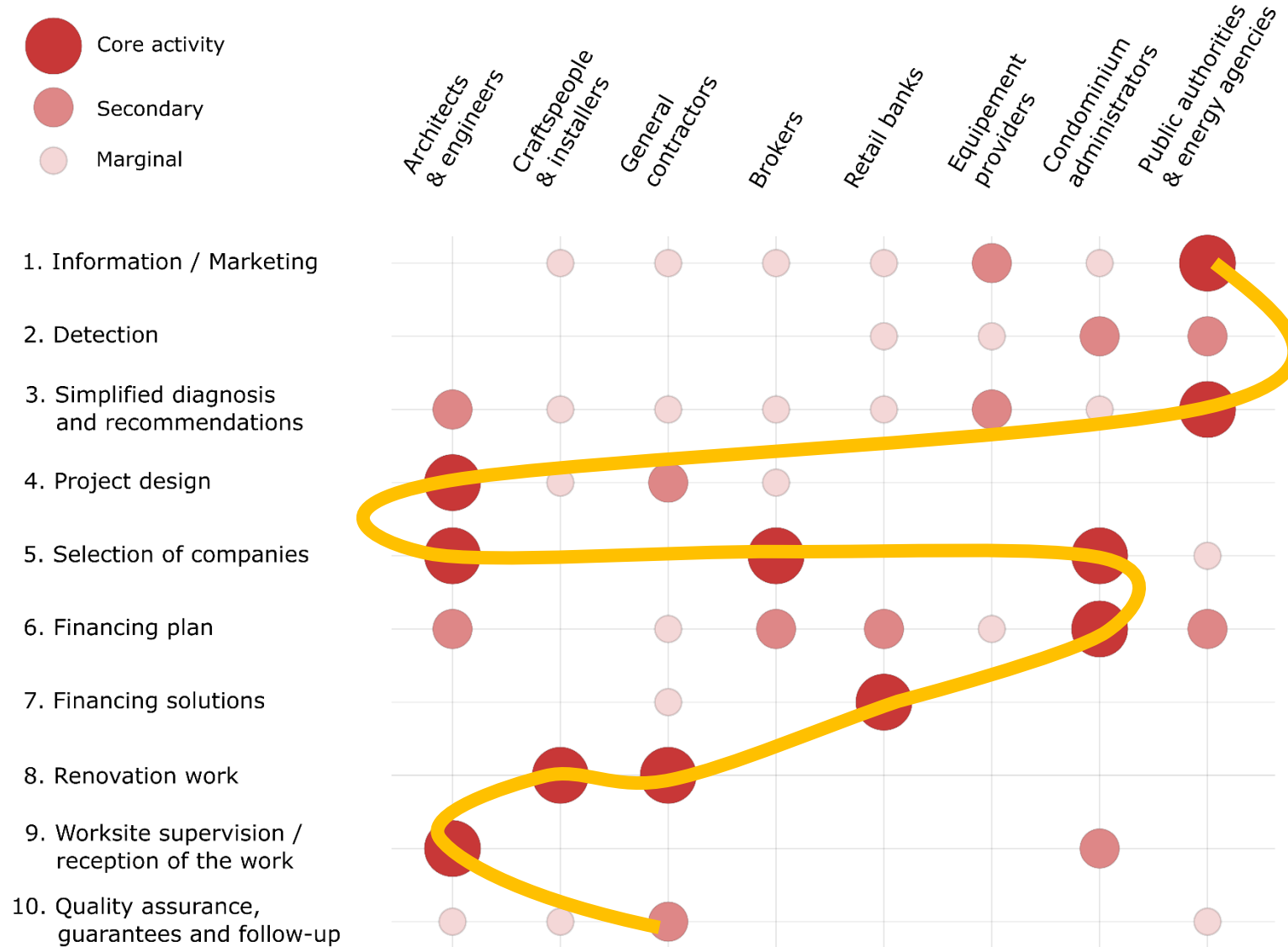
# The windy journey of home energy renovation

	<i>Architects &amp; engineers</i>	<i>Craftspeople &amp; installers</i>	<i>General contractors</i>	<i>Brokers</i>	<i>Retail banks</i>	<i>Equipment providers</i>	<i>Condominium administrators</i>	<i>Public authorities &amp; energy agencies</i>
1. Information / Marketing								
2. Detection								
3. Simplified diagnosis and recommendations								
4. Project design								
5. Selection of companies								
6. Financing plan								
7. Financing solutions								
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# The windy journey of home energy renovation



# The windy journey of home energy renovation





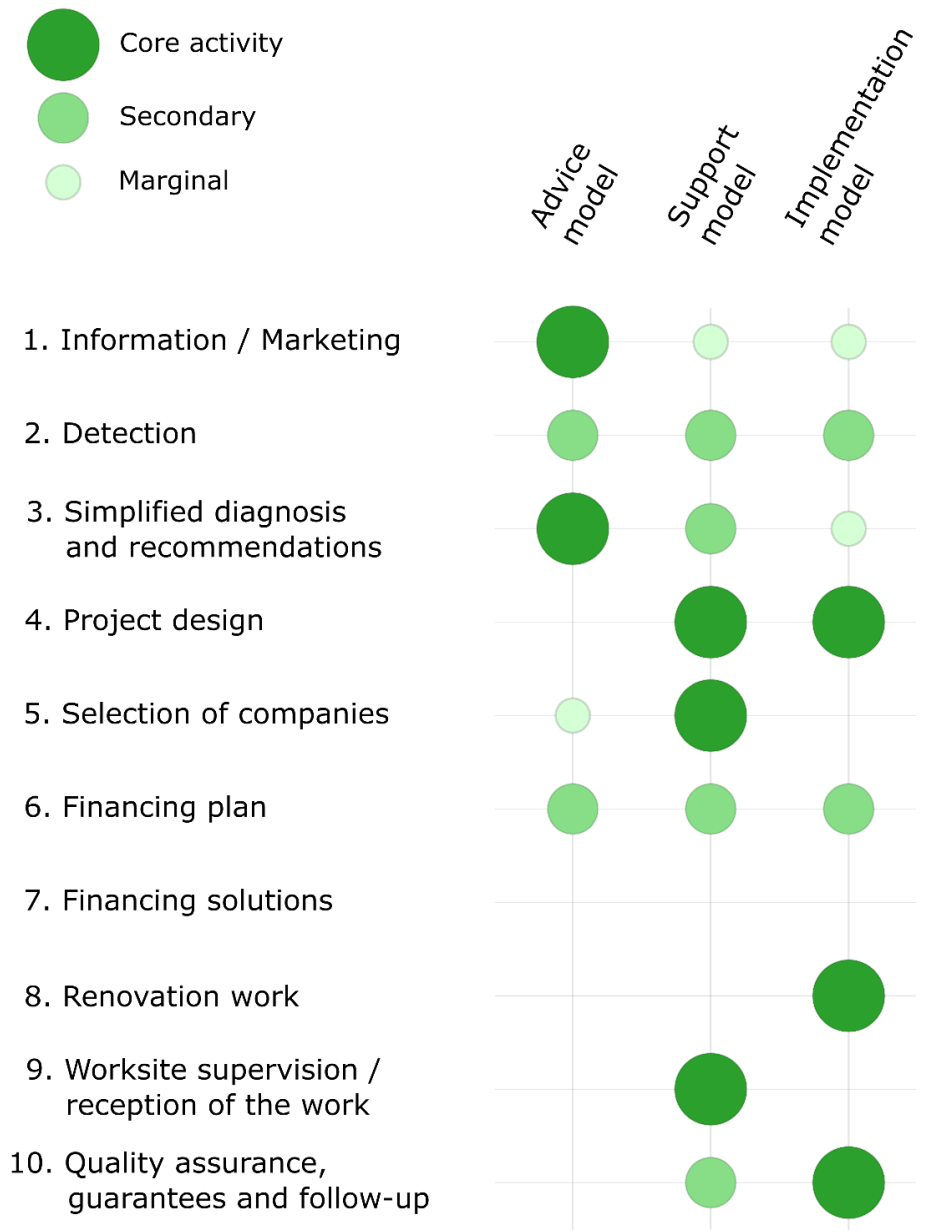


# Analytical framework along the “customer journey”

- 3 main models:
  - **‘Advice’ model**: focused on the upstream part of the journey
  - **‘Support’ model**: extended Architect's mandate, covering the whole journey
  - **‘Implementation’ model**: combining design and renovation work
- Mainly heuristic, based on the observation of pilot initiatives across Europe
- Easy to distinguish in generic terms...  
...much less clear when getting into the details

More details in [Milin & Bullier 2021](#).

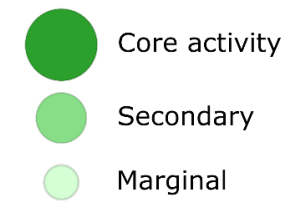
*Towards large-scale roll out of "integrated home renovation services" in Europe.*  
Proceedings of the ECEEE Summer Study 2021



# 'Advice' model

focused on the upstream part of the journey

- **Information** and marketing
  - Largest audience, messages not specifically tailored
  - Raise homeowners' awareness...
  - ... but also disseminate new social norms
- **Detection** of prospective homeowners (house buyers!)
- **Simplified diagnosis**, recommendations and financing plan (focused on investment, not on investor)
- 'Light support' in selecting contractors or retail banks (e.g. directory of companies, labels, certifications,...)
- Hardly a business case:  
is the 'advice' model rather a public service?

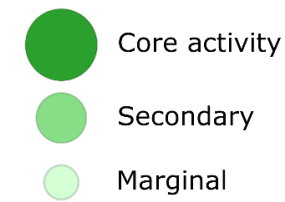


- |   | Advice model  | Support model | Implementation model |
|---|---------------|---------------|----------------------|
| 1. Information / Marketing                      | Core activity | Marginal      | Marginal             |
| 2. Detection                                    | Secondary     | Secondary     | Marginal             |
| 3. Simplified diagnosis and recommendations     | Core activity | Marginal      | Marginal             |
| 4. Project design                               |               | Secondary     | Secondary            |
| 5. Selection of companies                       | Marginal      | Secondary     |                      |
| 6. Financing plan                               | Secondary     | Marginal      | Marginal             |
| 7. Financing solutions                          |               |               |                      |
| 8. Renovation work                              |               |               | Secondary            |
| 9. Worksite supervision / reception of the work |               | Secondary     |                      |
| 10. Quality assurance, guarantees and follow-up |               | Marginal      | Secondary            |

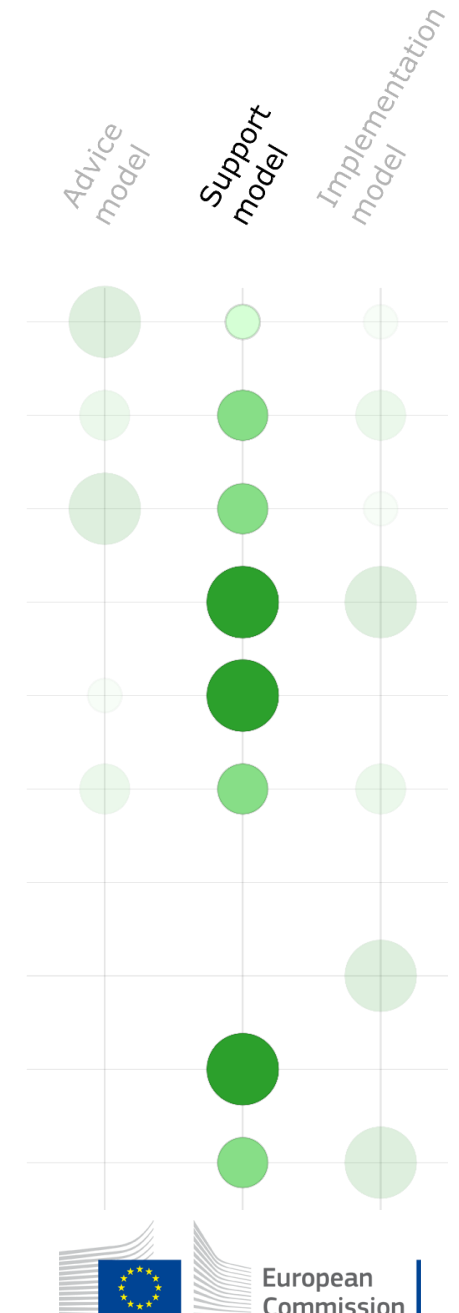
# 'Support' model

## Extended Architect's mandate, covering the whole journey

- **Beyond the 'comfort zone'** of most public actors:
  - Engaged in market activities, incurring professional liability
  - Fully involved in project design (e.g. drafting specifications)
  - Support in selecting companies and negotiating prices (incl. training and prequalification)
  - Worksite supervision and reception of work
  - Quality assurance and follow-up after renovation
- **Tipping point** between 'advice' and 'support' models?
  - Pay for the services provided?
  - Signature of a service contract?
  - Physical visit to carry out the audit?
  - **Open to interpretation** by a judge, in case of litigation



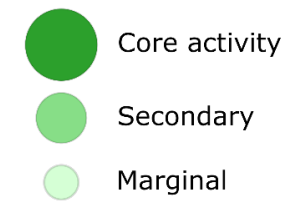
- |   | Advice model | Support model | Implementation model |
|---|--------------|---------------|----------------------|
| 1. Information / Marketing                      | Secondary    | Marginal      | Marginal             |
| 2. Detection                                    | Marginal     | Secondary     | Marginal             |
| 3. Simplified diagnosis and recommendations     | Secondary    | Secondary     | Marginal             |
| 4. Project design                               |              | Core activity | Secondary            |
| 5. Selection of companies                       | Marginal     | Core activity |                      |
| 6. Financing plan                               | Marginal     | Secondary     | Marginal             |
| 7. Financing solutions                          |              |               |                      |
| 8. Renovation work                              |              |               | Secondary            |
| 9. Worksite supervision / reception of the work |              | Core activity |                      |
| 10. Quality assurance, guarantees and follow-up |              | Secondary     | Secondary            |



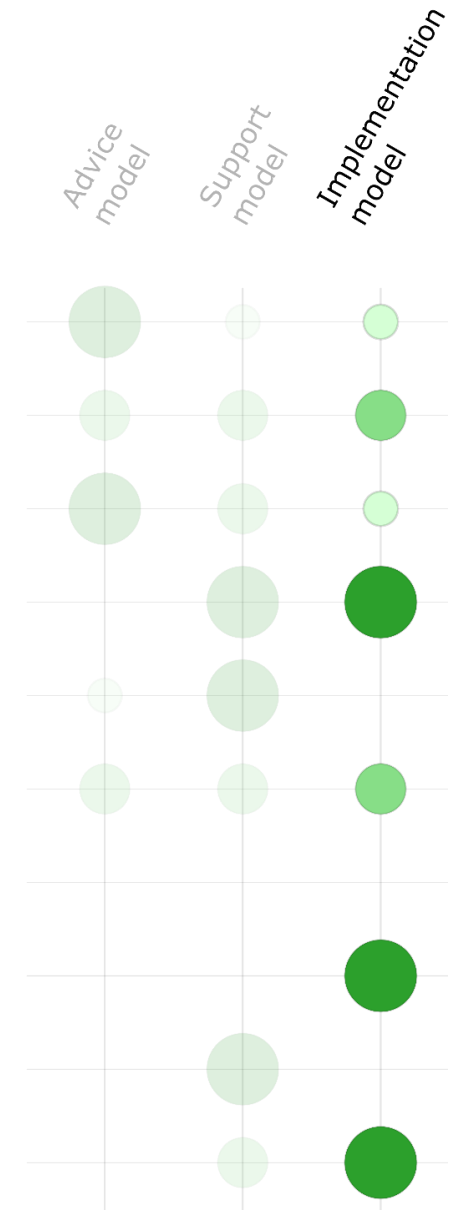
# 'Implementation' model

## combining design and renovation work

- Turnkey contractor: designs and implements
  - Likely leads a consortium or uses subcontractor(s)
  - Selects professionals and imposes choice on homeowners
  - Profit on work may lead to cheaper advice?
- Typically where the ESCO model belongs, but not only
  - Quality assurance can cover the whole value chain
  - Intrinsic performance or savings guarantee?
- Existence of a **vested interest** (tipping point)
  - Interest in the nature and amount of work recommended
  - Support provided upstream perceived as less impartial?



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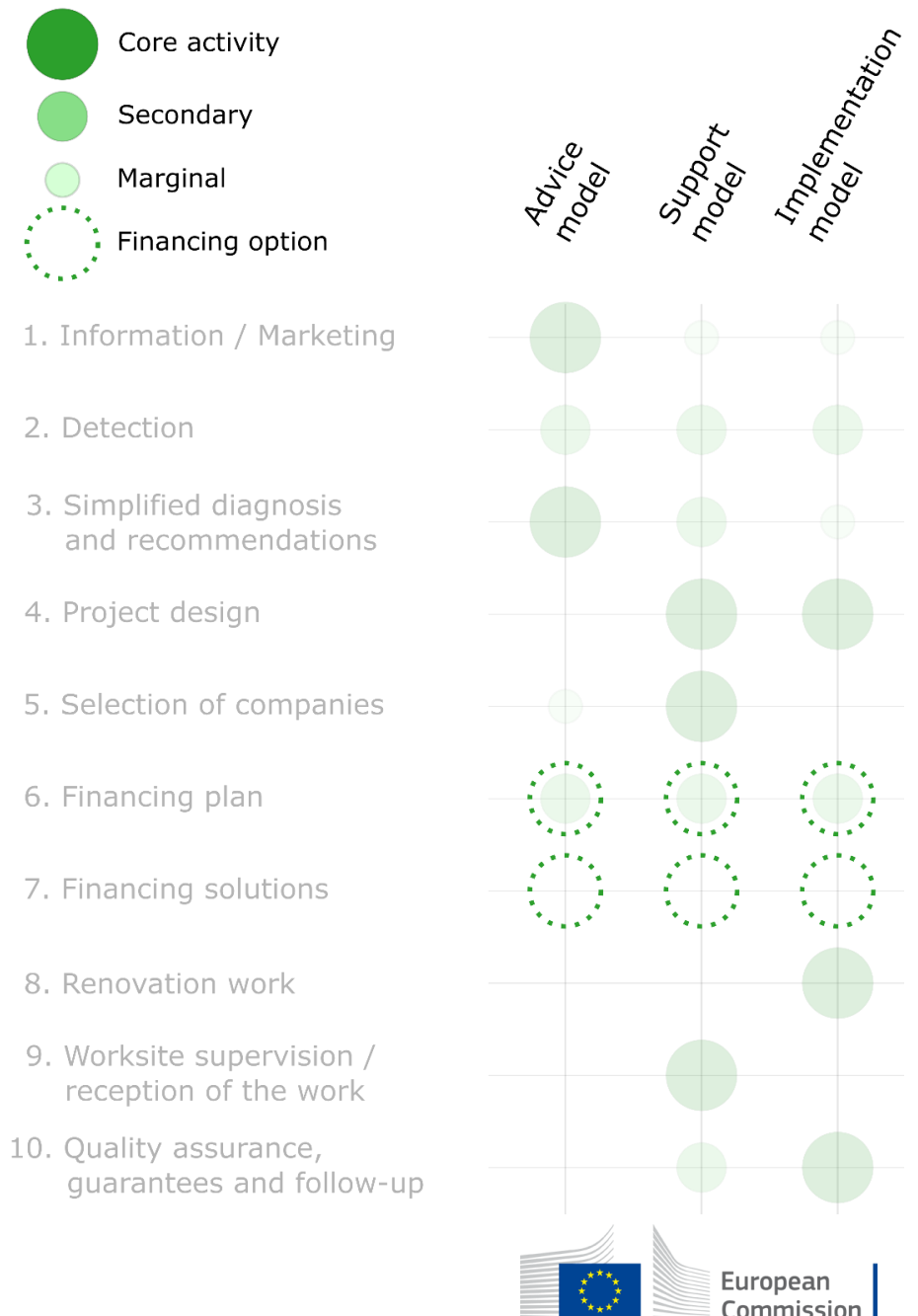


# Some project examples



# What about financing?

- “Option” rather than 4<sup>th</sup> model
- More likely on top of support or implementation models
- Standalone offer requires appropriate **legal framework**
- Other financing services to consider:
  - Support in accessing public grants
  - Pre-financing of public grants
  - Pre-qualification for a retail bank financing offer
- Additional financial engineering is being explored (e.g. *subsidized loans, Guarantee Fund, Home-based financing, ...*)





# Home-based financing?

- Debt attached to the property:
  - via a Property Registry  
(see *EuroPACE (ES)*)
  - via local taxes  
(see *FitHome (NL)* and *PACE in USA*)
  - via the energy bill  
(see *RenOnBill (ES, IT, LT)*)
- Debt may be transferred to a new owner upon sale
- Overcome the aversion for long-term commitment
- Open up new possibilities for debt recovery
  - including the possible intervention of public authorities
  - minimising risk of non-payment

# Ren-On-Bill

Residential building energy renovations with on-bill financing  
(ES, IT, LT, DE) - **Completed**



- Innovative Financing Solution
- Combine Analysis and Pilot implementation
- Participation of energy utilities
- Well supported by market actors
- Large potential for upscale and replication



<https://www.renonbill.eu/>

Horizon 2020 project 847056



# Conclusions

- IHRS are essential to move towards climate goals
- Findings from frontrunners must be further harvested, analysed and debated
  - [LIFE-2021-CET-HOMERECOM](#)
- Public funds should support the multiplication of initiatives
  - [LIFE-2021-CET-HOMERENO](#)
- Build the capacity of local actors to develop and operate such schemes, on a large scale
  - [MANAGENERGY](#)



Source: Chris Brooks on Flickr.com

# To go further...

- [Milin C., Bullier A. \(2021\)](#). *Towards large-scale roll out of "integrated home renovation services" in Europe*. Proceedings of the ECEEE Summer Study 2021.
- AnPost (IE): <https://www.anpost.com/Green-Hub/Home-Energy-Upgrade-Service>
- Arec occitanie (FR): <https://www.arec-occitanie.fr>
- Artée (FR): <https://www.artee.fr/>
- C-real (BE): <https://www.c-real.be>
- Easycopro (BE): <https://www.easycopro.be>
- Energy efficient mortgage initiative: <https://energyefficientmortgages.eu>
- Europace: <https://www.europace2020.eu/>
- Facirénov (FR): <https://www.facirenov.fr>
- Fithome (NL): <https://www.fithomeproject.eu>
- Hauskunft (AT): <https://www.hauskunft-wien.at>
- Hauts-de-France pass renovation (FR): <https://www.pass-renovation.hautsdefrance.fr>
- Holadomus (ES): <https://www.holadomus.com>
- Houseinvest (ES): <https://renuevatucasa.eu>
- Île-de-France énergies (FR): <https://www.iledefranceenergies.fr>
- Innovate: <http://www.financingbuildingrenovation.eu/>
- Oktave (FR): <https://www.oktave.fr>
- Opengela (ES): <https://opengela.eus/>
- Orfee (FR): <https://orfee-project.com>
- Padova fit (IT): <https://www.padovafit.eu>
- Proretro (DE): <https://proretro.eu>
- Reimarkt (NL): <https://reimarkt.nl>
- Renohub (HU): <https://renohub-h2020.eu>
- Renonbill (ES, IT, LT): <https://www.renonbill.eu>
- Save the homes (ES, NL): <https://savethehomes.org>
- Sheerenov (BG): <https://sheerenov.eu/>
- Sunshine (LV): <https://sharex.lv>
- Superhomes (IE): <https://superhomes.ie/>
- Turnkey retrofit (ES, FR, IE): <https://www.turnkey-retrofit.eu>

# Thank you

—● KEYS TO IMPLEMENT CONSUMER-FRIENDLY OBS IN THE EU

**Guillaume Joly**

BEUC



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**#RenOnBillFinalEvent**





**BEUC** The European  
Consumer  
Organisation

The Consumer Voice in Europe

# On-bill schemes and energy efficiency

*Keys to implement consumer-friendly  
OBS in the EU*

BEUC presentation to the RenOnbill final conference  
April the 5th – 2022



# BEUC – the European Consumer Organisation

- BEUC work on Energy – consumers rights need out-of-silos workstream: envelope and heating retrofit, financing.
- Context: renovation wave – Fit for 55 package.
- Observation – food for thoughts
- Need for innovation on financial instruments
- Need for innovative protection of consumers
- Need to address the Private Rented Sector and the split incentives: if we can make it there, we can make it anywhere



# Split incentives in the Private Rented Sector (PRS)

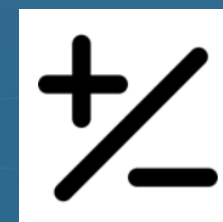
- PRS mainly covers two kinds of profiles: tenants and landlords.
- Both profiles are consumers and need impartial support, to assess situations at the technical and financial levels.
- Main pitfall: need for bringing the capital up-front
- Tenants would benefit from better comfort and savings
- Landlords would see the value of their property increase
- However, none would have guarantees for rapid return on their investment, nor see the rent evolve accordingly.



## Main positive aspects and drawbacks of on-bills schemes for consumer



- In the US and Canada, substantial roll-out these 30 last years
- Positive: OBS linked to the energy meter (or even water meter)
- Positive: works focused on energy efficiency - weatherization
- Positive: repayments are folded into the monthly energy bills
- Drawback: repayments should not exceed the savings (golden rule – ideal case) or be compensated by increased comfort
- Drawback: high interest rates
- Drawback: disconnection as a collateral



## How would on-bill schemes be useful to overcome split incentives?

- No up-front costs paid by neither tenants nor landlords but a third party (energy utilities, private investors).
- Fair split of costs based on Impartial Third Party assessment(s)
- Energy efficiency works' quality ensured by accredited installers
- Lower prices due to economy of scale
- Forbid disconnection while considering housing benefits as a collateral





## Barrier 1 – Lack of Trust

- The make or break measure that can create TRUST between stakeholders



- Enabling change : one-stop-shops hosting impartial third party (technical and financial assessments)
- Solution 1 = One-stop-shops



## Barrier 2 – Unfit regulatory frameworks for Private Rented Sector (PRS) retrofit

- Housing
  - Property and tenancy laws don't factor in the energy efficiency of buildings and homes.
  - Most tenancy laws state that only the landlords can invest, there is no possibility for third-party yet in most EU countries
- Energy
  - Billing, financing and regulation and local partnerships not ready yet for on-bill schemes
  - Solution 2: Lean on EED and EPBD revisions to add the evolution of Regulatory Frameworks, on top of cap-on-rents



## Barrier 3 – Too High Interest rates

- Observed interest rates as high as consumers loans – deterrent
- Green Bond Issuance: gap between green projects and issuance and eagerness of investors to find projects
- Lean on aggregation
- Solution 3 – Define the best project design to facilitate Green Bond Issuance (utilities/third parties/local authorities)



## Barrier 4 – Lack of Local Authorities engagement

- Local authorities and governments need to step-in:
- Implement loan loss reserves and guarantee-funds
- Issue Green Bonds to fund the scheme (or facilitate, secure)
- Support and subsidise the Impartial Third Party workforce
- Push national policymakers to regulatory barriers and organise Technical Assistance
- Solution 4: engage with Local Authorities' networks to facilitate the implementation of de-risking tools (loan loss reserve, guarantee funds) and enabling capacities



## Barrier 5 – Disconnection as a collateral

- Main and key obstacle to get support from consumers organisations
- Need to enable an ecosystem to let OBS thrive while banning disconnection.
- Solution 5: lean on existing housing benefits as a collateral and ban disconnection



# ON BILL SCHEMES

How to make them work  
in the EU?

Lean on One-stop-  
shops to define the  
scope of improvements  
(*impartial third  
parties + regulatory  
barriers*)

Raise money at low  
interest rate via  
aggregation  
opportunity (*i.e.  
Green  
Bond Issuance*)

Partner with local  
authorities to implement  
de-risking tools  
(*i.e. loan-loss reserve,  
guarantee funds*)

Consider housing  
benefits as a collateral  
and factor in subsidies  
that can be disbursed a  
posteriori (*bridge the up-  
front costs gap*)

Ban disconnection

## Link - position papers

### 1. Sustainable Housing

[https://www.beuc.eu/publications/beuc-x-2021-019\\_how\\_to\\_make\\_green\\_and\\_healthy\\_housing\\_affordable\\_for\\_all\\_consumers.pdf](https://www.beuc.eu/publications/beuc-x-2021-019_how_to_make_green_and_healthy_housing_affordable_for_all_consumers.pdf)

### 2. Decarbonisation of heating and cooling

[https://www.beuc.eu/publications/beuc-x-2021-017\\_heat\\_decarbonisation.pdf](https://www.beuc.eu/publications/beuc-x-2021-017_heat_decarbonisation.pdf)



# PANEL DISCUSSION



**Christophe  
Milin**

European  
Commission



**Guillaume Joly**

BEUC



**Isidoro Tapia**

European Investment  
Bank



**Paolo  
Michele  
Sonvilla**

adelphi



**Coffee break**

# RenOnBill Final Conference

Towards the implementation of on-bill and other innovative financing schemes  
for upscaling energy renovation in the EU

5th April 2022, DoubleTree, Brussels and online

**#RenOnBillFinalEvent**

---



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 847056.



Welcome to the

# RenOnBill Final Conference

Session 2: The RenOnBill experience: Quo vadis?

5th April 2022, DoubleTree, Brussels and online

#RenOnBillFinalEvent

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 847056.



# AGENDA

## Session 2: The RenOnBill experience: Quo vadis?

- **10:45** Methodology and tool behind the RenOnBill pilots **Vincenzo Bianco, UNIGE**
- **11:15** On-bill schemes in the EU put into practice **Presentations from the three RenOnBill partner utilities Fenie (ES), Bluenergy (IT), Kauno (LT)**
- **11:45** Strategic and regulatory recommendations on the way forward - **Lukáš Dravecký, BPIE**
- **12:00** Panel discussion  
**José Maria Marcos, Fenie (Spain)**  
**Rimas Perevičius, Kauno energija (Lithuania)**  
**Carlo Chittaro, Bluenergy (Italy)**  
**Joost Declerck, Belfius Bank (BE)**  
**Vincenzo Bianco (UNIGE)**
- **12:25** Conclusions **David Pérez, Creara**
- **12:30** Lunch and networking
- **13:30** END



—● METHODOLOGY AND TOOL BEHIND THE RENONBILL  
PILOTS

Vincenzo Bianco

UNIGE





# Methodology and Tool Behind the RenOnBill Pilots

Vincenzo Bianco – Università degli Studi di Genova –  
[vincenzo.bianco@unige.it](mailto:vincenzo.bianco@unige.it)



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 847056.



**RENONBILL**



# ● Index

- **Introduction to the RenOnBill Tool**
- The RenOnBill Approach
- Results from the Tool
- Conclusions



# ● Objectives of the RenOnBill Tool

## The RenOnBill Tool aims to:

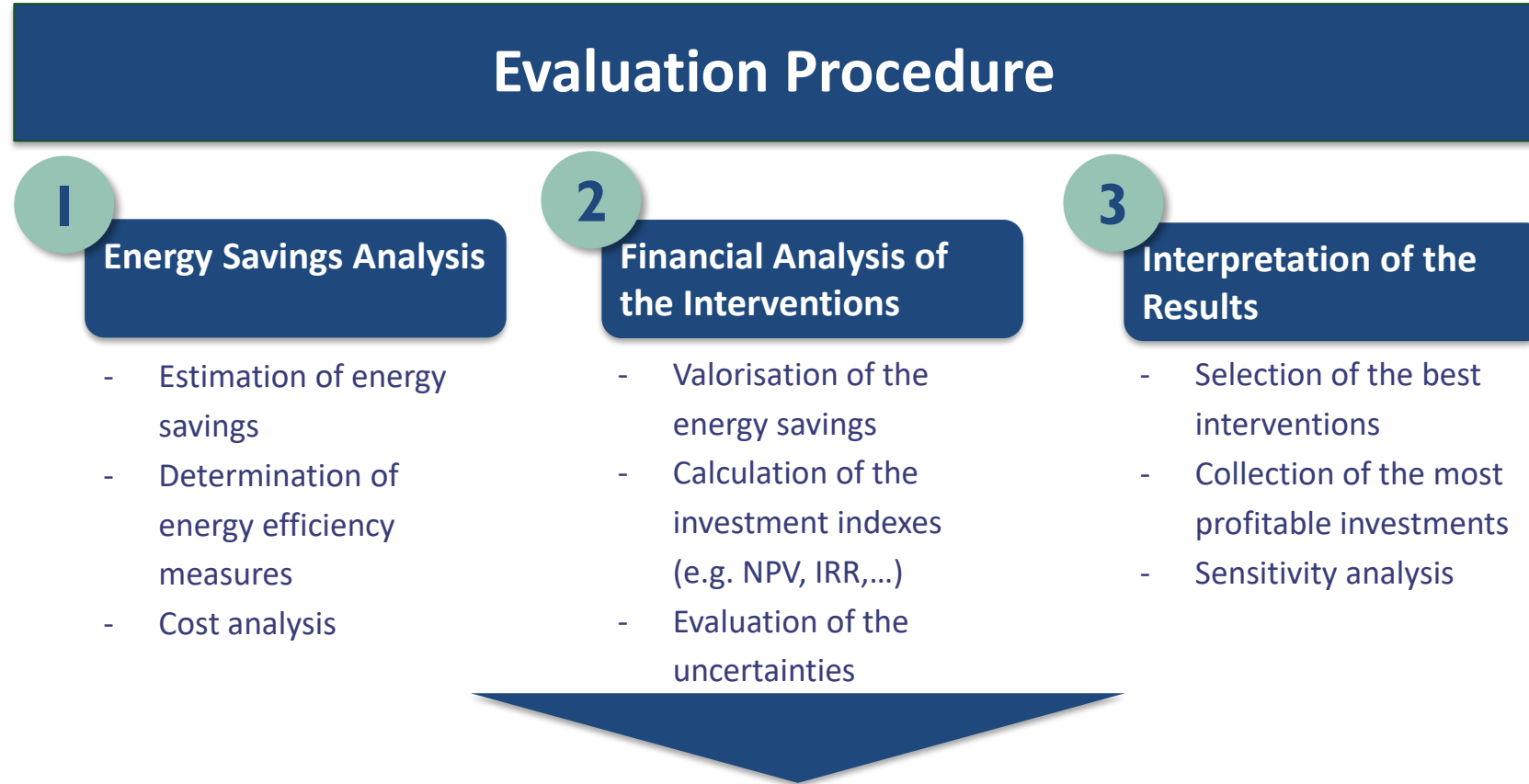
- Simplify the estimation of energy savings for “*non-technical users*”
- Provide an adequate degree of flexibility for “*technical users*”
- Develop a complete financial analysis by including a probabilistic approach
- Bundle investments for an overall evaluation



Development of quite a flexible tool adequate for *technical* and *non-technical* users in the development of complex analyses of energy renovation interventions for the residential sector



# ● Conceptual Framework of RenOnBill Tool

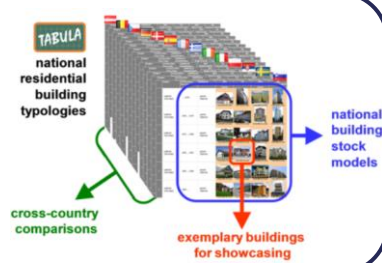


**Articulated procedure which involves multidisciplinary knowledge**



# Current Market Offer

Tool developed in the framework of the IEE. Introduces the concept of building archetypes. Steady-state energy simulation.



World-famous simulation engine developed by US-DOE. Detailed dynamic energy simulation of a specific building.

**A variety of tools is already available on the market**

Leading BIM tool which offers plug-in based on Energy+ for energy analysis or exporting capabilities to DesignBuilder



Well-known transient simulation engine for energy systems. Possibility to develop some financial analysis



**DesignBuilder**

Leading design tool for energy efficiency interventions in buildings based on Energy+



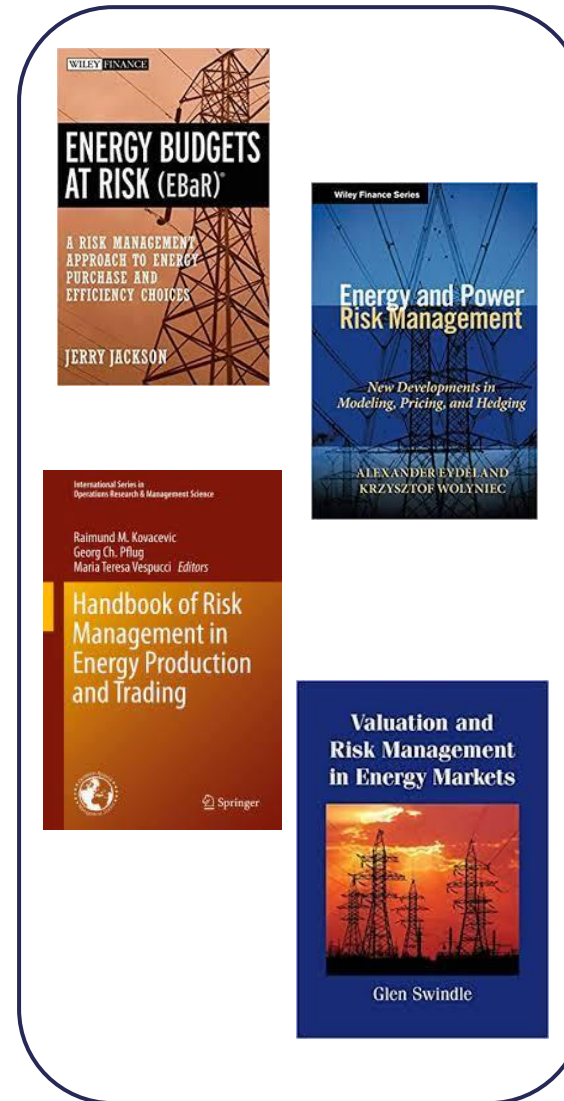
# —● Common Market Trend

- Availability of highly specialized and accurate tools which require a “hard” engineering background to be used
- Specific focus on the detailed engineering design of energy efficiency measures
- Financial Analysis is often not included as an integrated part of the tool
- The analysis is based on deterministic assumptions, in some limited cases it is possible to consider the volatility of the input data



# Identified Gaps

- Energy analysis is highly volatile since it is affected by uncertain input (e.g., climatic conditions, limited knowledge of the current conditions of buildings, etc.).
- Financial analysis of energy efficiency investments is even higher volatile!!! Evolution of energy prices is hardly predictable. A deterministic analysis is insufficient since it does not allow to determine the risk level.



- The issues are well known in the literature, but there is not ready-to-use tool to cover the gaps
- The area is at the intersection between engineering and finance. Multidisciplinary competences required





# ● Index

- Introduction to the RenOnBill Tool

- **The RenOnBill Approach**

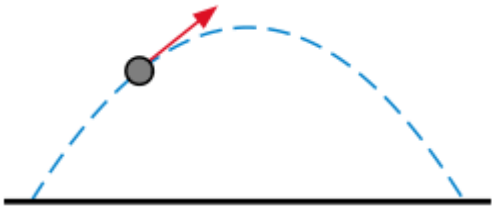
- Results from the Tool

- Conclusions

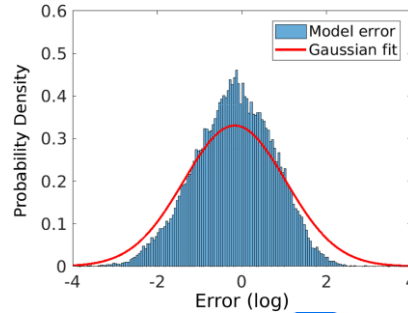


# RenOnBill Tool Objectives

Deterministic & Fragmented Approach oriented to specific design



Probabilistic & Integrated Approach oriented to the analysis of multiple projects



- RenOnBill Tool offers an integrated platform for the evaluation of multiple projects with a probabilistic integrated approach.
- It is a unique platform available and ready to use.



# —● RenOnBill Tool Structure 1/2

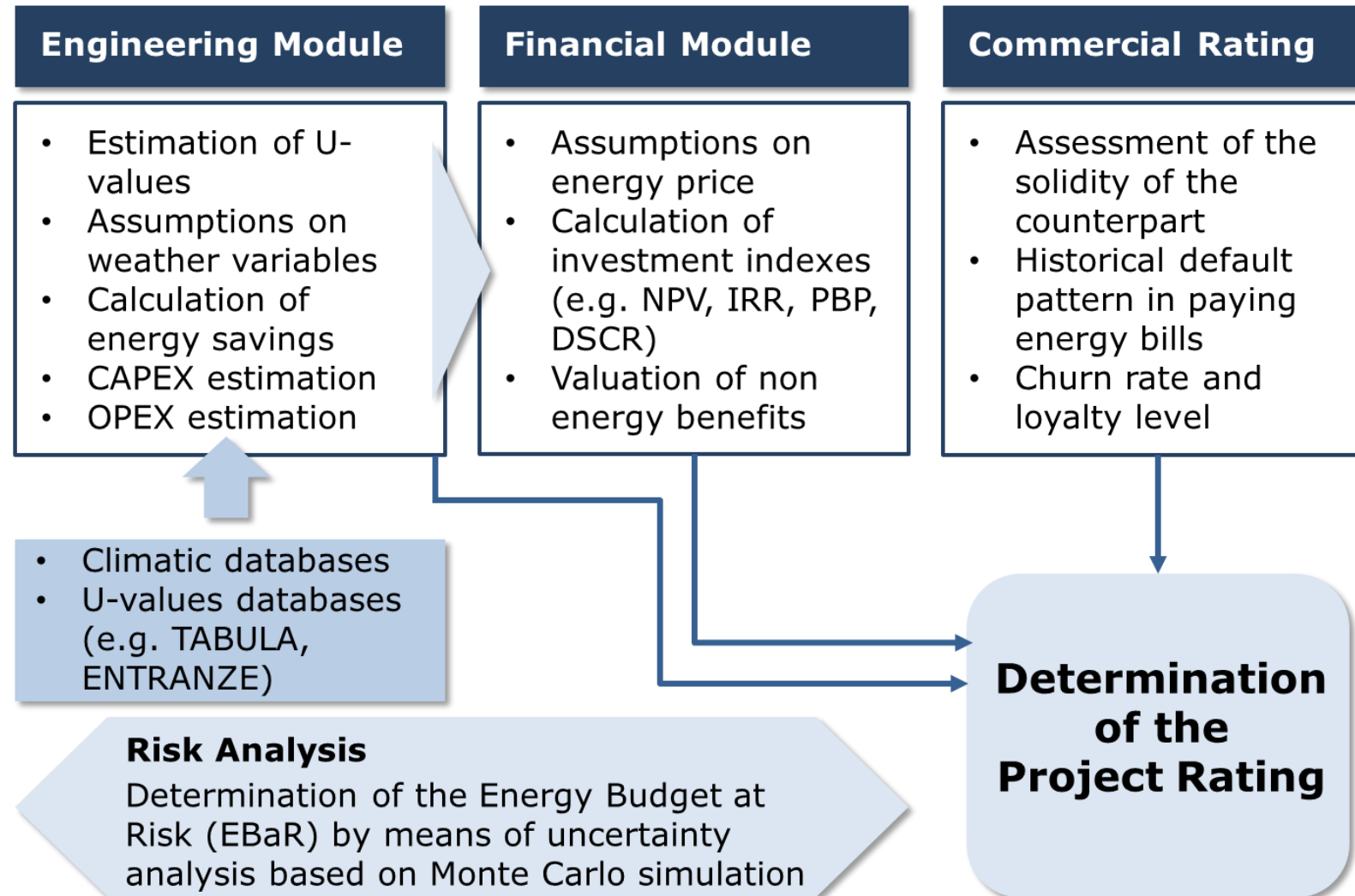
The tool is organised in a modular structure considering four conceptual areas, namely:

- **Engineering Module** for the estimation of energy savings and associated costs
- **Financial Module** for the development of financial calculations and corresponding indexes
- **Risk Analysis** for the determination of the uncertainty in the financial and energy estimations
- **Commercial Rating** to assess the commercial attractiveness of the proposed investments

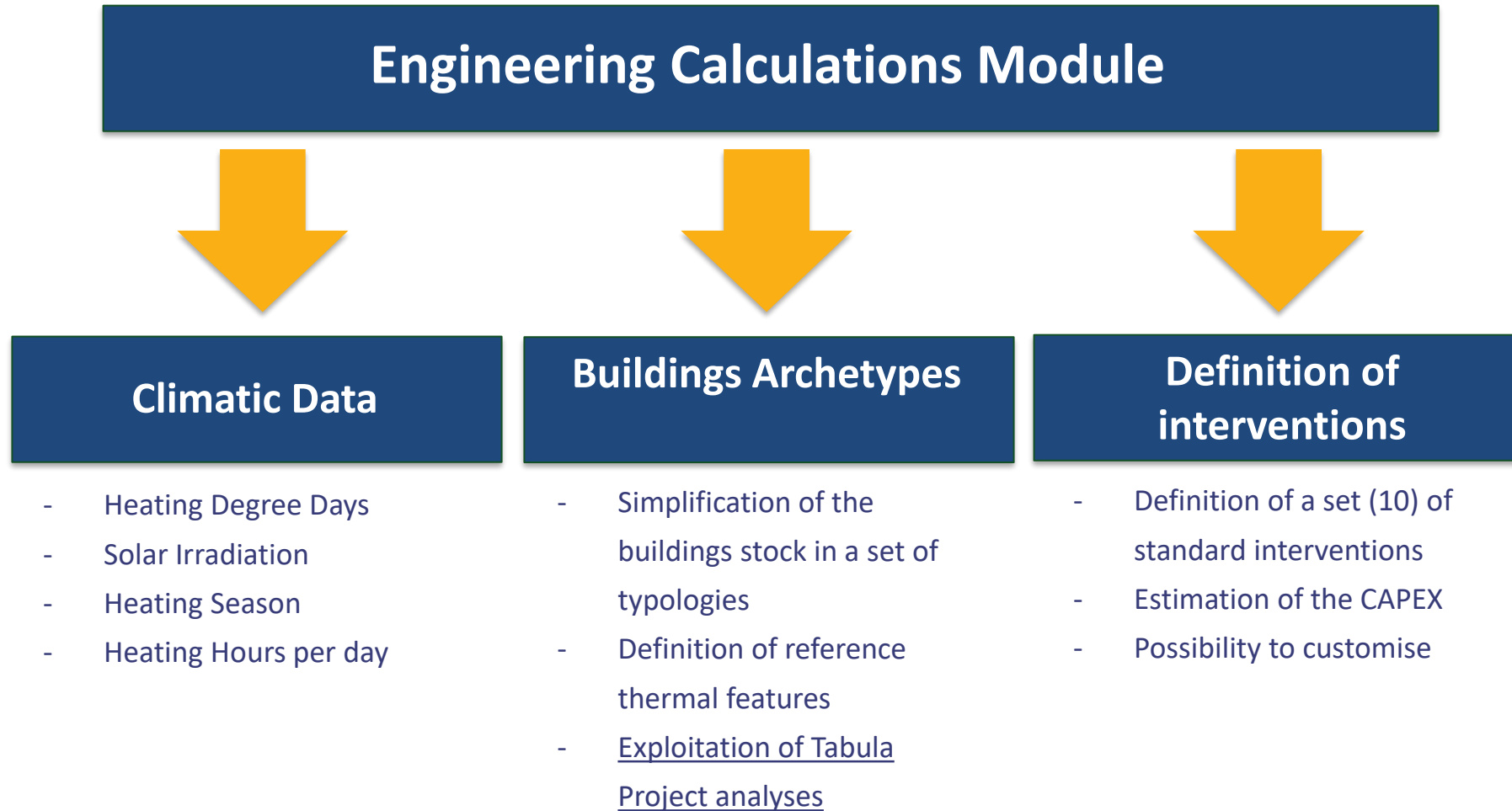
These four items are combined to determine a final project rating to be used for ranking purposes of a single project or bundles of investments, as illustrated in the next chart, and for the generation of a preliminary business plan.



# RenOnBill Tool Structure 2/2



# Engineering Module 1/2



# Engineering Module 2/2

## Archetype Structure

### Example of archetypes definition

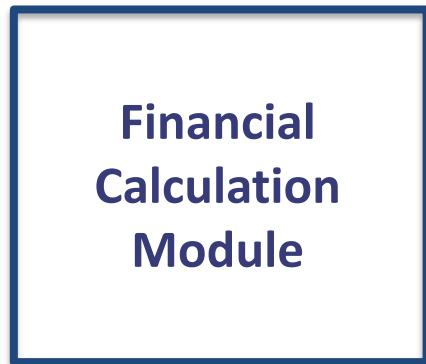
	Detached houses	Apartment buildings	Commercial buildings	Holiday homes	Building categories
Existing stock	-1959	-1959	-1959	-1959	Building age group
	1960-1979	1960-1979	1960-1979	1960-1979	
	1980-2009	1980-2009	1980-2009	1980-2009	
2010-2019	A B C	A B C	A B C	A B C	Building sub-type
2020-2029	A B C	A B C	A B C	A B C	
2030-2050	A B C	A B C	A B C	A B C	

Source: *Building and Environment* 75 (2014) 153-160

Archetypes allow to simplify the representation of the buildings stock, which is fundamental for the standardisation of the evaluation process and for the bundling of a large set of investments



# Financial Module



- 1** Data input for discount rate (i.e. hurdle rate), evolution of energy cost & other parameters, (e.g., CPI)
- 2** Calculation of financial viability indexes, namely NPV, IRR, PBP, PI...others?
- 3** Calculation of an overall single project or project bundle rating
- 4** Valuation of non energy benefits



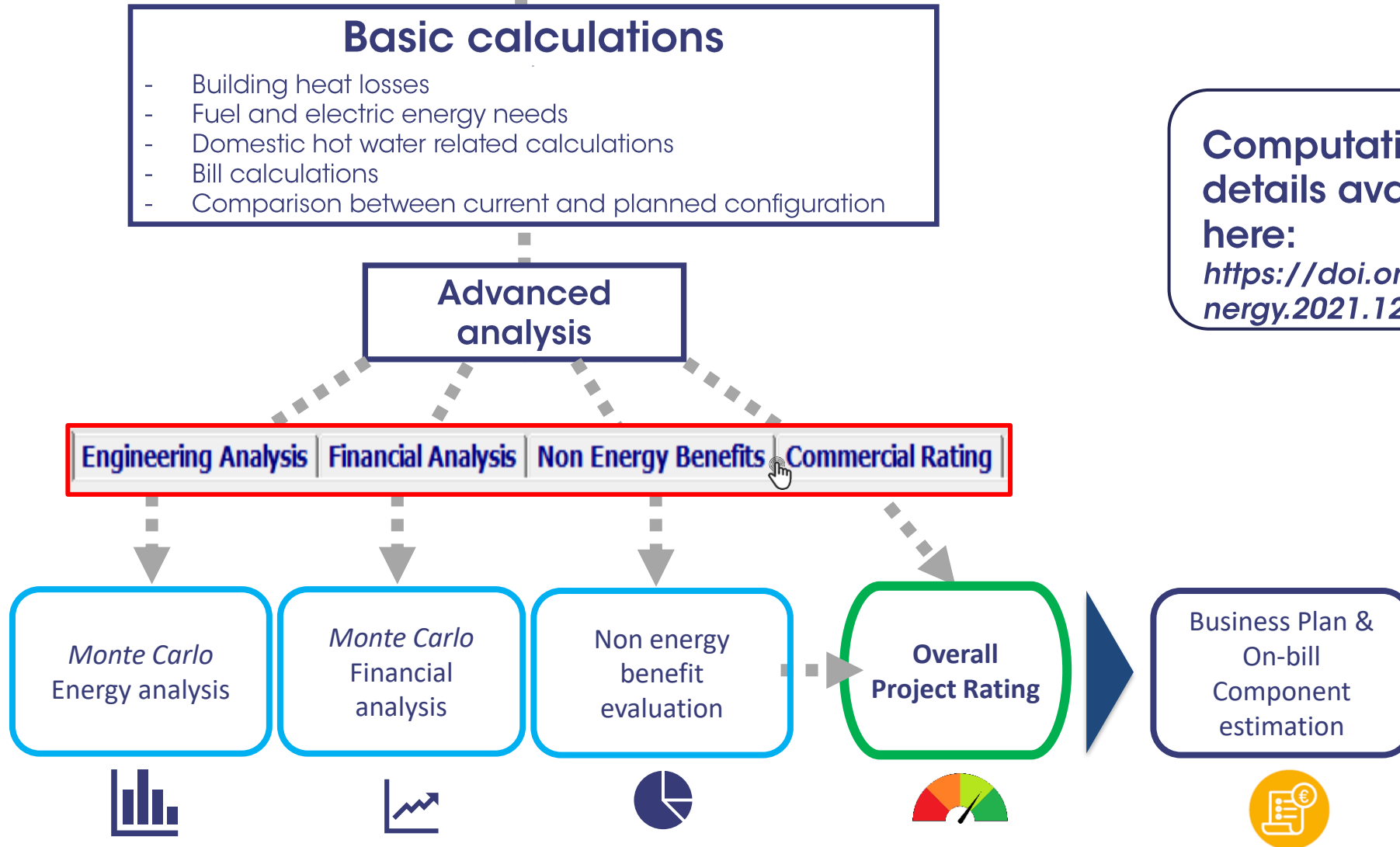
# —● Commercial Rating

## Commercial Rating

- Identification of a scale of scores
- Attribution of a score to the achieved level of energy savings, profitability indexes, debt index, level of churn rates, etc.
- The sum (straight, weighted, etc.) represents the rate attributed to the project
- Score structure can be changed according to the country, building typologies, etc.
- Flexibility in modifying the rating structure according to the user's needs



# RenOnBill Conceptual Evaluation Process



Computational details available here:  
<https://doi.org/10.1016/j.energy.2021.121491>

# RenOnBill Tool Interface

Go back to Home Monte Carlo Setup Log out

[Case Definition](#) [Details](#) [Engineering](#) [Financial](#) [Project Rating](#) [Non Energy Benefits](#) [Onbill](#) [Report](#) [Business Plan](#)

Add Case

<input type="checkbox"/>	n	n dw	n flo	Country	City	Build. Type	Year	Floor Area (m2)	Invest. (€)	Net Inv. (€)
<input type="checkbox"/>	1	1	5	Italy	Asti	multistorey	1961-1975	100	52550	52550

### Equipment Setup

Current	Planned	Extended Setup
<input checked="" type="radio"/> burner <input type="radio"/> pellet stove <input type="radio"/> heat pump (splitter)	<input checked="" type="radio"/> burner <input type="radio"/> pellet stove <input type="radio"/> heat pump (splitter)	<span>heating</span>
<input checked="" type="radio"/> no device <input type="radio"/> electric boiler <input type="radio"/> gas burner <input type="radio"/> heat pump	<input checked="" type="radio"/> no device <input type="radio"/> electric boiler <input type="radio"/> gas burner <input type="radio"/> heat pump	<span>dhw</span>
<input type="checkbox"/> insul. walls <input type="checkbox"/> insul. roof <input type="checkbox"/> insul. floor	<input type="checkbox"/> insul. walls <input type="checkbox"/> insul. roof <input type="checkbox"/> insul. floor	<span>envelope &amp; wins</span>

### DHW Setup

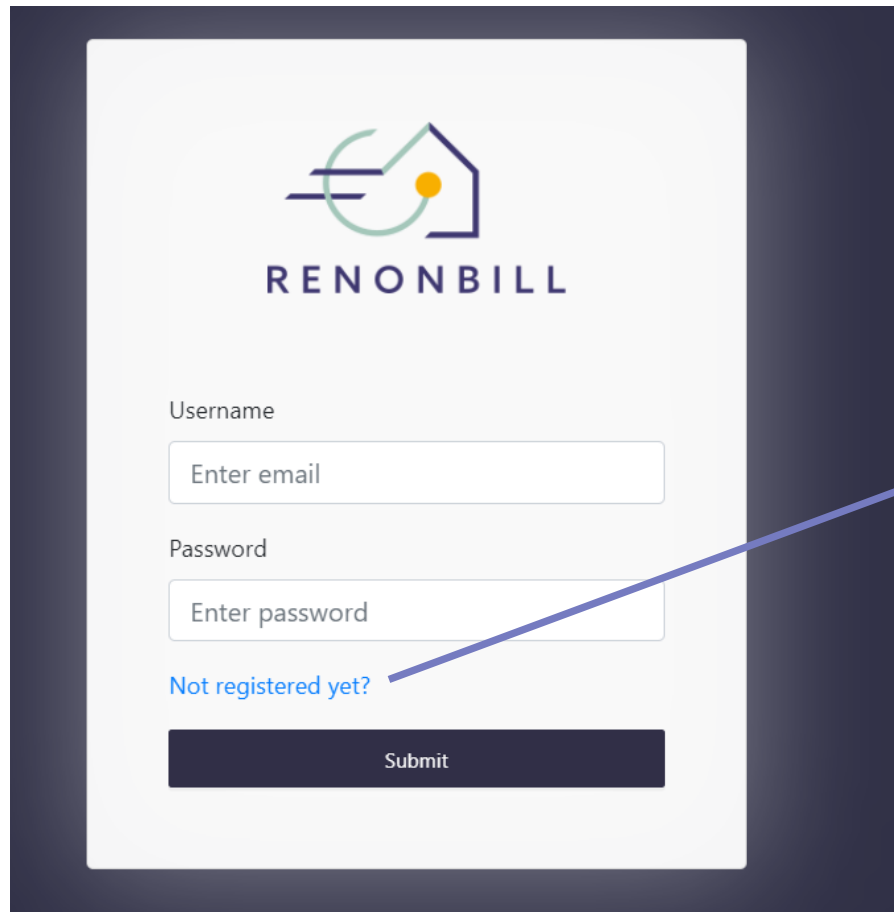
Current	Planned
<input checked="" type="radio"/> no device <input type="radio"/> electric boiler <input type="radio"/> gas burner <input type="text" value="1- Open chamber centralizer"/>	<input checked="" type="radio"/> no device <input type="radio"/> electric boiler <input type="radio"/> gas burner <input type="text" value="1- Open chamber centralizer"/>
<input type="radio"/> heat pump <input type="checkbox"/> solar heating (integration) <input type="text" value="0"/>	<input type="radio"/> heat pump <input type="checkbox"/> solar heating (integration) <input type="text" value="0"/>

Done

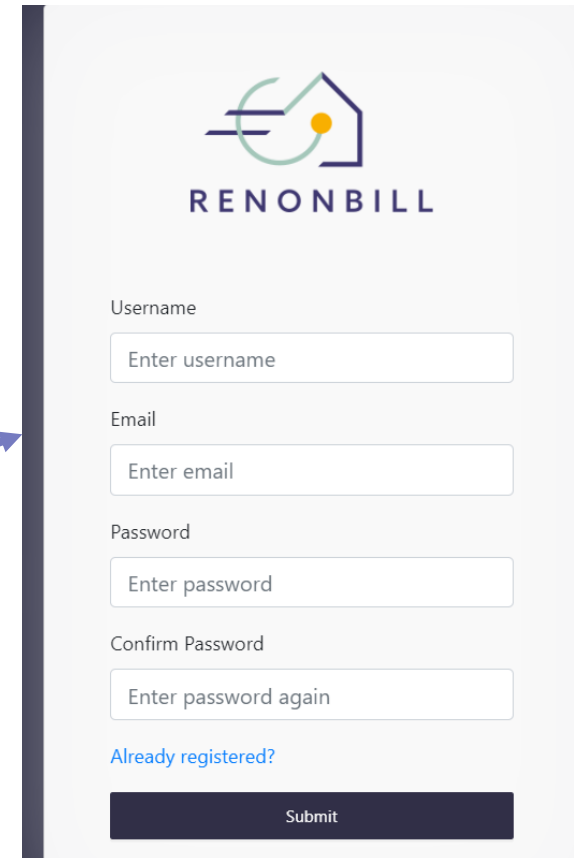
# —● Accessing and using the tool

Access to the Tool: <https://renonbill.ikimio.com/login>

Register with a username and password to be used for accessing to your area where you can save your projects.



The screenshot shows the registration page for Renonbill. At the top is the Renonbill logo, which consists of a stylized house icon with a green circular arrow around it. Below the logo is the text "RENONBILL". The registration form includes a "Username" label above a text input field containing the placeholder "Enter email". Below that is a "Password" label above a text input field containing the placeholder "Enter password". Underneath the password field is a blue link that says "Not registered yet?". At the bottom of the form is a dark blue "Submit" button.



The screenshot shows the login page for Renonbill. At the top is the Renonbill logo, which consists of a stylized house icon with a green circular arrow around it. Below the logo is the text "RENONBILL". The login form includes a "Username" label above a text input field containing the placeholder "Enter username". Below that is an "Email" label above a text input field containing the placeholder "Enter email". Underneath the email field is a "Password" label above a text input field containing the placeholder "Enter password". Below the password field is a "Confirm Password" label above a text input field containing the placeholder "Enter password again". Underneath the confirm password field is a blue link that says "Already registered?". At the bottom of the form is a dark blue "Submit" button.

# ● Index

- Introduction to the RenOnBill Tool
- The RenOnBill Approach
- **Results from the Tool**
- Conclusions





# ● Main Results obtained with the tool

Eventually, the Tool provides the user with:

- Overall (bundle) and single investment energy savings and corresponding probabilistic distributions
- Overall and single investment financial indexes (i.e., NPV, IRR, PI, PBP) with probabilistic distributions and confidence bounds
- Estimation of VAR and CVAR
- Estimation of the overall commercial rating based on engineering, financial and market parameters
- Quantification of non-energy benefits
- Calculation of on-bill components
- Preliminary Business Plan of the initiative



**Detailed amount of information for the development of sophisticated investment strategies and design of on-bill programs**



# —● Index

- Introduction to the RenOnBill Tool
- The RenOnBill Approach
- Results from the Tool
- **Conclusions**



# —● Conclusions

- The ERV-tool is conceived to cover a broad range of users' needs, ranging from technical to non-technical issues
- It features a sophisticated financial analysis which includes a probabilistic approach
- It helps bridging of the existing gap in integrated engineering-financial tools for the estimation of energy efficiency projects in residential buildings
- It is a fundamental aid in the evaluation of projects bundles



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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 847056.

# Partners



[www.renonbill.eu](http://www.renonbill.eu)

 [@RenOnBill](https://twitter.com/RenOnBill)



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 847056.



—● ON-BILL SCHEMES IN THE EU PUT INTO PRACTICE

**José Maria Marcos**

Feníe  
Spain





# On Bill Schemes in the EU put into practice: Feníe Energía's Experience

RenOnBill Final Conference



feníe energía

Jose M<sup>o</sup> de Marcos - Javier Bescós - Agustina Yara - FENÍE ENERGÍA

5/04/2022- Brussels



RENONBILL



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 847056.

# Our interests in On-Bill Schemes

The particularities of Fenie Energía

- Fenie Energia is a utility founded by FENIE



- In our business model, the **installers** act as
  - Shareholders
  - Salespeople
- Due to these particularities, it is for the best interests of Fenie Energia and the installers to get involved in activities related to physical installation of new infrastructure.



# Program design

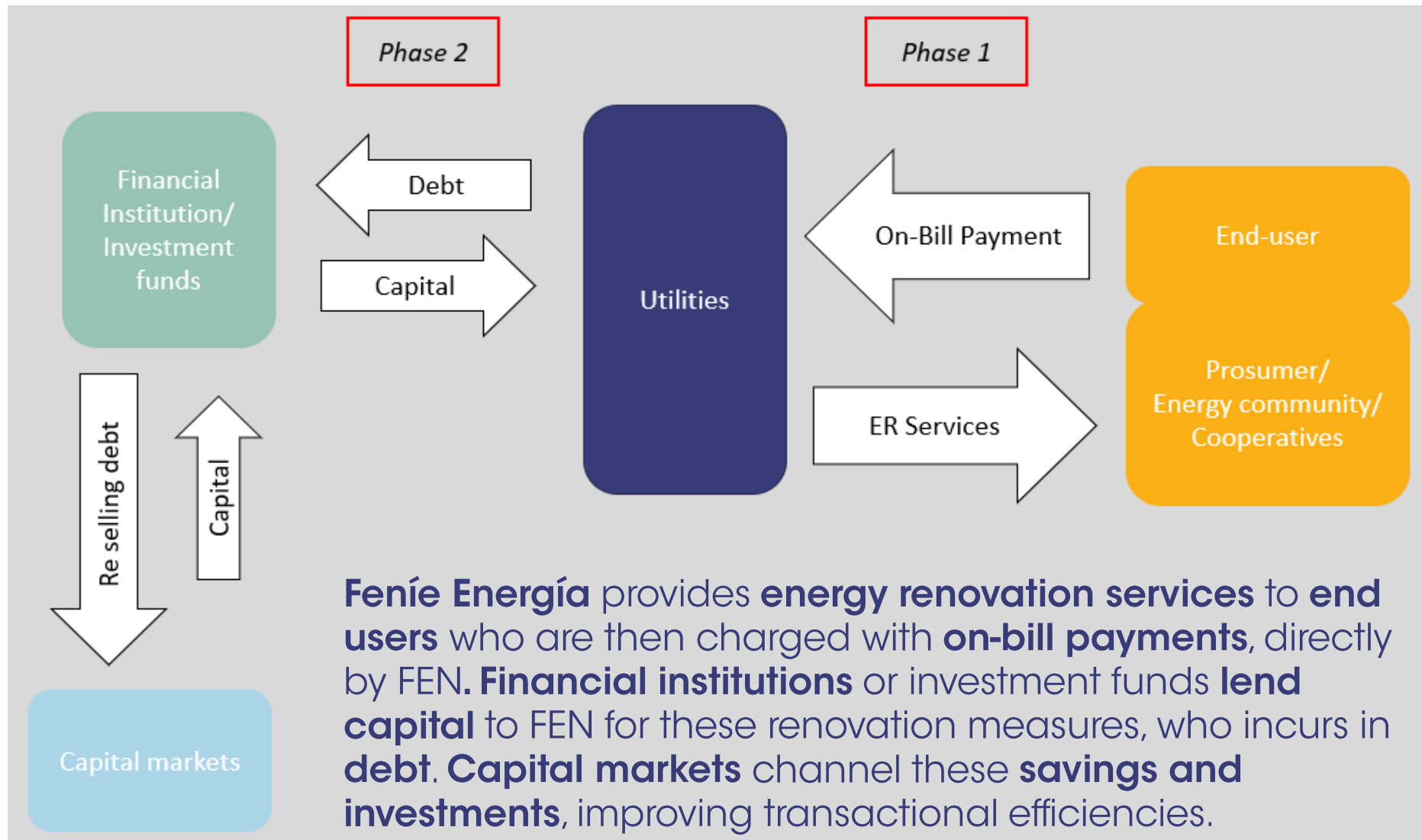
**GOAL SETTING AND VALUE PROPOSITION:** FEN's motivation, and benefits for clients and stakeholders.

- Motivation:
  - Gaining new clients and taking advantage of a new source of revenue streams
  - Increasing client loyalty and retention
  - Improving market positioning as a cutting-edge utility and differentiating itself from competitors
  - Improving image of sustainability while raising social awareness
  - Satisfying energy efficiency obligations according to European and Spanish laws

PARTNERS	ADVANTAGES
TECHNOLOGY PROVIDERS	<ul style="list-style-type: none"> <li>• New agreements</li> <li>• Stability in already established partnerships, and new partnerships</li> <li>• New contacts with clients</li> <li>• Brand image and marketing improvements</li> </ul>
FINANCIAL INSTITUTIONS	<ul style="list-style-type: none"> <li>• New agreements</li> <li>• Widening the scope of initiatives and portfolio of activities</li> <li>• Stability in already established partnerships, and new partnerships</li> <li>• New clients</li> <li>• Brand image and marketing improvements</li> </ul>
ESCOS (IF APPLICABLE)	<ul style="list-style-type: none"> <li>• New agreements which may not take place without the execution on-bill offers</li> <li>• New partnerships and stability in them</li> <li>• New contacts with old clients and new clients</li> </ul>
TECHNICIANS	<ul style="list-style-type: none"> <li>• New subcontracting of projects that may not be developed without on-bill offers</li> <li>• New partnerships and widening of professional network</li> <li>• New contacts with clients</li> <li>• New areas of development and improving knowledge in already explored ones</li> </ul>



# Business Model for FEN



# —● Customer basis segmentation

## TARGET MARKET

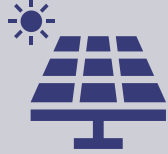



- Segmentation criteria
  - **Type of building**
  - Others: geographical, building performance, user income
- Market segments
  - **Owners of single family homes**
  - **Owners of dwellings in buildings**
  - Homeowners communities
  - Tourist apartments
- Focus on **two market niches**
  - Young neighbourhoods with not so young buildings
  - Old neighbourhoods in the city centre gaining interest

## MEASURES TO OFFER

- Windows renovation
- Envelope renovation
- Boilers
- **Aerothermics (heat pumps)**
- Domotic systems and automatization
- Smart and connected control heating: AC and heating controlled by room
- Lighting sensors and LEDs
- **PV for self-consumption**
- Geothermal systems for heating



## ● Identification of partners

	
<p><b>Technology providers</b></p> <ul style="list-style-type: none"><li>• For lighting: Philips, Ledvance, Secom</li><li>• For capacitor banks: Circutor, Cisar</li><li>• Electric meters and consumption monitoring: Circutor, Cliensol, Landis</li><li>• HVAC: Mitsubishi Electric, Salvador Escoda, Gabarrón</li><li>• PV for self-consumption: Suministros Orduña</li></ul>	<p><b>ESCOs</b> (for big projects)</p>
	
<p><b>Financial institutions</b></p>	<p><b>Installation technicians</b> (for the rest of projects)</p> <ul style="list-style-type: none"><li>• 2300 technicians with FEN</li></ul>

# Financial and Risk Analysis

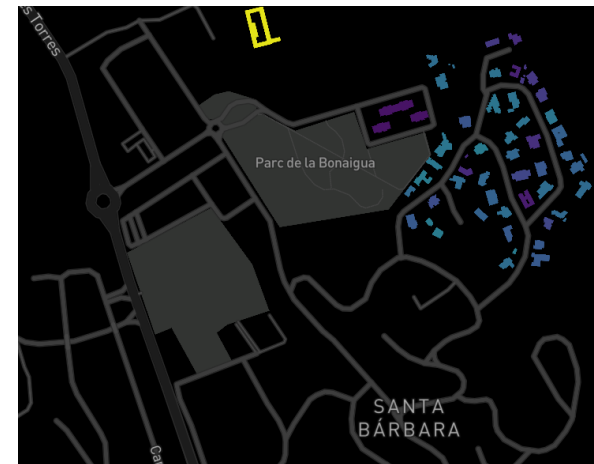
## Old neighbourhood with young people in Madrid's city centre

- Age range: between 25 and 44 years
- “**Embajadores**” in the district “Centro” → Neighbourhood with the highest rate of people in this age range with respect to the total number of inhabitants (43,98%)
- Buildings’ construction date: 1900’s – 1920’s



## Medium-high/high class neighbourhood in the outskirts of Valencia

- **Rocafort** – Santa Bárbara
- Population on their 40’s + high income
- Proximity to Valencia (North)
- Buildings’ construction date: 70’s – 00’s





# Financial and Risk Analysis – ERV

## Old neighbourhood with young people in Madrid’s city centre – Embajadores

Location	Case scenario	Bill anual savings (€)	Intervention costs (k€)	Energy annual savings (kWh)	Loss risk	IRR
Madrid	1.1	2,200	25.6//3.66	55,600	21%	8%
Madrid	1.2	2,200	25.6//3.66	55,600	20,8%	9%
Madrid	1.2.1	2,200	25.6//3.66	55,600	1,4%	11%
Madrid	2.1	2,700	51//7.3	59,000	100%	-
Madrid	2.2	2,700	51//7.3	59,000	100%	-
Madrid	2.2.1	2,700	34//4.8	55,000	10%	9%

- Case-scenario 1: Substitution of existent heating burner and gas burner for DHW, with heat pumps
  - 1.1: No tax incentives, no loan
  - 1.2: No tax incentives, loan (loan rate = 7%, loan amount = 80%, refund years = 10)
  - 1.2.1: Same as 1.2 but loan rate = 4%
- Case-scenario 2: Substitution of existent heating burner and gas burner for DHW, with heat pumps, + integration of PV panels
  - 2.1: No tax incentives, no loan
  - 2.2: No tax incentives, loan (loan rate = 7%, loan amount = 80%, refund years = 10)
  - 2.2.1: Same as 2.2 but keeping the gas burner + time horizon of 25yr.



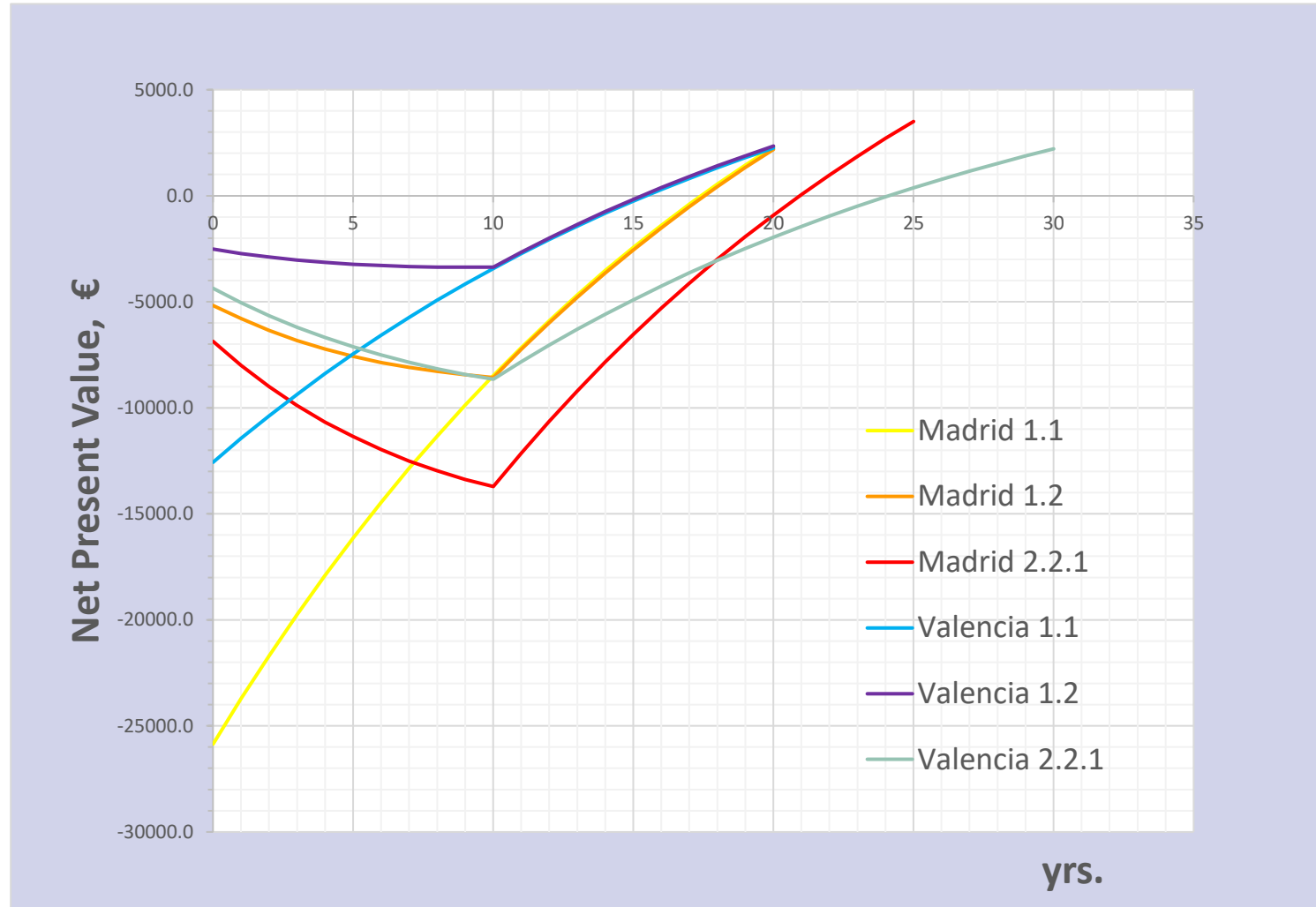
# Financial and Risk Analysis – ERV

## Medium-high/high class neighbourhood in the outskirts of Valencia – Rocafort (Santa

Location	Case scenario	Bill annual savings (€)	Intervention costs (€)	Energy annual savings (kWh)	Loss risk	IRR
Valencia	1.1	1,200	12,500	30,000	5.2%	9%
Valencia	1.2	1,200	12,500	30,000	5%	11%
Valencia	2.1	1,400	22,000	31,500	99.7%	4.5%
Valencia	2.2	1,400	22,000	31,500	99.8%	2.7%
Valencia	2.2.1	1,400	22,000	31,500	12%	8.5%

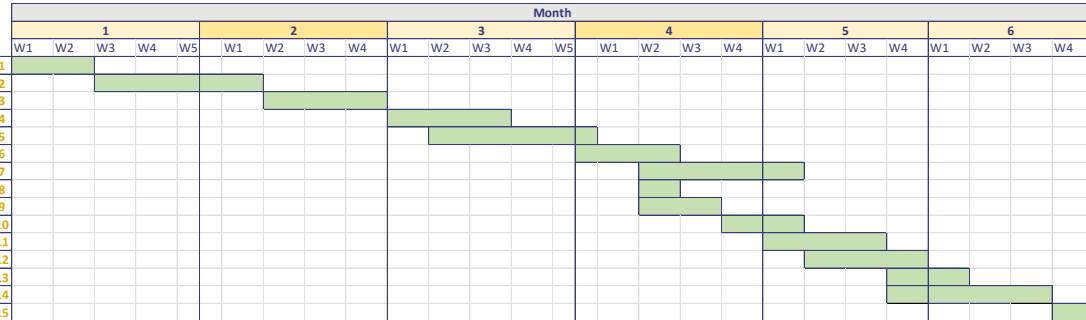
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  - 2.2: No tax incentives, loan (loan rate = 7%, loan amount = 80%, refund years = 10)
  - 2.2.1: Same as 2.2 but loan rate = 4%

# NPV cases comparison



# Implementation plan & Piloting the renovation program

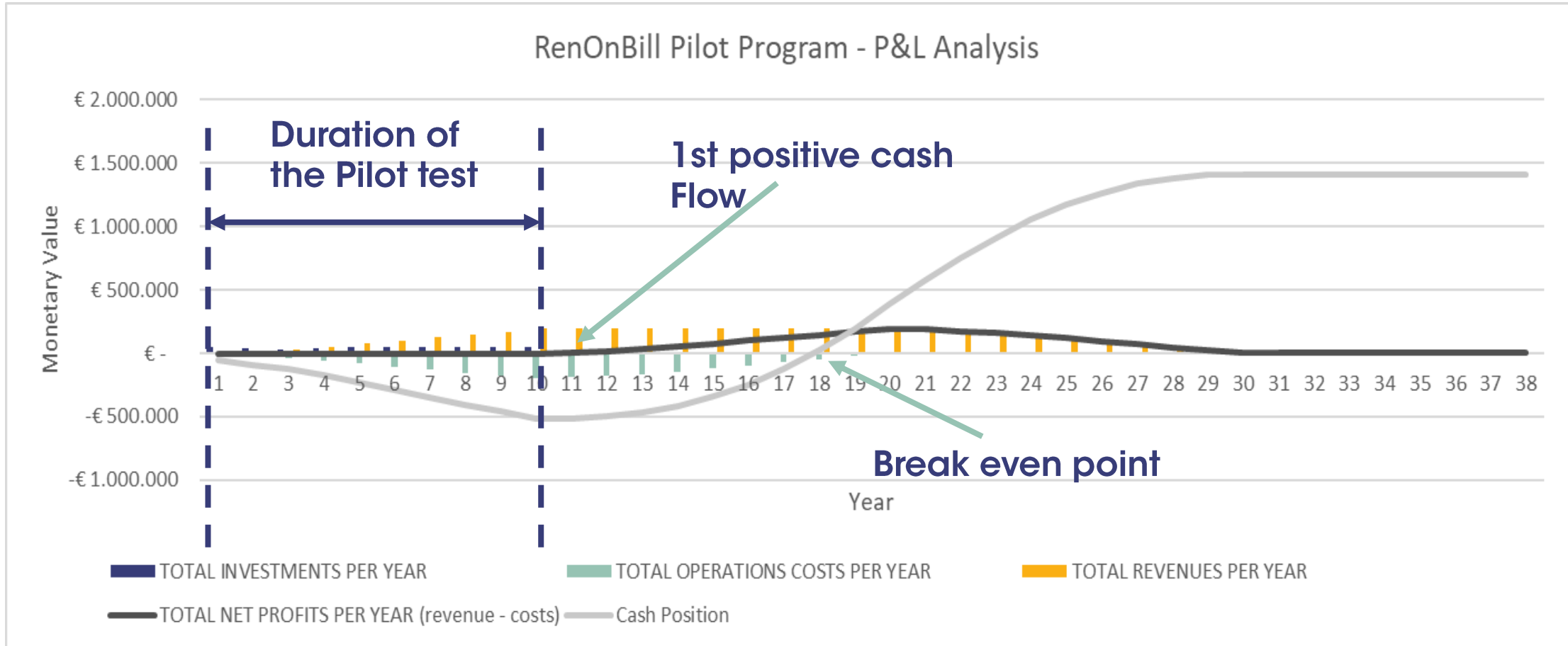
1. Beginning of month 1: Start of the pilot test.
2. End of month 2: First 5 contracts signed by participants.
3. End of month 5: First 5 installations completed.
4. Month 12: First 10,000€ saved in energy bill components.
5. Month 14: 500,000 KWh saved.
6. Month 25: 50 dwellings renovated, 3,500,000KWh saved, 65,000€ saved in energy components.



Risks		Consequence		
		Low	Medium	High
Likelihood	High			
	Medium		2 3 16 18	1 4 8 9 13 14 15 17
	Low		5 12	6 7 11

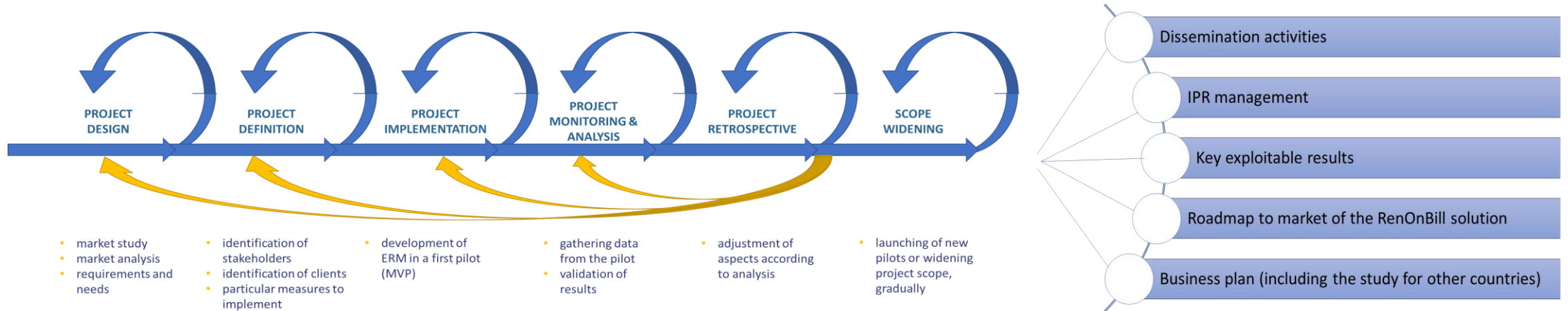
KPI NAME	KPI CALCULATION	UNITS
Rate of on-bill offers accepted	$\frac{\text{Number of participants enrolled}}{\text{Total number of participants identified}} * 100$	[%]
Total (global) monthly energy savings resulting from upgrades	$\text{Total consumption before ERM} \left[ \frac{kWh}{month} \right] - \text{Total consumption after ERM} \left[ \frac{kWh}{month} \right]$	$\left[ \frac{kWh}{month} \right]$
Home (individual) monthly energy savings resulting from upgrades	$\text{Individual consumption before ERM} \left[ \frac{kWh}{month} \right] - \text{Individual consumption after ERM} \left[ \frac{kWh}{month} \right]$	$\left[ \frac{kWh}{month} \right]$
Total (global) monthly carbon reductions resulting from upgrades	$\text{Total CO2 emissions before ERM} \left[ \frac{kg CO2}{month} \right] - \text{Total CO2 emissions after ERM} \left[ \frac{kg CO2}{month} \right]$	$\left[ \frac{kg CO2}{month} \right]$

# P&L Analysis



# 4. Piloting the renovation program

EXPLOITATION STRATEGY: definition of actions and roles



Utility



Financial institutions



Equipment providers



Installation technicians



ROB Consortium



RENONBILL

# THANK YOU FOR LISTENING

## Q&A

[www.renonbill.eu](http://www.renonbill.eu)

 [@RenOnBill](https://twitter.com/RenOnBill)

 [RenOnBill - Residential Building Energy Renovations with On-Bill Financing](#)



**RENONBILL**



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 847056.



—● ON-BILL SCHEMES IN THE EU PUT INTO PRACTICE



**Carlo Chittaro**

Bluenergy

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#RenOnBillFinalEvent

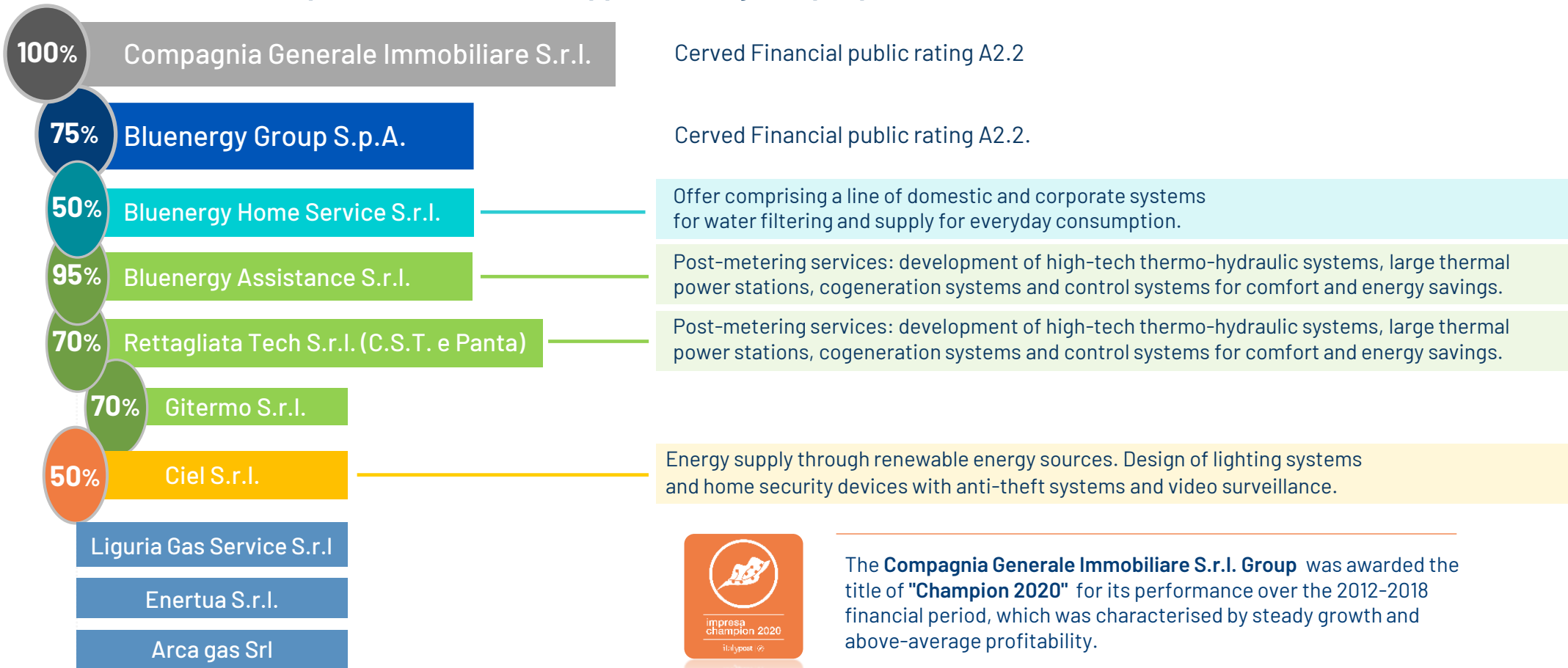


—● The Bluenergy vision



# Bluenergy company profile

**Bluenergy Group** is a multiutility which deals with **the sale of natural gas and electricity in Northern Italy and the sale of additional services to the commodity. It is** mainly present in **Friuli Venezia Giulia, Lombardy and Piedmont** and serves the **residential, business and condominium markets.** Currently the Group has a **Customer Base** of approximately more than **250,000** gas and electricity users, is present in the Northern Italy area with **55 branches, 5 operating offices (Udine, Trieste, Milan, Pordenone and Codroipo)** and has a **staff of approximately 265 people.**



The **Compagnia Generale Immobiliare S.r.l. Group** was awarded the title of **"Champion 2020"** for its performance over the 2012-2018 financial period, which was characterised by steady growth and above-average profitability.



RENONBILL

# —● Bluenergy history

**Gianfranco Curti** starts the methanization process of the FVG Area.

**BLUENERGY**  
Energia per crescere sostenibile

Market liberalization, the networks are sold.  
**Bluenergy Group is born**, a reseller company, 63%-owned by the municipalities

**BLUENERGY HOME SERVICE**

**Bluenergy Home Service** is born, the first product company which sets out on a path towards the development of a multiservice group.

**BLUENERGY ASSISTANCE**

**Bluenergy Assistance** is born, the second "product company" of the Group, expanding the offer to all thermo-hydraulic products and services.



Entry into the share capital of **Ciel Impianti**, company specializing in electrical products and services.

Bluenergy dispatches energy independently

1970

2003

2004

2006

2010

2013

2015

2016

2016

2017

2018

2018

2019

2020

2021

2021

**Bluenergy Group** becomes 100% private.

Official entry into the community of excellence of the **London Stock Exchange Group, Elite** project

**Bluenergy** acquires 70% of **Rettagliata Gas e Luce Spa**.

**Cerved Rating Agency Spa**, assigns the public rating A3.1.

Acquisition of **Blu Service**, important plumbing and heating company in the province of Pordenone.  
*Now merged in Bluenergy Assistance Srl.*

**Rettagliata Tech Srl** is born, the heating and plumbing company for condominium clusters and public administration in the North West of Italy.



**Bluenergy** acquires 100% of **Rettagliata Gas and Luce Spa**.  
*Now merged in Bluenergy Group S.p.A*

**Bluenergy** acquires **CST, Liguria Gas Srl** and **70% of Gitermo Spa**



**Bluenergy** acquires **Arcagas** and the energy branch of **Panta**.

**Bluenergy** acquires the energy branch of **Nelsa**, from MOL Group.



# —● The Bluenergy vision

**INNOVATION**



**SUSTAINABILITY**



**TRANSPARENCY**



**CORRECTNESS**

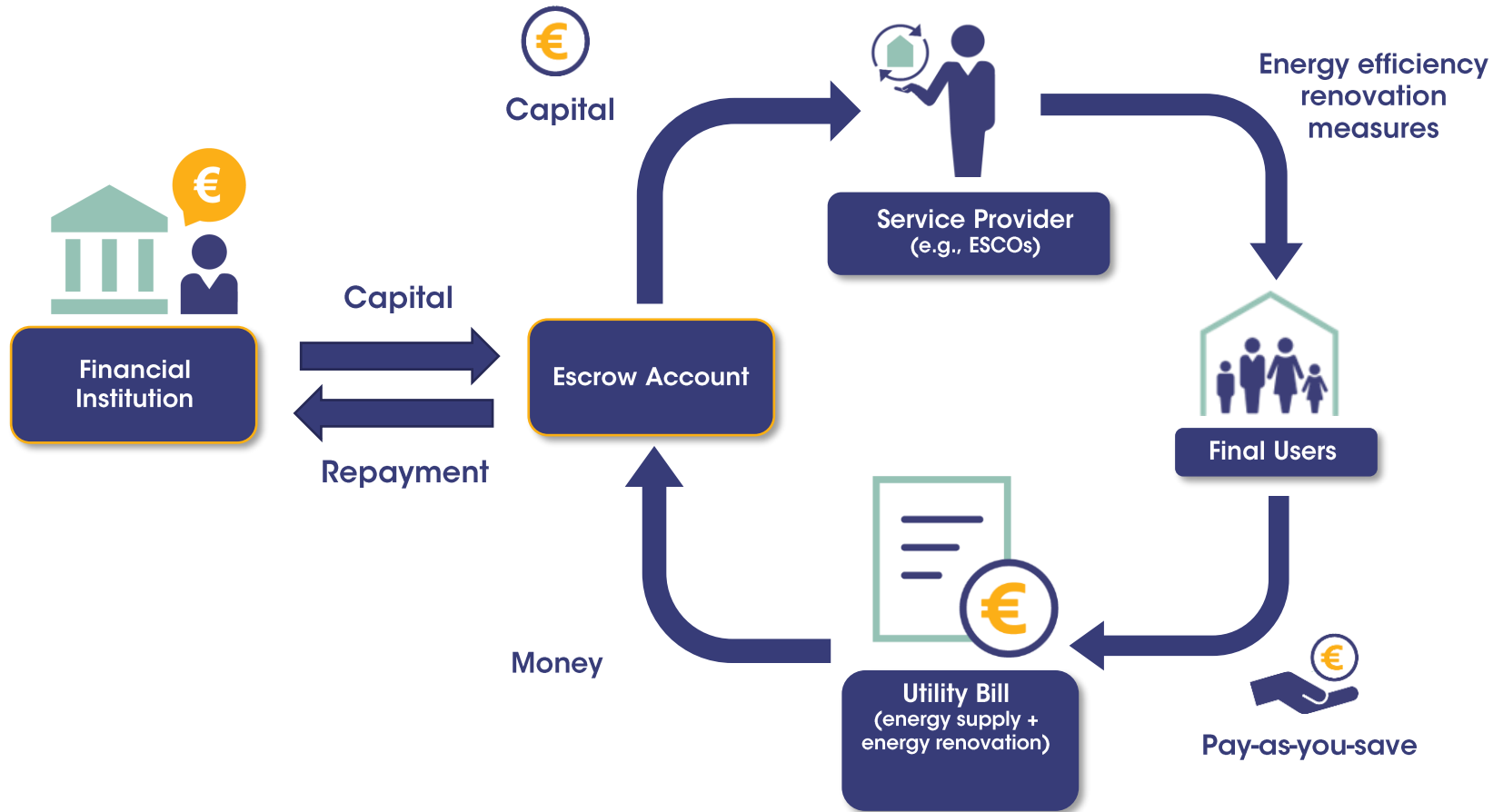


are the enabling factors for the growth of people (and the quality of their lives), companies and the territory.



RENONBILL

# Ren on Bill scheme in Bluenergy



The model is currently based on 110% incentives, which cover almost everything and allow for a minimum contribution to be required on-bill to the end user. In the coming years a reduction, rationalization and merging of the different forms of incentives for energy efficiency in buildings is expected. This will result in an increase of the on-bill component but will not compromise the validity of the business model, which can be adjusted accordingly while maintaining the general structure.



# Target Market

Criteria on which the market segmentation strategy depends:

- financial rating/income of the potential client.
- Building performance (level of efficiency).
- Stability of consumption behaviour of the client: impacting on the ability to repay undertaken debt
- Size and typology of building (Multi-apartment buildings with central heating)
- Level of occupancy by the owner of the dwellings (vast majority ideal)

The business model focuses on a specific **market segment** represented by multi-apartment buildings with central heating, built between 1961 and 1975 with poor energy performances. Communication and marketing strategy will therefore focus on condominium clusters and on those responsible for taking or influencing decisions for the condominium (i.e., condominium administrators). Condominium administrators are also key figures to raise awareness among the owners of the apartments.





# Measures and partners

the Bluenergy Group can offer, directly or through strategic partners:

- Energy audits.
- Remote plant management.
- Heat metering and control systems.
- Design and realization for central heating solutions.
- Insulation of the external building envelope.
- Installation of energy-efficient windows and doors.

## Strategic partners

They cover the financial side (banks, funds) and service areas not offered by Bluenergy and they are:

- Financial institutions and banks.
- Consultants.
- In-house ESCOs.
- Companies in the construction sector, as companies that do thermal coat.
- Technology providers.



**DIAMO ENERGIA AL SUPERBONUS 110%  
PER UN CONDOMINIO PIÙ SOSTENIBILE.**



Gas



Luce



Servizi

[www.bluenergygroup.it](http://www.bluenergygroup.it)



RENONBILL

# ● Background: current incentives for energy renovation

The different types of incentives offered by the Italian Government to stimulate energy efficiency in buildings make it essential to carry out an accurate analysis on a case-by-case basis in order to identify the best option for the desired intervention. The main forms of incentives active in Italy in 2021-2022 are presented in the sections below.

## ***Superbonus 110%***

The Superbonus provides incentives for energy and seismic upgrading of residential buildings - envisaging a deduction rate of 110% for expenses incurred by 30 June 2022 (or by 31 December 2023 and 30 June 2023 for specific cases), to be divided into 5 years, within the maximum limit of predefined deduction values that vary according to the size of the building and the type of intervention.

## ***Tax deductions - Energy efficiency (Ecobonus)***

For energy requalification measures carried out in the common parts of condominium buildings, the deduction rate is 70%, for measures affecting at least 25% of the building envelope, and 75% for measures aimed at improving winter and summer energy performance and achieving the 'average quality' of the envelope.

## ***Bonus facciate (2020-2021)***

The tax credit consists of a 90% tax deduction for interventions aimed at recovering or restoring the external façade of existing buildings. There are certain limits on the type and location off the building.

## ***Conto Termico 2.0 2021***

The "Conto Termico 2.0", introduced by MISE Decree 16/02/2016, provides incentives for measures to increase energy efficiency and the production of thermal energy from renewable sources for small-scale plants. The beneficiaries are mainly public administrations, but also companies and private individuals. The GSE (Gestore Servizi Energetici - Energy Services Manager) provides incentives for the Conto Termico through annual instalments for a duration of between 2 and 5 years.



# Key factors determining the market opportunity

Factors determining the market opportunity in medium to large scale interventions:

- Strong push by incentives e.g. 110%
- Interest in house renovating post-social distancing
- Owners seek the increase in house values through renovation
- Tenants enjoy the tenants would benefit from the support of lower energy bill contrasting rising energy prices
- Financial institutions support the interventions by acquiring the emerging tax credits that can be recovered in just five years – not dependent on the solvency of owners
- Market boost for company realizing the interventions.
- Energy supply companies can increase their customer base.

The above factors push towards *one-stop shop* offers of the role of the utility as the sole interlocutor taking charge of the complexities of technical-financial management and coordination of professionals and sub-contractors involved.





# 110% and Ren On Bill - a contradiction?

Bluenergy has analysed the panorama of incentives in Italy, with reference to the Superbonus that gives access to a tax credit of 110% for energy efficiency works in buildings. Starting from its customer base Bluenergy has assumed to launch a programme to offer energy efficiency services to a target segment of condominiums built between the 1960s and 70s, with at least 20 apartments and central heating, located in major cities of Northern Italy. The Superbonus allows a zero costs solution for the final customer but covers only a specific category of works. The on-bill component is therefore useful to cover all those activities for the recovery of the building not included in the Superbonus.

The Superbonus makes it possible, for eligible energy renovation projects, to receive a tax credit equivalent to 110% of the eligible undertaken energy renovation costs.

This means that, in principle, there would be no need to finance the efficiency work by the homeowners and therefore the on-bill component would be superfluous.



# Reasons for Ren On Bill in a 110% scheme

However, Bluenergy's view is that there is still room for tailoring an on-bill programme because:

- In the short term, a 'niche' of the market is made of clients who would undertake renovation works anyway and simply take the advantage of the current tax incentive. In fact, the 110% tax credit does not mean all works are free, because some renovation works are either not eligible, or they exceed the maximum allowance. In this scenario, there is still a portion of the works that needs to be financed.
- In the mid-term, it is very likely that the 110% energy renovation scheme and other tax benefit schemes (such as the 90% façade improvement scheme and the 50% renovation works scheme) will be unified into a unique scheme around 70-75%; in view of that, studying on-bill programmes is a strategic decision.



# Standard Bluenergy offer

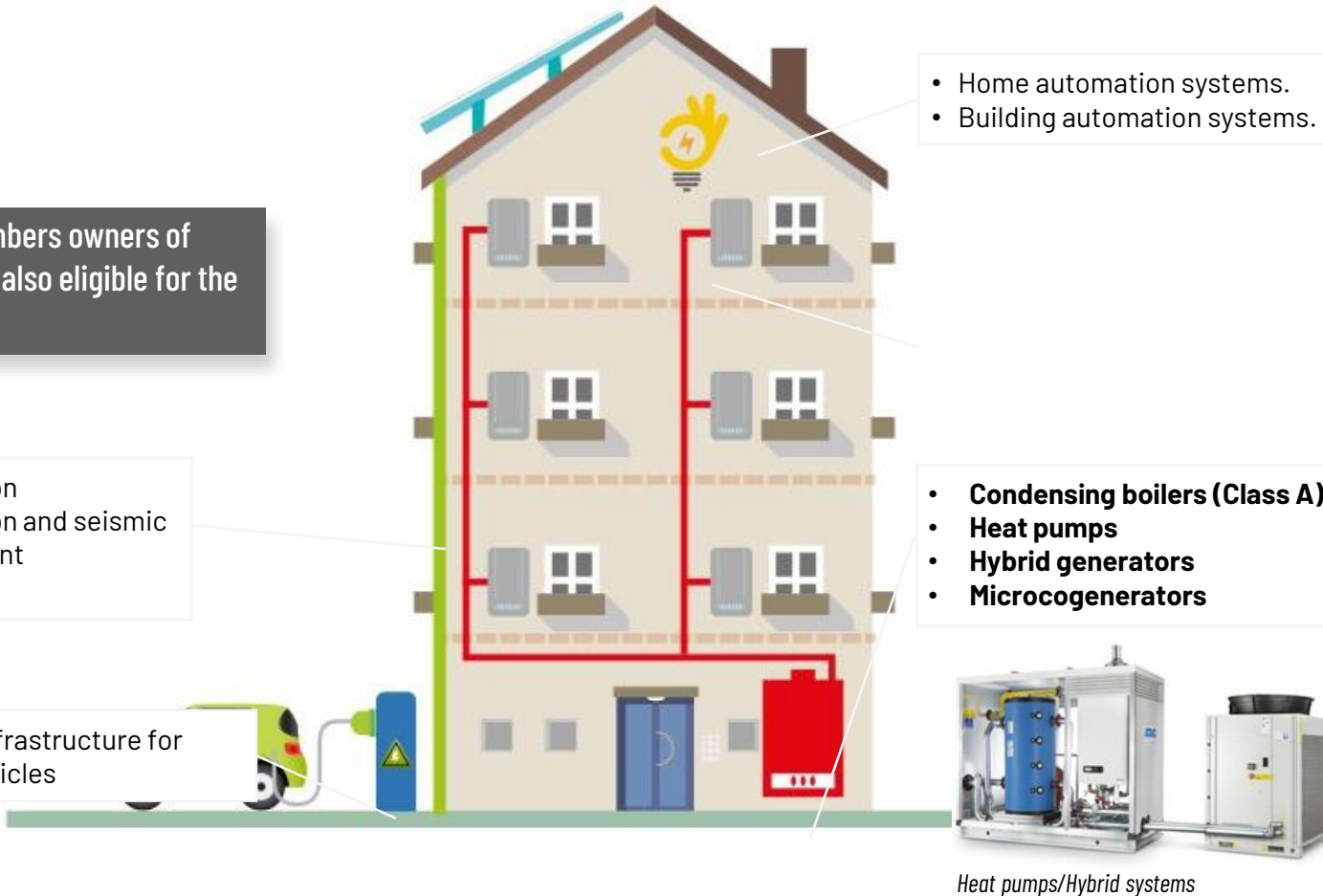
Condominium members owners of second homes are also eligible for the 110% deduction.

- Thermal insulation
- Thermal insulation and seismic class improvement

- Home automation systems.
- Building automation systems.

- **Condensing boilers (Class A)**
- **Heat pumps**
- **Hybrid generators**
- **Microcogenerators**

- Charging infrastructure for electric vehicles



Therefore, Bluenergy has envisaged its 'standard' offering including insulation intervention on the common parts of the building (application of thermal insulation coatings on the construction exterior wall), and **heat generation system** renovation. This can achieve the energy performance required, while controlling the timeline of the operation and maximising the return on the investment compared to other intervention strategies.



# Value proposition of the Bluenergy offer

***Increase the comfort and value of your home, start consuming less today and save money.***

*Multi-apartment buildings with central heating which are predominantly owner-occupied can choose to renovate their building paying the renovation through the energy bill. This will enable users to **increase the comfort and value of their home, spend their money smartly**, join the **environmental sustainability** movement, and to **start saving money** by consuming less electricity and gas.*

***You can now pay your household energy renovation measures in comfortable instalments, using your energy bill as a repayment vehicle.***

*Thanks to on-bill schemes, you will not need to pay the full capital investment of your energy renovation projects in advance. Rather, you can pay the cost of the renovations in convenient monthly partial payments.*

***Bluenergy will support you throughout the project so you do not have to worry about anything***

*It is easy: Bluenergy's service providers will take care of the energy renovation works, processing all the necessary paperwork and providing you with a turnkey service – you just have to sit back and enjoy the benefits! In the long run, your energy savings will pay off the renovation works.*

***Take pleasure in consuming less energy and knowing that the energy that you are using is green!***

*By choosing Bluenergy, you know that you will be powering your house harnessing the benefits of green electricity and carbon neutral gas.*



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# Current implementation of the program



**PROJECTS UNDER STUDY**

**22 - 25.8 mil €**



**DELIBERATED PROJECTS**

**30 - 25.0 mil €**



**PROJECTS IN PROGRESS**

**40 - 47.6 mil €**



**COMPLETED PROJECTS**

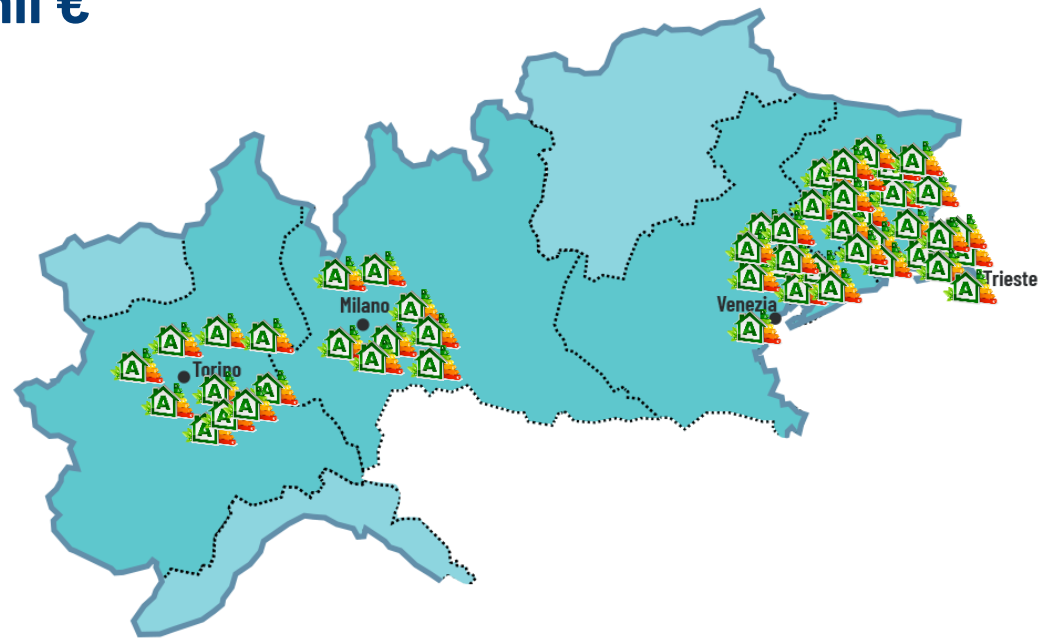
**8 - 6.2 mil €**

**100 initiatives**

**TOTAL CONFIRMED INITIATIVES**

**115 (Mil €)**

**EMERGING TAX CREDIT**



the current estimation of the market uptake is to activate 100 energy efficiency projects in as many condominiums with the characteristics specified in the previous slides.

# —● Bluenergy implementation of Ren On Bill

The scale of the programme in the medium term is to intervene on 100 condominiums:

In the model, Bluenergy supplies the initial cash flow by paying all other parties, then collects all paperwork and receives the credit generated as payback. The tax credit is sold to the bank allowing funds to be invested in new projects.

The mechanism of the tax credit generation, allowing to start generating tax credit from 30% project completion, and in three instalments (30%; 60%, 100%), makes it possible to sustain more projects with a partial self-financing effect. Key factors in determining the size of the programme are:

- Timely completion of the projects.
- Clarification of the current grey areas in the legislation in particular, there are interpretative doubts on the timing and deadlines to be met in order to obtain the incentives).
- Extension of the tax incentive in the coming years.



# —● Pirandello: the pilot project

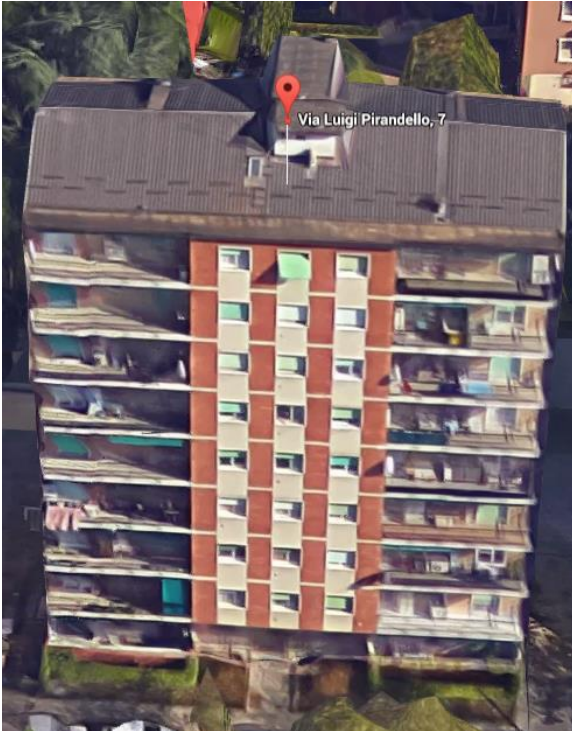
the Pirandello pilot project in brief:

- The Pirandello project started at the end of 2018, based on a former incentivising scheme. Originally, on-bill programmes were not taken into consideration.
- During 2019-2020 the interventions were carried out.
- The 110% scheme comes into play from 2020. It led to a complete and accurate revision of the contracts and partially of the interventions to have them included in the new Superbonus scheme.
- In 2021, the works (those for which it was possible) have been completed and the 110% tax credit was requested.
- Several interventions, not eligible for 110%, have been made in the common parts of the residential complex and will be part of the on-bill component.





# ● Pirandello: the pilot project



via Pirandello 7, Milano; before, during and after



—● ON-BILL SCHEMES IN THE EU PUT INTO PRACTICE

# Rimas Perevičius

Kauno  
Lithuania



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#RenOnBillFinalEvent

# RenOnBill: Residential building energy renovations with on-bill financing



05/04/2022 – Brussels



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 847056.



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## —● ABOUT US

AB Kauno Energija is one of the largest energy companies producing and supplying heat in Lithuania

- The Company supplies energy to the residents and organizations of Kaunas, Kaunas district and Jurbarkas cities.
- As of 2022, AB Kauno Energija supplies heat to over 122,000 households and 3,500 businesses and administrative organizations.
- We hold the preferred heat supplier status with more than 90% of new residential and commercial real estate developers in the Kaunas Municipality.





## ABOUT US

AB Kauno Energija is one of the largest energy companies producing and supplying heat in Lithuania

- Starting in 2012, AB Kauno Energija began investing in the installation of biofuel boilers and other modern technologies to replace conventional heat production methods.



## ABOUT US

AB Kauno Energija is one of the largest energy companies producing and supplying heat in Lithuania

- Currently, around 90% of heat is produced from renewable energy sources – mainly biofuels. As a result, Kauno Energija has been able to significantly reduce CO<sub>2</sub> emissions and the cost of heat to consumers.



# ● BACKGROUND

On-bill schemes in EU put into practice

- a large pilot project base – more than 2000 multiapartment buildings in the region, built before 1992 and with a low energy class index (C and below).
- district heating equipment in old buildings is in many cases hopelessly obsolete and inefficient.
- relevant practical utilities experience.
- sufficient own funds.





# STEP TOWARDS THE USER = NEW EXPERIENCE + POSSIBILITY

On-bill schemes in EU put into practice

- Kauno energija acting as a district heat supplier is considering a pilot project.
- On-bill schemes – attractive and unknown.
- Government financial support is a key factor for successful implementation.



# OBJECTIVES

On-bill schemes in EU put into practice

- opportunity for the utility to generate additional revenues.
- gaining access to new clients seeking energy from renewables.
- improve utilities social awareness image.
- additional benefits to present consumers.
- securing consumers loyalty



# CHALLENGES (1)

On-bill schemes in EU put into practice

## Legal issues:

- a prerequisite for renovation is a decision by the majority of the apartment block - it is not entirely clear whether this is a legally binding decision for each co-owner.
- the State Regulator's position on the adaptation of utilities billing to OBS schemes is not clear enough.

## Organizational:

- education of end-users is still not effective enough to get them interested in energy saving solutions.
- decision-making in apartment blocks is complicated - an absolute majority is needed.

## Technical:

- lack of HVAC designers/consultants and technicians with expertise in renovations.

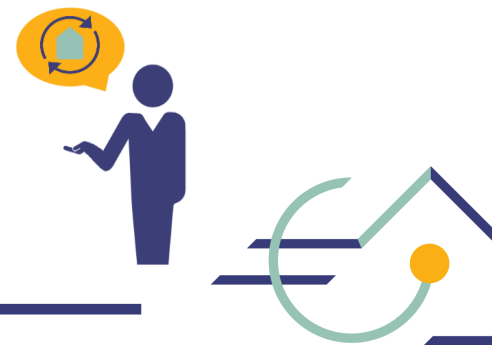


## CHALLENGES (2)

### On-bill schemes in EU put into practice

#### Financial:

- the savings from “small scale” renovation measures are not significant compared to the investment, which makes it difficult in most cases to attract residents.
- public support (30-40-50%) combined with the possibility of an on-bill schemes would be seen as a significant lever for decision making.
- with the reduction in the price of district heating, interest in renovation has dropped to the level of "total skepticism", and for now we can only speculate whether the current spike in the prices of energy resources will change this situation.
- high and still rising inflation rates will force utilities to seek an internal rate of return of at least 10-12% already in the nearest future.





# Thank you!

[www.renonbill.eu](http://www.renonbill.eu)

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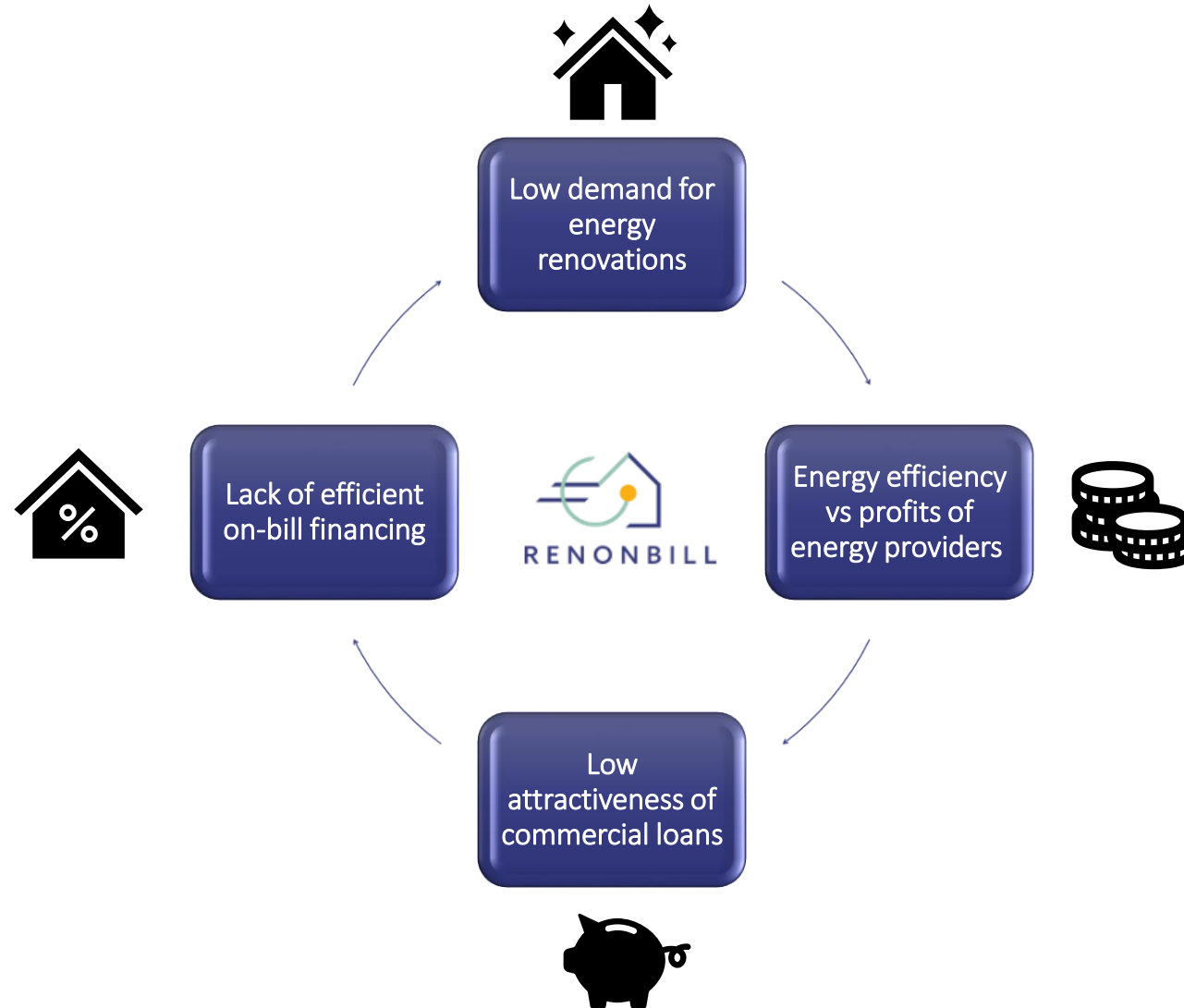
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 847056.

Lukáš Dravecký

BPIE

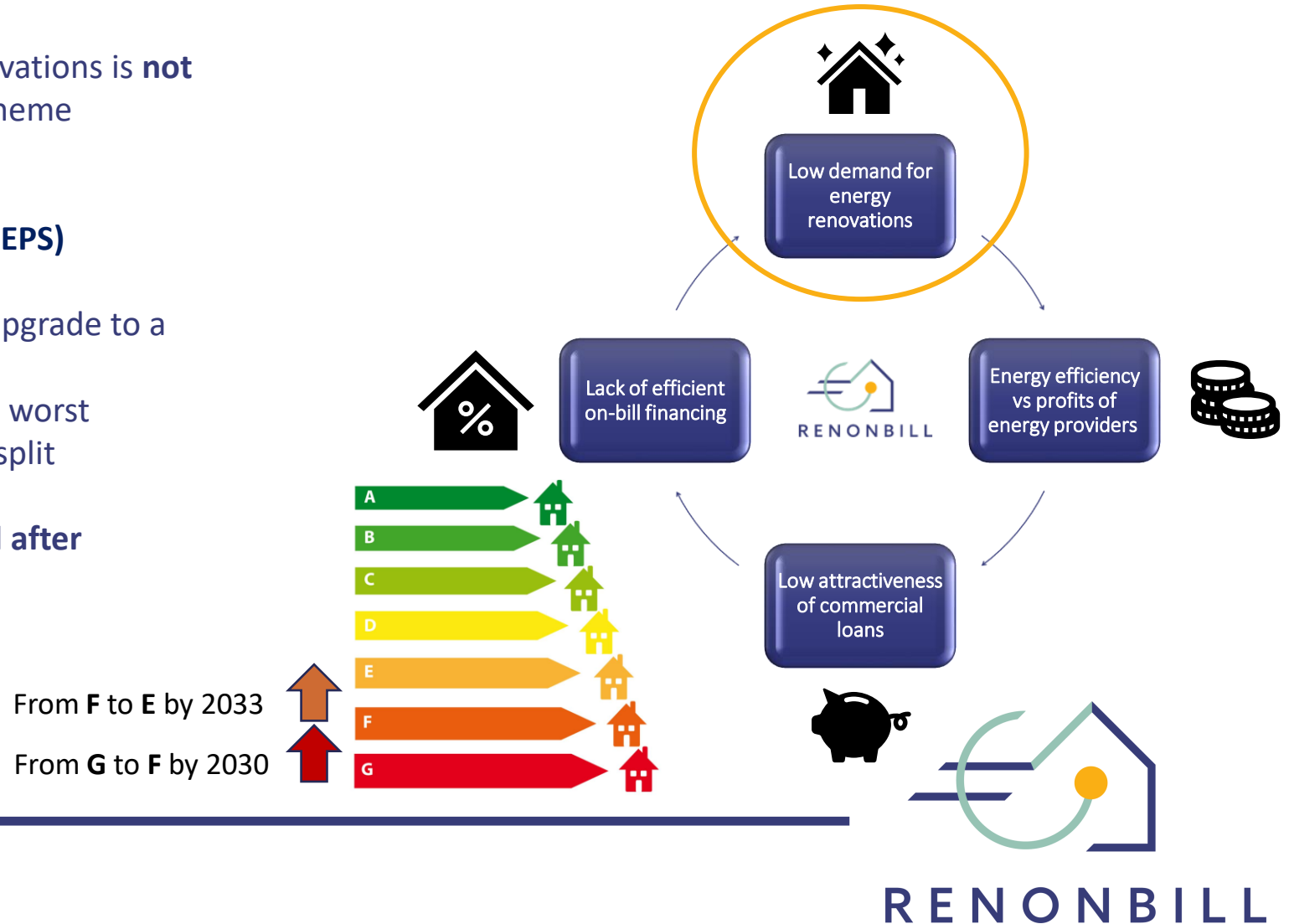


# Barriers to implementation on on-bill schemes



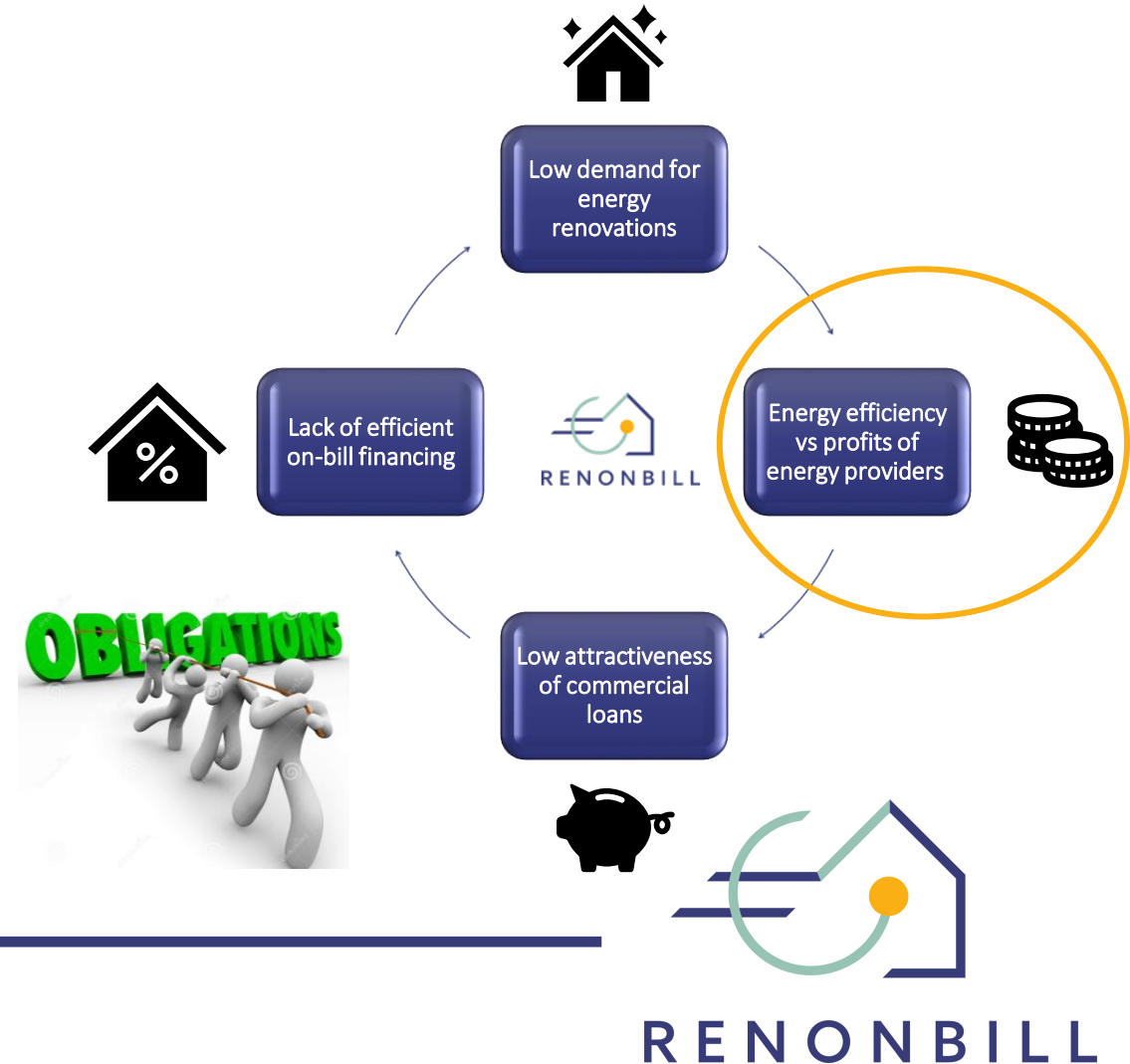
# Barriers to implementation on on-bill schemes

- **Low demand for energy renovations**
  - The demand for residential energy renovations is **not** always **high enough** to attract on-bill scheme investments
- ✓ **Minimum Energy Performance Standards (MEPS)**
  - Proposed in the EPBD 2021 recast
  - Rules that require existing buildings to upgrade to a higher energy class by certain date
  - Owners will be required to renovate the worst performing buildings regardless of the "split incentive"
  - MEPS will significantly **increase demand after renovations**



# Barriers to implementation on on-bill schemes

- **Energy efficiency vs profits of energy providers**
  - Energy providers and distributors (naturally) hesitate to increase energy efficiency to **avoid lower profits** from sales
- ✓ **Energy Efficiency Obligation Schemes (EEOS)**
  - Energy Efficiency Directive
  - MS may require energy companies to achieve energy savings among vulnerable customers
  - The savings achieved by energy companies would add up to national energy savings
  - Energy companies are then allowed to raise their energy prices
  - EEOS would **motivate energy companies to renovate** (RenOn Bills?) while allowing them to keep their profits



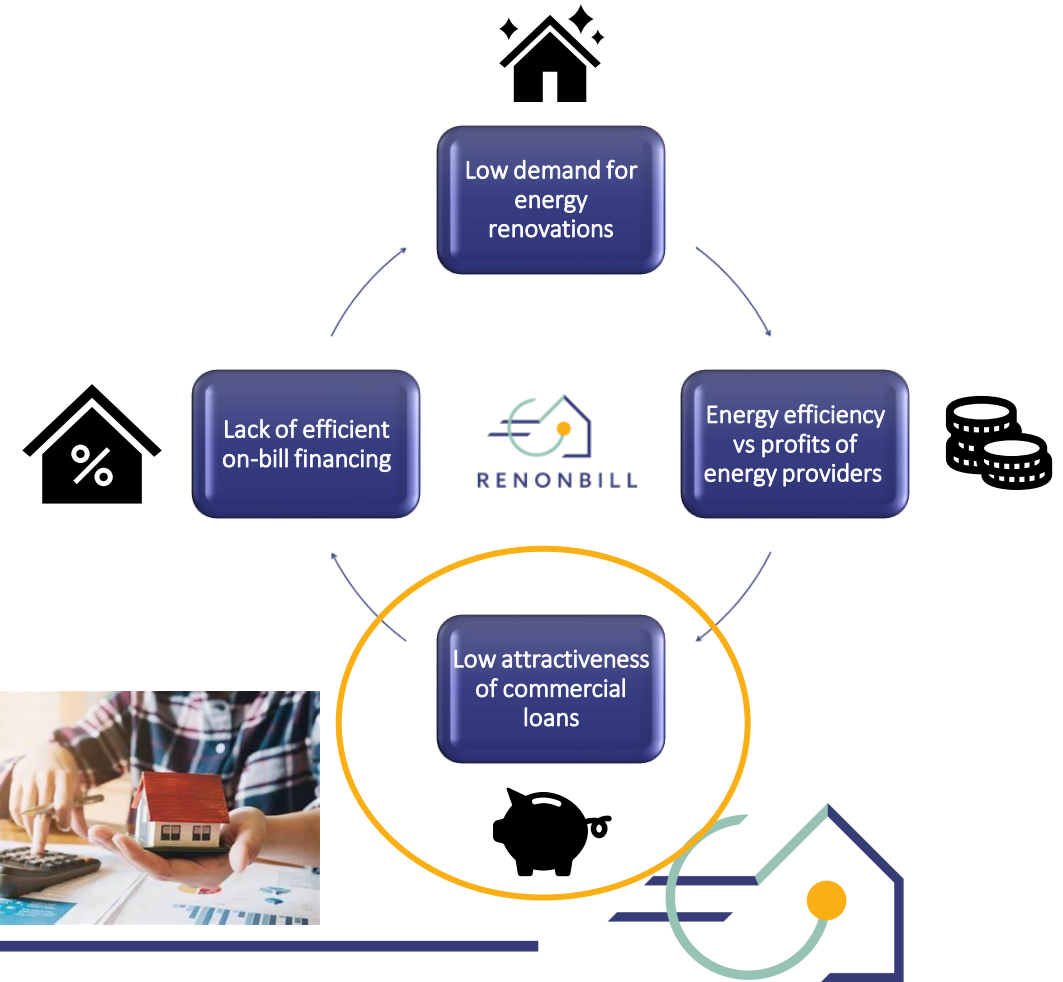
# ● Barriers to implementation on on-bill schemes

- **Low attractiveness of commercial loans**

- Banks and financial institutions consider **renovation** projects as **not profitable** enough or **too risky** to invest or provide favorable loans

- ✓ **Mortgage Portfolio Standards (MPS)**

- Proposed in the 2021 EPBD recast
- MPS will require financial institutions to achieve on average a certain energy class/performance of their mortgage "fleet" (all mortgage assets)
- A parallel to carbon caps on the "car fleets" of large automotive producers
- MPS would require banks to either **prioritise energy efficient buildings** or invest in **upgrading worse performing buildings** to improve their portfolios





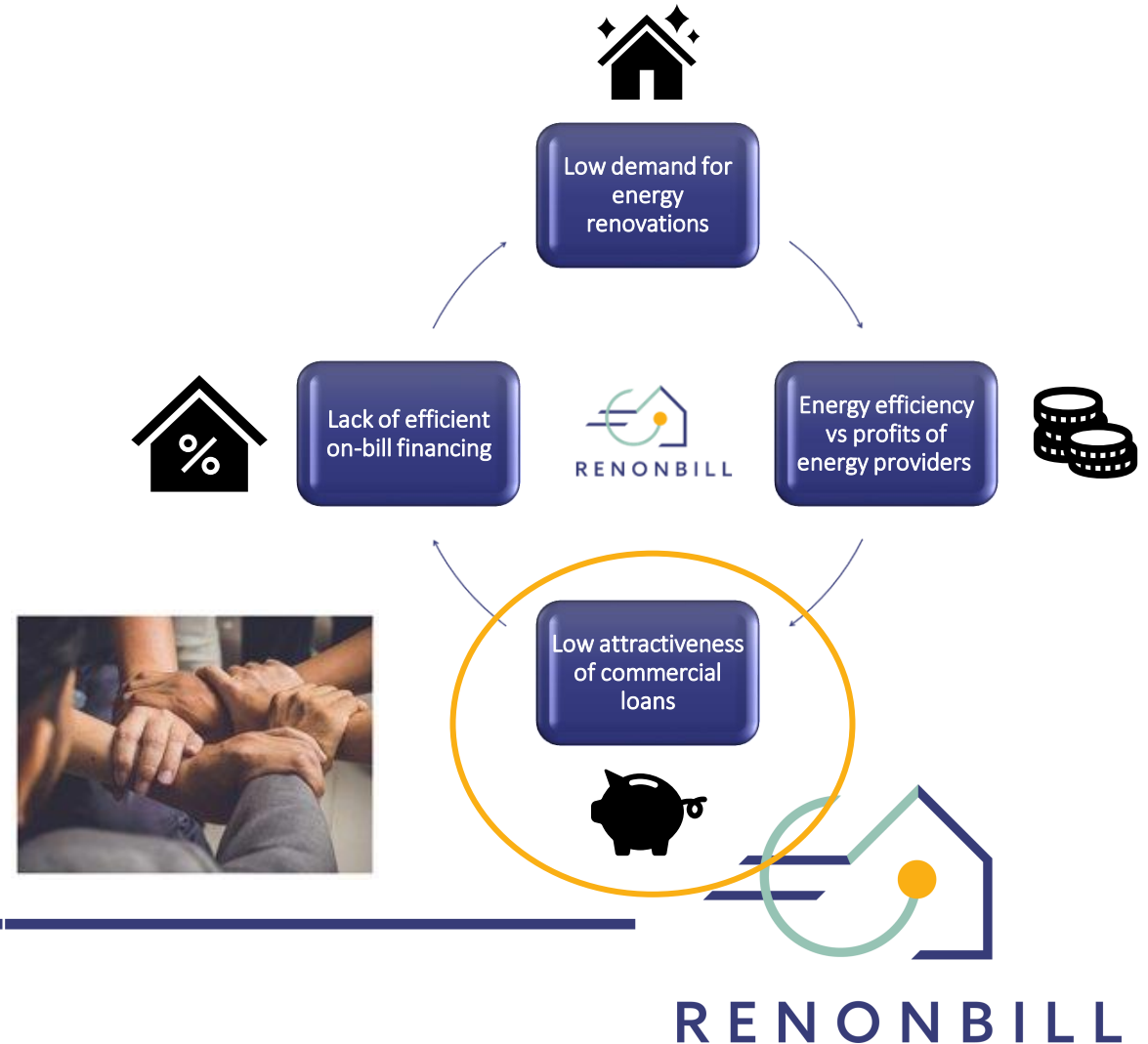
# Barriers to implementation on on-bill schemes

- **Low attractiveness of commercial loans**

- Banks and financial institutions consider **renovation** projects as **not profitable** enough or **too risky** to invest or provide favorable loans

- ✓ **Public Guarantee Funds**

- MS could establish them to make it easier for homeowners with high risk of loan default to successfully apply for renovation loans
- Such a fund could be financed from increasing ETS revenues, local environmental taxes, or green municipal bonds
- In Brussels Capital Region, the fund size equaled around 2% of the total amount of loans approved
- This would **significantly de-risk lending to low-income families** which usually inhabit the worst performing houses (potentially targeted by MEPS)

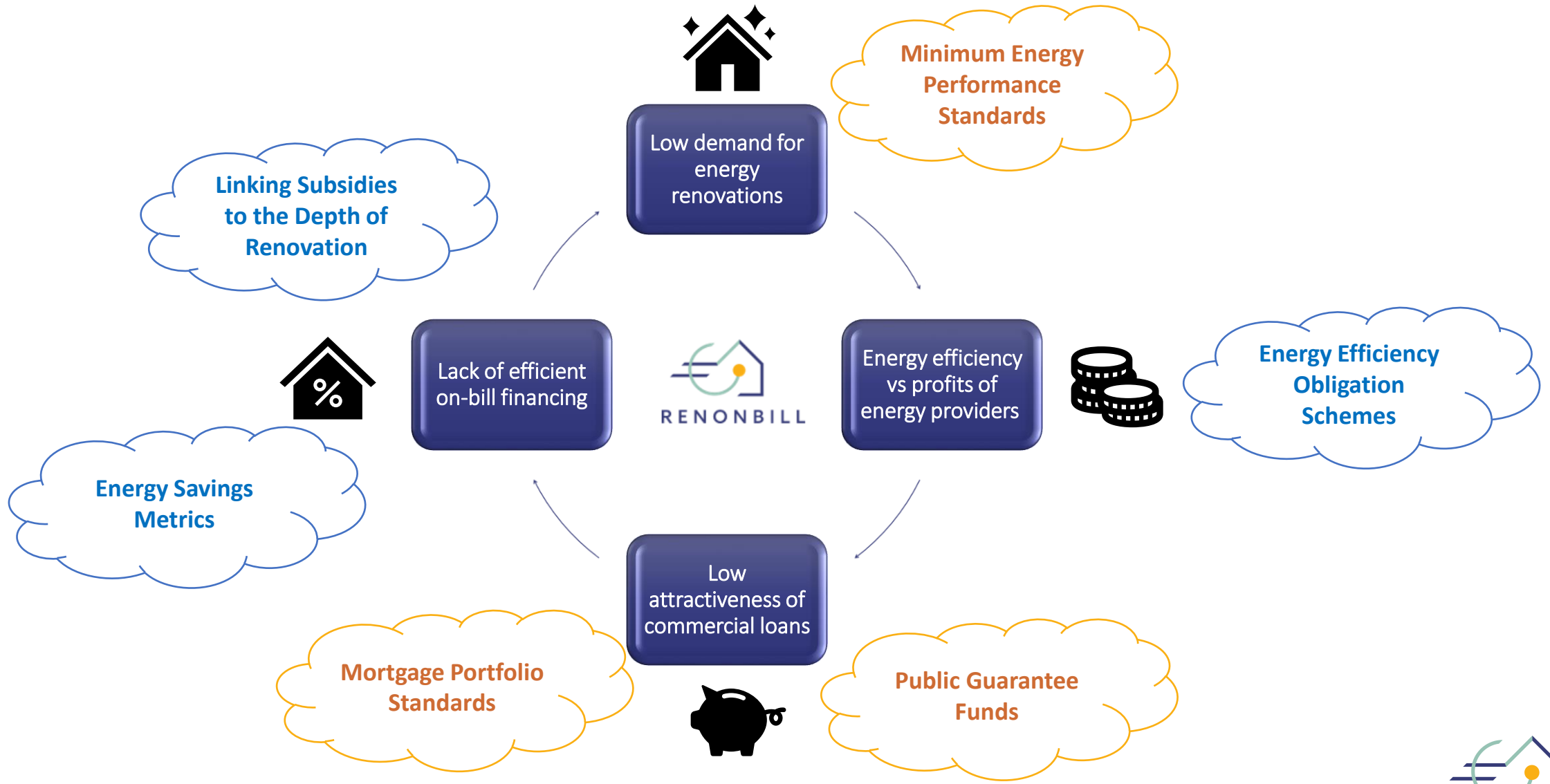


# Barriers to implementation on on-bill schemes

- **Lack of efficient on-bill financing**
  - **Funds and subsidies** used to finance energy renovations are not always used **cost-efficiently**
- ✓ **Energy Savings Metrics**
  - Metrics analysing **energy savings** achieved **per 1€** from EU funds or private capital
  - After collecting enough data, metrics could help with the final evaluation and **better comparability between different energy efficiency projects**
- ✓ **Linking subsidies to the depth of renovation**
  - A successful Credex project from Estonia
  - The higher energy savings the homeowner pledged, the larger subsidies / the lower interest rates were delivered to finance the project
  - **"Progressive" financing** therefore delivered **higher energy savings** than standard financing not considering pledged energy savings



# Proposed solutions



# PANEL DISCUSSION



**José  
Maria Marcos**

Feníe



**Rimas  
Perevičius**

Kauno



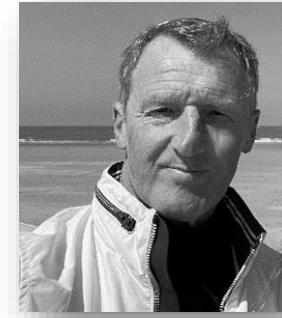
**Carlo  
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Bianco**

UNIGE



**Joost  
Declerck**

Belfius  
Bank



# CONCLUSION

# David Pérez

Creara



# Thank you for your attention!

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