



BIENNIAL REPORT  
2020-2021

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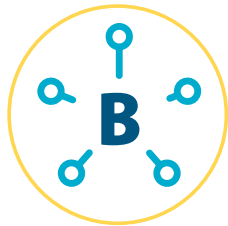
**THINKING  
AHEAD  
FOR  
BUILDINGS,  
CLIMATE  
AND PEOPLE**

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# FOREWORD

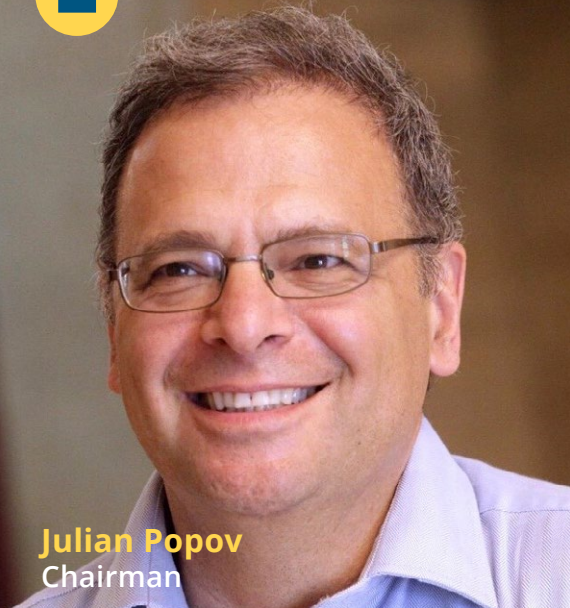


**FROM THE  
EXECUTIVE  
DIRECTOR**



**FROM THE  
CHAIRMAN  
OF THE  
BOARD**





**Julian Popov**  
Chairman

“  
**BPIE is  
playing an  
increasingly  
important role  
on the global  
scene.**  
”



In the last years the world has been facing crisis after crisis. Following the COVID pandemic we saw a surge of energy prices and major disruption of the energy prices. When we were expecting markets to start gradually to calm down the Russian invasion of Ukraine started. We are facing now a long humanitarian and economic crisis triggered by this unprovoked and senseless aggression and maybe a deeply disrupted world order.

In this environment BPIE succeeded not only to maintain its work and even expand its operations but also to find a new critical role for its work. Rarely sustainability and resilience of buildings and their energy role has been more important.

Over the last year BPIE made major advances in analysing and promoting buildings and energy demand policies, in new research on technologies and economy of the building sector. Now, when the energy supply of Europe, and beyond, is under a major stress the energy demand reduction is becoming a key solution to

alleviate energy poverty and secure more stable energy supply. The team of BPIE led by Oliver Rapf has done a fantastic job in reacting both with speed and with depth to these challenges.

BPIE is also playing an increasingly important role on the global scene. It succeeded to build valuable bridges with senior policy makers in the US, Canada and other countries in the world. In this way the regulatory and technical achievements of the European buildings policies are becoming more familiar across the world. This is essential if we want not just to shift fossil fuels use from one continent to another but to reduce their overall global use while at the same help many countries to deal with energy poverty, improve air quality and contribute to our climate goals.

Addressing a combination of key sustainable development goals is becoming a trademark for BPIE. In its research and advice it has managed to bring together the new more ambitious EU climate targets, the policy mitigation of the impact of the pandemic



**Now, when the energy supply of Europe, and beyond, is under a major stress the energy demand reduction is becoming a key solution to alleviate energy poverty and secure more stable energy supply.**

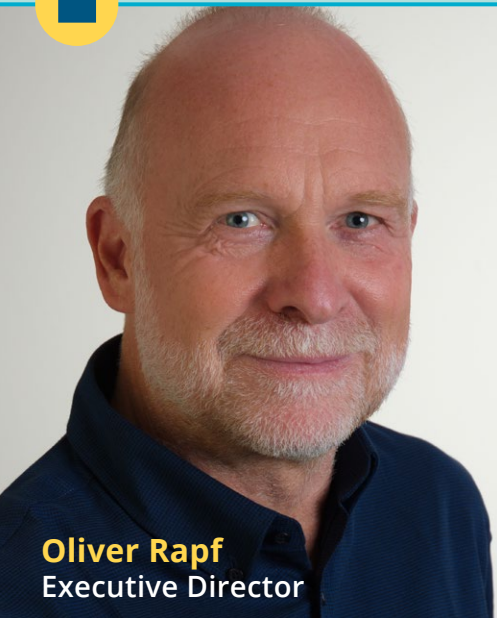


and post pandemic economic crises and the building sector reaction to the devastation and uncertainty caused by the war. BPIE showed how important it is to combine the ways we address the different short and long term issues.

The years ahead will be difficult. We have entered a new age of political and economic

unpredictability. With its professionalism and commitment the BPIE team is very well prepared not only to address the new arising issues but to be a strong and reliable partner for governments and industries in Europe and elsewhere.

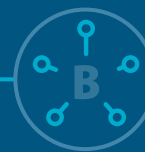
**Julian Popov**  
Chairman



**Oliver Rapf**  
Executive Director



**While the economy was slowing down, climate change was speeding up.**



Dear reader,

With this report, we want to share our story and achievements during the past two years. When we planned its production, we knew that the years 2020–2021 marked a pivotal moment in modern history, and for the building sector in particular. The unprecedented disruptions and changes that resulted from the external shock of the COVID-19 pandemic had shown just how important buildings are in our daily lives.

But as I am writing this foreword today, another shock has hit Europe and the world; the senseless war in Ukraine led by Russia's Vladimir Putin. And again it is leading to a fundamental rethinking in the area in which we focus our work – energy and climate policy making in Europe. These developments in combination with the ever-starker warnings of the climate science community allow only one conclusion: We need to accelerate positive change and be bold, both in our thinking and in our actions.

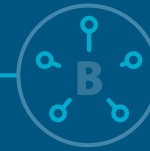
Before the pandemic hit, we knew 2020 would be an important year for policy-making in

Europe. The European Commission's new Green Deal, launched in December 2019, included a Renovation Wave for buildings and a proposal for Europe's first-ever climate law, so we were on high alert. The Green Deal would be a crucial opportunity and would demand our full attention. We were also eagerly preparing to celebrate our 10-year anniversary as an organisation, in March 2020.

The pandemic undermined our plans, and like many other events, the celebration was indefinitely put on hold. However, this was the least of the pandemic's consequences. The direct impacts of the virus on both physical and mental health of people around the world, and the subsequent economic and social costs, were far greater than we could have anticipated. Restrictions on movement of citizens, the hard lock downs in most European countries meant that the consequences of badly insulated, energy-inefficient homes were immediately apparent across Europe. Energy price spikes and market volatility have since added to the burden.



**What underpins our strategic decisions and daily work is the will and desire to ask the hard questions: How can Europe become the climate champion it committed itself to be? And how can our built environment support and encourage a truly sustainable – and affordable – lifestyle for all, and how do we want to live?**



While the economy was slowing down, climate change was speeding up. Extreme weather conditions, including record high temperatures, floods, fires and drought, have become regularly occurring tragedies. The Intergovernmental Panel on Climate Change's (IPCC's) Sixth Assessment Report, published in 2021, shows that the world will probably warm up by at least 1.5 degrees Celsius (beyond the current average of 1.1 degrees above pre-industrial levels) within the next two decades. Whether or not we limit warming to this level and prevent the most severe climate catastrophe depends on the actions we will take in this decade.

At BPIE we have the ambition and the commitment to truly advancing change on the ground. Sometimes our research can be quite technical and our policy recommendations cumbersome. Our work may appear far removed from the real world and real people. But what underpins our strategic decisions and daily work is the will and desire to ask the

hard questions: How can Europe become the climate champion it committed itself to be? And how can our built environment support and encourage a truly sustainable – and affordable – lifestyle for all, and how do we want to live?

And what is holding us back from achieving these outcomes? Which political agreements and rules must change? How can business and investment models be transformed? Which paradigms must be shifted? And which must be dismantled?

With this report, dear reader, we intend to provide a window into who we are as an organisation, how we are delivering positive impact and how we are moving towards bigger thinking and bolder action so we can achieve truly climate-neutral buildings. We are convinced that we ask the right questions and we hope that we provide pragmatic, ambitious and solution-focused answers. We want to accelerate change to contribute solutions to the big crises of our time. I hope that our report inspires you to join us in our endeavours.

**Oliver Rapf**  
Executive Director

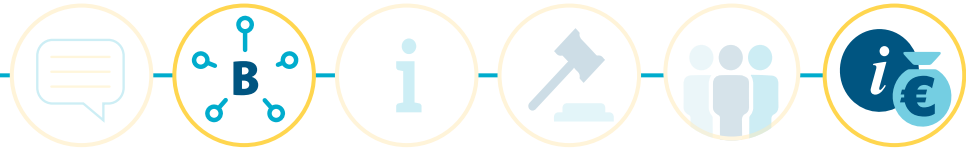


# OUR IMPACT





# OUR IMPACT



**2020  
2021**

**TOP PUBLICATION:**  
A REVIEW OF EU MEMBER STATES' 2020 LONG-TERM RENOVATION STRATEGIES

**60**  
REPORTS & POLICY BRIEFINGS

Participation in, & organisation of  
**110** EVENTS  
REACHING  
**7,000+**  
STAKEHOLDERS

**1**  
INNOVATION AWARD WON

**125,483**  
PUBLICATION  
DOWNLOADS

**46**  
RESEARCH  
PROJECTS

**1**  
REFRESHED  
LOGO AND  
WEBSITE

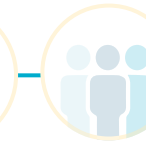
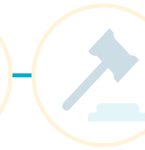
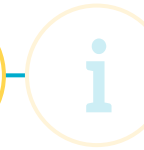
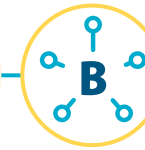
**16**  
RESEARCHERS

**66%**  
INCREASE  
IN MEDIA  
MENTIONS  
(compared to previous  
5-year average)

**75,000**  
UNIQUE VISITORS TO  
OUR WEBSITE

**130%**  
INCREASE IN SOCIAL MEDIA  
FOLLOWERS (compared to 2019)





## MAKING BUILDINGS A PRIORITY IN UNCERTAIN TIMES



BPIE helped convince policymakers to make the EU Green Deal, and specific its Renovation Wave strategy for buildings, foundational to the EU's Covid-19 economic recovery plan.



We also demonstrated how the Renovation Wave should be designed to ensure the EU would meet its **climate-neutrality ambitions and 2030 targets**. Much of BPIE's advice has been taken up in the Renovation Wave design.

## SUPPORTING POLICYMAKERS SO THEY CAN TAKE EFFECTIVE ACTION



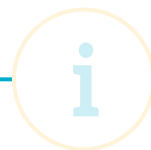
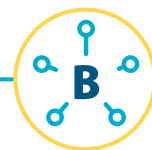
We have held EU countries accountable to their national long-term renovation strategies and have suggested corrective measures the European Commission should take to ensure effective implementation.

## NEW THINKING TO ADVANCE BUILDING DECARBONISATION



We have brought the question of **circularity and whole-life carbon (WLC)** into the discussion on energy efficiency, and it was listed as a key action point in the Renovation Wave.

We led the largest report on buildings decarbonization policies and best practice in Europe, and have developed analysis to bring policy-making principles like Energy Efficiency First from theory to practice.



## ACCELERATING RENOVATION EFFORTS ON THE GROUND



We led the development of numerous practical tools used to facilitate data transparency, planning and decision making for building renovation, which are now **included in the EU Renovation Wave** strategy and will be scaled and rolled out at the European level.

These include an **EU Digital Building Logbook** to support renovation decisions, the **Building Renovation Passport** to help homeowners take a step-wise approach to renovation, and a harmonised **Energy Performance Certificate** scheme with improved features. We also helped develop models and advice for **one-stop-shops** to simplify renovation for homeowners.

## COLLABORATING WITH CHANGEMAKERS



We worked closely with members of the **retail real estate industry** to develop a **first-ever roadmap** for retail buildings to achieve climate neutrality by 2050.

Ongoing H2020 projects such as BuiltHUB, e-SAFE and ComACT look to **create a level playing field** when it comes to accessibility of renovation measures. Respectively these projects seek to make data accessible and transparent, to create renovation models that are accessible to those in vulnerable situations and improve buildings' safety.

## BEYOND EUROPE



We developed the first-ever **Buildings Climate Tracker (BCT)** which tracks annual **decarbonization of buildings globally**, keeping countries around the world accountable to their national targets and highlighting how and why decarbonization is (or isn't) on track.

We fostered **climate diplomacy between the EU and several non-EU countries**. Working with national governments and the European Commission, we brought together over a thousand policymakers and buildings experts from Canada, Russia, Brazil, the United States of America, and South Korea, in bilateral exchanges with the EU.



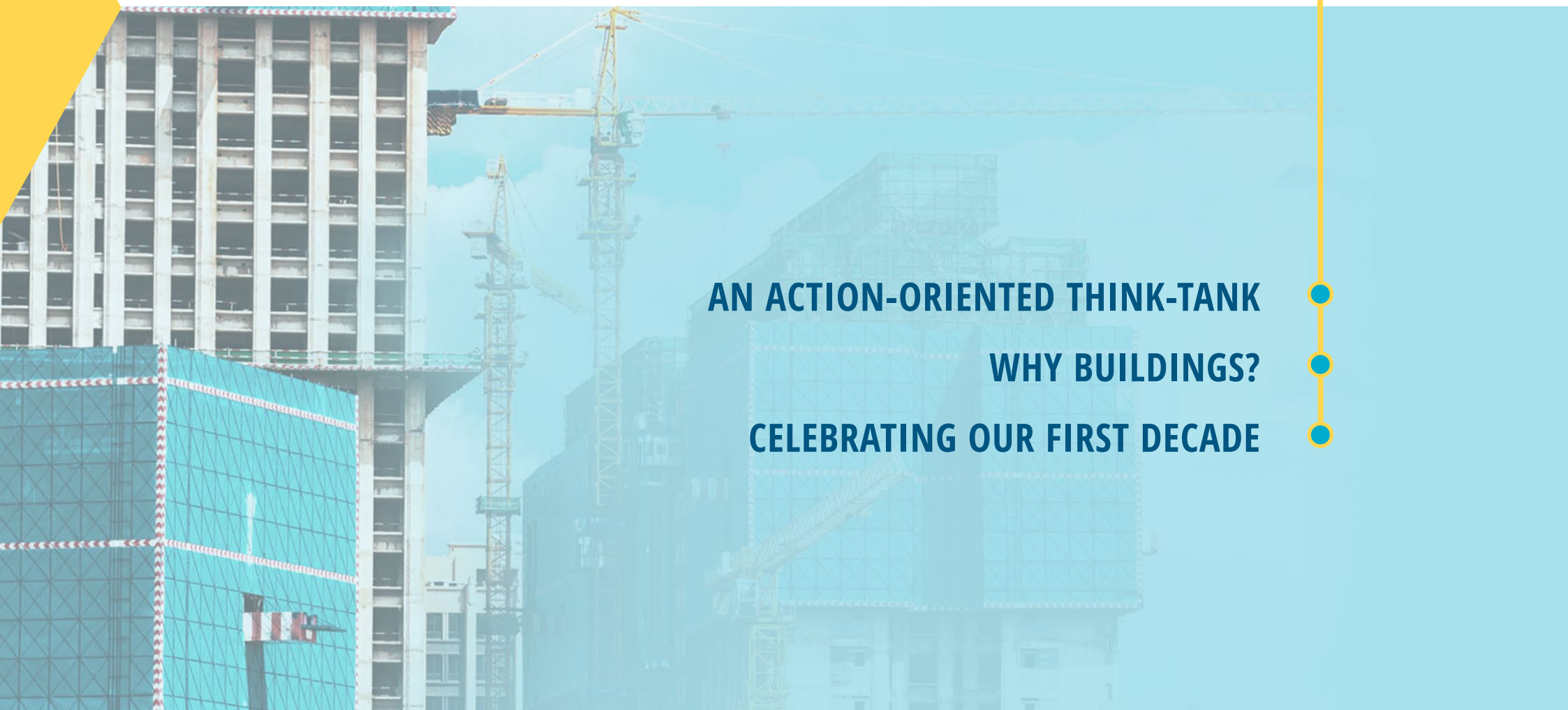
# About **BPIE**



**AN ACTION-ORIENTED THINK-TANK**

**WHY BUILDINGS?**

**CELEBRATING OUR FIRST DECADE**



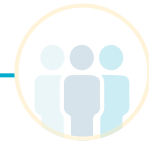
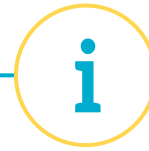
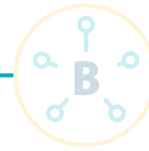


## AN ACTION-ORIENTED THINK-TANK

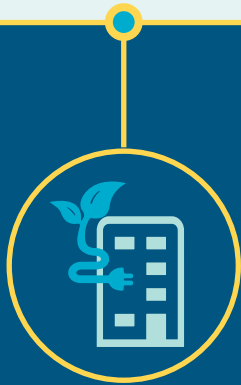
BPIE is Europe's leading centre of expertise on the single most important use of energy, the building sector. Working in a dynamic political and international environment, we're addressing one of the most prominent challenges of our times, the mitigation of climate change. We provide independent analysis, knowledge dissemination and evidence-based policy advice and implementation support to decision-makers in the public, private, and non-profit sectors.

Founded in 2010, we combine expertise on energy efficiency, renewable energy technologies, and health and indoor environments with a deep understanding of European Union (EU) policies and processes. A not-for-profit think-tank, we have offices in Brussels and Berlin, and run many projects in Member States in close collaboration with national partners.





## OUR MISSION IS TO MAKE AN AFFORDABLE, CARBON-NEUTRAL BUILT ENVIRONMENT A REALITY IN EUROPE AND THE WORLD.



We strive to establish **healthy, climate-neutral buildings and homes** in Europe and across the world.



We aim at being the **leading source of reliable and impartial information and recommendations** on European energy and sustainability **policies** in the building sector.



We are an active leader in the development and promulgation of **new and creative measures** to respond to the many challenges facing the built environment.



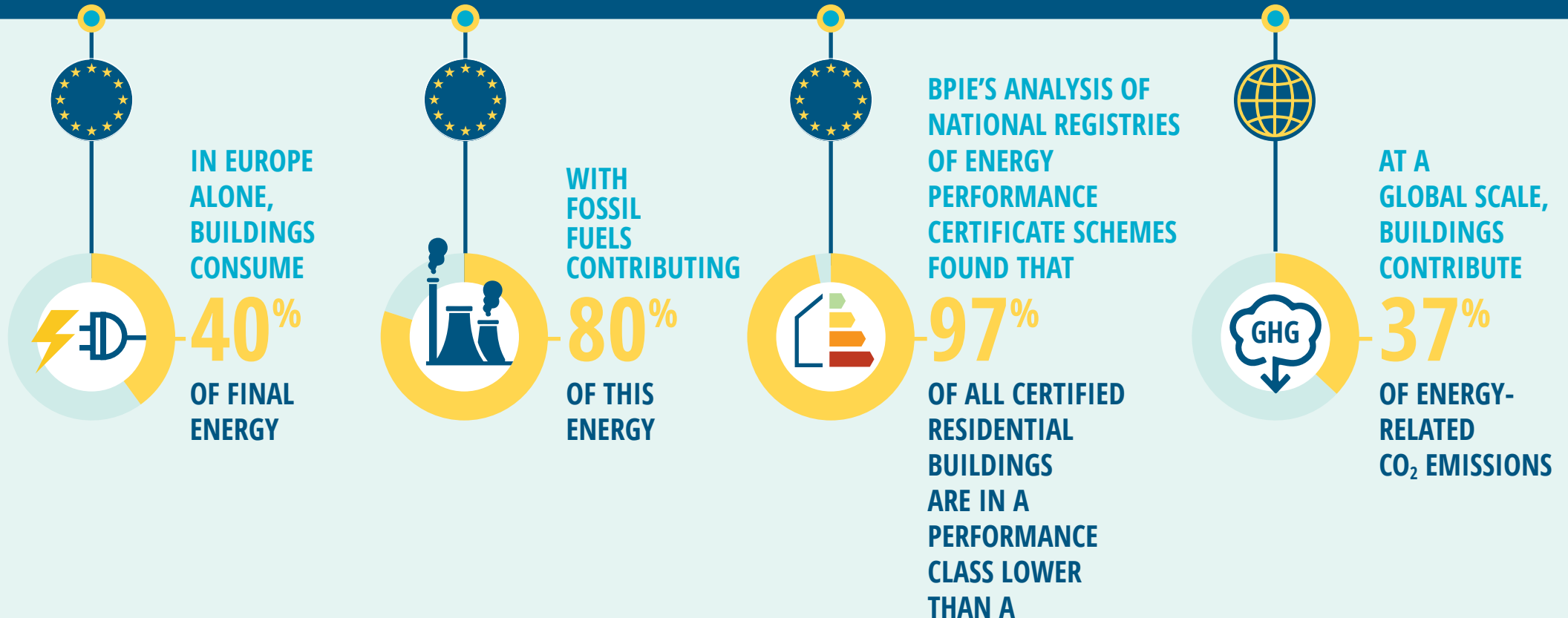
**We are financially independent.** We choose our funding streams according to our organisational values and priorities. We are not funded by members, and we endeavour to remain unbiased.



## WHY BUILDINGS?



THE BUILT ENVIRONMENT IS THE BEATING HEART OF OUR SOCIETIES AND THE FOUNDATION OF ALL ECONOMIC ACTIVITY.





It's true that climate action starts at home. But the idea of decarbonising the buildings where we live, work, play and learn is daunting. The built environment is the beating heart of our societies and the foundation of all economic activity, and represent the largest global asset class.<sup>1</sup> The past two years showed how important buildings are, and that we must without question prioritise a total transformation of the sector.

The challenge ahead is enormous. In Europe alone, buildings consume 40% of final energy consumption, with fossil fuels contributing 80% of the energy. At a global scale, buildings contribute 37% of total GHG emissions. Taking the 'embedded emissions' in construction materials into account, the global share increases to 39%.<sup>2</sup> BPIE's analysis of national registries of energy performance certificate schemes found that 97% of all certified residential buildings are in a performance class lower than A.

<sup>1</sup> MSCI, Real Estate Market Size, 2020/2021 report. Available at: <https://www.msci.com/documents/10199/a4535e8e-3b0d-f34d-4a0b-dc73058f7469>

<sup>2</sup> GlobalABC: Global Status Report on Buildings and Construction 2021







**THE CHALLENGE IS GREAT,  
BUT SO IS  
THE OPPORTUNITY.**

**DECARBONISATION CAN ONLY WORK IF WE  
ARE PREPARED TO VENTURE INTO UNKNOWN  
TERRITORY AND SHIFT PARADIGMS.**

**BPIE EXISTS  
TO HELP TO NAVIGATE  
THIS JOURNEY.**

However, it currently has a **huge carbon footprint**, one that is not reducing at the pace needed to achieve the targets set out in the Paris Agreement.<sup>3</sup> We could even argue that the built environment accounts for almost 50% of EU emissions, if we combine those resulting from the use of buildings (operational) and those from the materials and processes involved in their construction and demolition (embedded).

Achieving a sustainable built environment first requires us to focus on increasing demand side efficiency (by minimising buildings' energy demand in terms of heating, cooling, lighting, etc.) while decarbonising the energy supply. **Energy demand and energy supply must go hand in hand: this will maximise synergies and optimise total energy system use. It represents a crucial step on the journey towards achieving climate neutrality and mitigating climate change.**

The social challenges associated with the decarbonisation of buildings are equally important. Transforming the building stock requires the alignment of social policies, which in many cases adds complexity to

political decision-making. As we have seen in recent years, European social and political divisions run deep, and energy poverty is worsening. It is estimated that 37 million EU citizens cannot afford to adequately heat or cool their homes. The energy price spikes over the past months and years have been a stark warning about Europe's vulnerability in terms of energy import dependency. The societal burden has been exacerbated by the fact that many European households have switched to gas for heating in recent decades, while investments in energy efficiency have not seen as dynamic an increase as they should have.

This is a stark reality, yet it also represents an incredible opportunity to innovate; to shape a more inclusive economy and society. The transition to carbon-free buildings can only work if *everyone* is brought on board. We strive to identify and promote solutions that will transform how society thinks about buildings, and how decision-makers take action. Social justice and climate action are two sides of the same coin.

<sup>3</sup> For details see Global Building Climate Tracker, in GlobalABC: Global Status Report on Buildings and Construction 2021



## 2020–2021 CELEBRATING OUR FIRST DECADE



Founded in 2010, BPIE has a track record of excellence. Over the last two years, one of our key achievements has been the significant increase in visibility our work has gained among policymakers and the media. For us, visibility is not an end in itself. It is a tool that can be used to make a political impact: it means that our voice is heard and can steer policy-making in the right direction. We are careful to only make ourselves visible when we have something meaningful to say because, ultimately, it's all about the quality of what we say, not the quantity.



# CHANGING BUILDING POLICY

for the better



**MAKING BUILDINGS A PRIORITY IN UNCERTAIN TIMES**

**SUPPORTING POLICYMAKERS SO THEY CAN TAKE EFFECTIVE ACTION**

**NEW THINKING TO ADVANCE BUILDING DECARBONISATION**

**ACCELERATING RENOVATION EFFORTS**

**COLLABORATING WITH CHANGEMAKERS**

**BEYOND EUROPE**





We have worked – against the backdrop of the COVID-19 crisis and the rising fuel prices caused by increasing geopolitical tensions – to support the Green Deal and the Renovation Wave, always aware of the overwhelming urgency of the fight against climate change. Over the past two years we have focused on making a crucial case to policymakers in the EU and around the globe. Efficient, resilient buildings go hand in hand with energy independence, and must be among our foremost political priorities. Building renovation is not an accessory to the climate, social, and geopolitical challenges we are facing – it is a key component. It can be used to trigger change where it is needed most.

This report provides a window into what our work has looked like in practice. While the political narrative has been complex and much of what we do cuts across numerous themes, for simplicity's sake, we have broken down the highlights from this two-year period into four thematic sections.

We outline how: (1) we ensured that the political responses and priority setting at EU level concentrated on buildings; (2) we monitored EU Member States' implementation of existing policies and provided guidance for implementing building policies on the ground; (3) we advanced knowledge on policy instruments and business models that are indispensable for growing the market for clean energy and buildings solutions; (4) we broadened our reach to advance buildings' policy design at a global scale.



**Building renovation is a key component - not accessory - of the climate, social and geopolitical challenges we are facing.**

**It can be used to trigger change where it is needed most.**



# ACHIEVING HEALTHY, CARBON-NEUTRAL BUILDINGS HAS NEVER BEEN MORE RELEVANT



The COVID-19 crisis has pushed economies around the globe into recession, leading policymakers to draw up unprecedented spending plans to cushion the impact and enable recovery.

AT THE HEART OF THIS RECOVERY EFFORT IS EUROPE'S GROWTH STRATEGY, THE EUROPEAN GREEN DEAL.



October 2020

The European Commission published its **RENOVATION WAVE STRATEGY** (to improve the energy performance of buildings)

- ▶▶ Double renovation rates over the next 10 years
- ▶▶ Better energy and resource efficiency
- ▶▶ Enhance the quality of life
- ▶▶ Reduce Europe's GHG emissions
- ▶▶ Foster digitalisation
- ▶▶ Improve the reuse and recycling of materials.



2030

35 million buildings could be renovated

160,000 Green jobs could be created in the construction sector

The EU launched the **Recovery and Resilience Facility**, making **€723.8 billion** available in the form of loans and grants to help the EU achieve its target of climate neutrality by 2050.



€723.8 billion



At the same time, the IPCC's Sixth Assessment Report in 2021 confirmed, beyond all doubt, that climate change is speeding up. The extreme weather conditions we are facing across the globe are only a taste of what's to come unless immediate and decisive action is taken. Soaring gas prices and extreme market volatility have only added to the challenge.



## MAKING BUILDINGS A PRIORITY IN UNCERTAIN TIMES

The chief focus of our work during 2020–2021 was to ensure that political responses to the COVID-19 pandemic, including Europe’s recovery plans and priority setting methods (such as the EU Green Deal and the Renovation Wave), concentrated on buildings. We aimed at ensuring that buildings played a central role in the narratives around the protection of the climate and the economic recovery. Within this context, we actively engaged in and informed ongoing policy discussions and consultations, particularly in relation to the revision of the Energy Performance of Buildings Directive (EPBD), as well as the wider EU climate policies and strategies, notably the EU’s goal of reaching climate neutrality by 2050 and the Fit for 55 policy package.

From BPIE’s perspective, the story of 2020–2021 really begins on 11 December 2019. The European Commission, led by freshly appointed President Ursula von der Leyen, unveiled its flagship European Green Deal – the Commission’s plan to put Europe on the path to becoming the first climate-neutral continent in the world. The final outcome is to reach climate neutrality by 2050. We called for buildings to play a central role in achieving Europe’s climate goals. A key pillar of the Green Deal was the promise of a Renovation Wave for the European building sector. In the days that followed, EU leaders endorsed the 2050 climate-neutrality objective, providing political momentum for a total transformation of the building stock. We knew that 2020 would provide a huge opportunity for us: policymakers would be primed to listen carefully to our expertise.

However, the COVID-19 pandemic, which arrived a mere three months later, [threw a spanner in the works for the Green Deal](#). As hospitals filled up and economies stalled the world over, many European policymakers argued that the Green Deal should be shelved until the economy recovered.


With the deck stacked against progressive climate and building policies, making the case for better buildings and homes became even more urgent, and BPIE sprang into action. While the pandemic severely upset both daily routines and the economy at large, from our perspective it provided an opportunity to renew and strengthen political awareness about the many ways the renovation of buildings can contribute to health, well-being, and economic recovery and growth. A Renovation Wave, [we argued](#), was a fundamental part of Europe’s COVID-19 recovery strategy. Against the odds, the Green Deal, along with its Renovation Wave, was named as a central pillar of the European Commission’s [Recovery plan for Europe](#) in April 2020.



Knowing the Renovation Wave would remain a priority, BPIE immediately responded by creating [An Action Plan on the Renovation Wave](#), an instruction manual to ensure that policymakers could draw up effective plans. It has been used as a guiding resource by policymakers in the European Commission responsible for buildings' policy design. This Action Plan sent a clear message: a holistic, joined-up approach would be required from all stakeholders along the value chain to ensure the Renovation Wave could deliver the necessary building renovations, emissions reductions and economic growth. The following month, in May, we provided [clear guidance on the investment opportunities in deep renovation that would kick-off the economic recovery](#). In June, we provided data to support the fact that building renovation should be taken seriously in terms of health and well-being and economic recovery and growth. Our research showed that for every €1 million invested in the energy renovation of buildings, an average of 18 local, long-term jobs are created in the EU. It also demonstrated that the well-designed and executed energy renovation of hospitals reduces the average patient stay by about 11%, producing potential savings of about €45 billion per year in the healthcare sector. In France, we found that medical costs of about €930 million a year are linked to poor quality housing. If we include the indirect consequences of this (absenteeism, lower productivity, etc.), poor quality housing could be costing the French economy as much as €20 billion a year.

On 14 October 2020, the European Commission finally published its Renovation Wave Strategy. The building sector was expected to reduce emissions by 60% to achieve the EU's 2030 climate target. We immediately shared our assessment on what reaching this target would mean in practical terms. In reality, we argued, the Commission's ambition to 'double the renovation rate' would not deliver meaningful energy savings. **To achieve full decarbonisation by 2050, Europe must in fact reach a tenfold increase in deep renovations by 2030.** The legislative process, and the supporting instruments and initiatives involved in it, need to reflect this enormous challenge.

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**For every**  
**€1 million**  
 **invested in the energy renovation of buildings**

**an average of**  
**18** **local, long-term jobs**  
**are created in the EU**

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**In 2020, we highlighted the urgency to align the ambitions of the Renovation Wave with the European Commission's proposal for a binding EU target of a net domestic reduction of GHG emissions by at least 55% by 2030 - which was endorsed by the European Council on December 11<sup>th</sup>.**



Only months later, in one of our last and arguably most important outputs of 2020, BPIE highlighted how urgent it was that the ambitions of the Renovation Wave aligned with the European Commission's September proposal for a binding EU target of a net domestic reduction of GHG emissions by **at least 55% by 2030** (compared to 1990 levels) – which was endorsed by the European Council on 11 December. Our modelling showed that the EU's current deep renovation rate of 0.2% needs to grow by at least a factor of 10, to 2%, and should approach 3% as quickly as possible.

BPIE provided a **deep-dive analysis of the European Commission's Renovation Wave and Action Plan, in light of the EU's strengthened 2030 and 2050 climate objectives**. The analysis highlighted the immediate need to correct the Renovation Wave's design during the implementation phase, to align its measures with the EU's climate-neutrality ambitions, and to carefully review the coordination of the proposed measures and their sequencing.





The European Commission's launch of its **Fit for 55 legislation package in July 2021** came next. Fit for 55 refers to the EU's target to reduce net GHG emissions by at least 55% by 2030 by putting the Renovation Wave into action. The proposed package aims at bringing EU legislation into line with the 2030 goal and it reopened a number of legislative files in 2021, including those related to the EPBD, the Energy Efficiency Directive (EED) and the EU Emissions Trading System (ETS) among others.

Our response to Fit for 55 was immediate. We started with an **analysis that pushed for a comprehensive, ambitious revision of the EPBD** by ensuring that the building sector is fit to respond to the climate emergency and significantly contributes to the overall EU-wide target of more than halving emissions by 2030. Our assessment showed that the Renovation Wave Strategy, while containing many of the key elements needed, appeared as a collection of uncoordinated actions. To exploit the opportunity provided by the ongoing consultation process with experts and the European Parliament, significant corrective action was required.

As the Fit for 55 process got underway, energy prices were rapidly increasing. The European Commission provided an emergency toolbox to counteract the immediate effects on citizens, particularly by alleviating energy poverty for the most vulnerable groups. In response, we published an analysis arguing that though short-term solutions, such as increased financial support for vulnerable groups, are an appropriate and necessary political response in a time of crisis, they should not distract from commitments to long-term sustainable solutions. At the very least,



## MEASURING IMPACT

**Measuring impact as a think tank is complex. We try to assess the relevance of our research topics and how many of these are currently being debated, not just among EU policymakers, but also by the building sector, the construction industry and society in general.**

**We cannot claim that we directly contribute to a reduction in GHG emissions. Rather, we monitor how our work has influenced the development of policies that lead to emissions reductions. If we can make these links, we know we are applying pressure where it is most needed.**



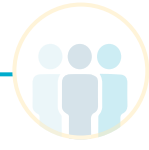
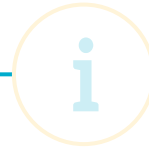
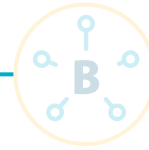
the ongoing energy price crisis should fast-track efforts to deploy deep energy renovations. Committed national strategies are required to reduce the energy consumption of buildings. Significant funds are available in Europe, both from the increasing revenues of the ETS as well as from the Recovery and Resilience Facility. To this end – and to ensure that deep renovation would remain at the heart of the revision of the EPBD and be used as a key tool to combat rising energy prices – we proposed a clear, ambitious, and legally binding EU-wide definition for deep renovation in order to streamline efforts in this area. Around the same time, we provided comprehensive recommendations on the subject. Our analysis added to the debate by showing that the introduction of a new carbon tax system would be better than the development of a new ETS designed just for buildings, as a tax system can be developed independently and can be more easily adjusted if targets are not reached.

At the time of writing, the Fit for 55 legislative process remains ongoing, and the geopolitical crisis in Europe means that fuel prices will continue to rise. This chapter of our work is not finished, though we look forward to telling the story of how our recommendations were taken up in EU policies in the years ahead.



**The ongoing energy price crisis should fast-track efforts to deploy deep energy renovations. Committed national strategies are required to minimise the energy consumption of buildings.**





**Our analysis showed that the introduction of a new carbon tax system would be better than the development of a new ETS designed just for buildings, as a tax system can be developed independently and can be more easily adjusted if targets are not reached.**

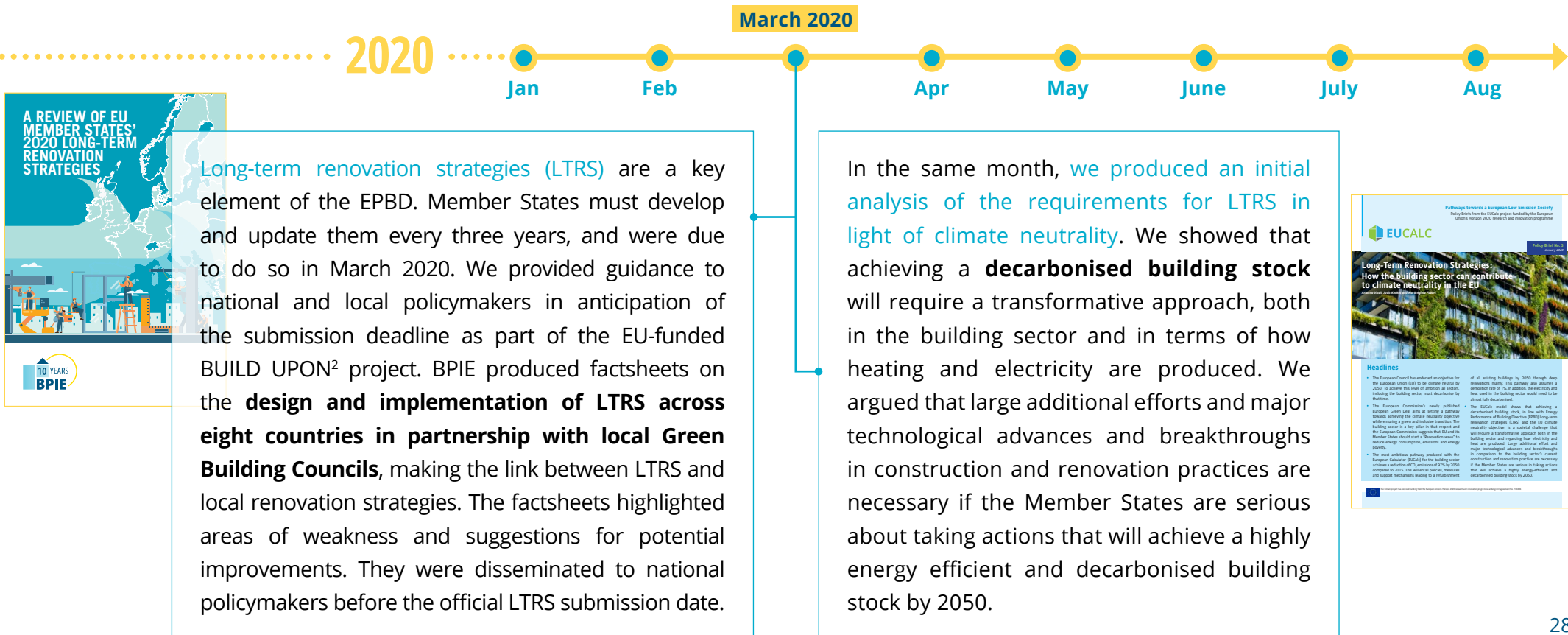




## SUPPORTING POLICYMAKERS SO THEY CAN TAKE EFFECTIVE ACTION

Legislation needs implementation to have an impact. Since our inception, BPIE has actively supported, monitored and reported on the implementation of Member States' buildings policies, and we have ramped up our activities on this front over the last two years. We focus on renovation strategies and standards for new buildings.

### BUILDING RENOVATION STRATEGIES AND ACTIONS IN EU COUNTRIES AND CITIES





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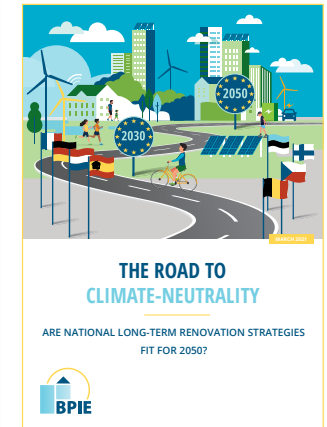
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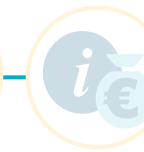
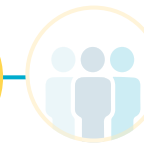
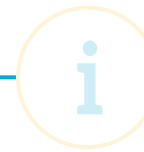
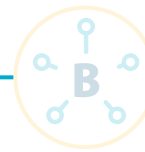
March 2021

After guidance came monitoring. In September 2020, precisely six months after the official LTRS submission date, we published our [review of Member States' 2020 Long-Term Renovation Strategies](#). We also issued a strong call to action encouraging national governments to submit their LTRS and consider building renovation as a key part of their recovery strategies. At that stage more than half of the strategies had yet to be submitted and none of them outlined ambitions that were fully aligned with the EPBD.



As a follow-up to this piece, exactly one year after the legal submission deadline, we launched our [analysis of the LTRS that had been submitted](#). We demonstrated that, at the national level, the political will to decarbonise the building stock needed to be increased. No **Member States were prioritising a 100% decarbonisation of their building stocks**. Not only were Member States not fully complying with the existing provisions of the EPBD, the provisions themselves were found to be out of sync with Europe's strengthened 2030 climate goals and 2050 climate-neutrality ambitions. The report was a major wake up call for the revision of the EPBD (which began in the first half of 2021 as part of the EU's Fit for 55 policy-making process and is still ongoing).





**IN ADDITION TO OUR PAN-EUROPEAN WORK, WE ALSO SUPPORTED NATIONAL GOVERNMENTS.**

**IN A PROJECT FUNDED BY THE GERMAN GOVERNMENT, WE WORKED CLOSELY WITH CITIES IN BULGARIA AND ROMANIA TO SUPPORT THE DEVELOPMENT OF MUNICIPAL RENOVATION STRATEGIES.**

The Our Buildings project partners organised a range of capacity building activities. Local stakeholders and decision-makers were brought together to discuss and define the future of renovation in their cities. The discussions were supported with a collection of good policy practices from across Europe.





## MAKING SURE THAT NEW BUILDINGS ARE FUTURE-PROOF

Construction is booming in many European countries. The new buildings of today will still be standing in 2050 when Europe wants to be climate neutral. To avoid having to renovate these buildings tomorrow, we need to ensure that they are climate neutral today. Since the beginning of 2021, all new buildings constructed within the EU must be nearly zero-energy buildings (NZEBs). All new buildings occupied and owned by public authorities already had to meet this standard in 2019. We decided to check whether the standards defined by national governments actually comply with this requirement. Our [analysis of standards in the EU-27](#) provided an overview of the situation. We identified **a wide degree of disparity across Member States in terms of making today's new buildings climate neutral**. We believe that the EU's legislation on new buildings must be implemented more strictly and with greater ambition. We're glad to see that the proposed revisions of the relevant European legislation, published in December 2021, include our suggestions on the topic.



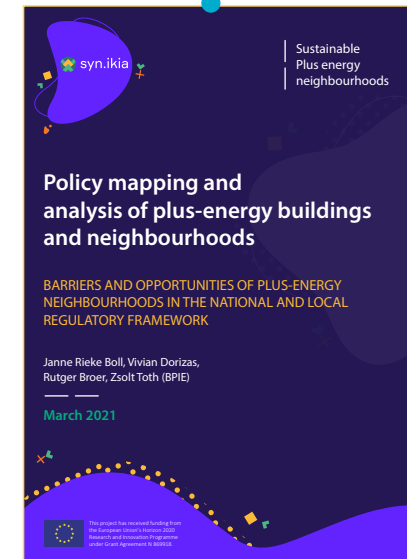
**We identified a wide degree of disparity across Member States in terms of making today's new buildings climate neutral.**





## SCOPING MARKETS FOR SUSTAINABLE PLUS ENERGY BUILDINGS AND NEIGHBOURHOODS (SPEN)

As well as ensuring compliance with current new building legislation, Europe needs to think ahead. Within the framework of the syn.ikia project, in 2021 BPIE published a [full overview](#) of the legislative status of SPEN – districts that produce more energy than they consume – focusing on four EU countries. SPEN are an opportunity for building users to take ownership of the design of their homes and neighbourhoods, to create low carbon living spaces that integrate on-site renewable energy sources, local storage facilities and energy sharing hubs to achieve 100% GHG emission savings. The report provided a status update on the market. The next step is a policy implementation roadmap for SPEN.







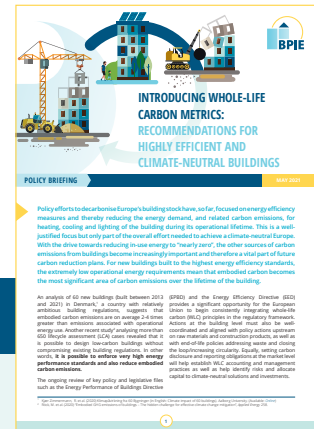
## NEW THINKING TO ADVANCE BUILDING DECARBONISATION

As a think-tank, we certainly try to develop 'new thinking', whether it's a new way of looking at and solving a problem, or identifying new solution pathways or catalysts for change. This section is specifically dedicated to concepts, tools and solutions that speed up the decarbonisation of buildings.

### THE CLIMATE IMPACT OF BUILDINGS: BRINGING WHOLE-LIFE CARBON (WLC) INTO THE PICTURE

In 2021, we added WLC to our arsenal of expertise and made it one of our key priorities through a new partnership with the Laudes Foundation. Policy efforts to decarbonise Europe's buildings have, so far, focused on energy efficiency measures and on carbon emissions caused by the heating, cooling and lighting of buildings during their operational lifetime. This is well justified, but only part of the overall effort needed to achieve a climate-neutral Europe. In order to reduce in-use energy demand to 'nearly zero', other sources of carbon emissions from buildings become crucial. For new buildings built to the highest energy efficiency standards, the extremely low operational energy requirements mean that embodied carbon becomes the most significant area of carbon emissions over the lifetime of the building.

Through the course of three reports, many workshops and extensive stakeholder dialogues, we argued that energy and carbon metrics are complementary. **Carbon metrics are in fact needed** to align building

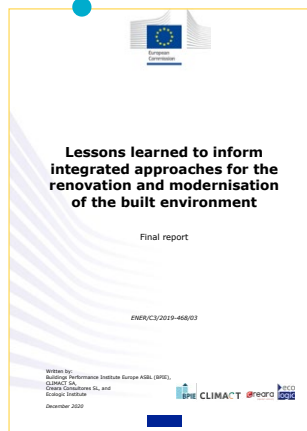




policies and incentives with climate-neutrality goals. While energy efficiency will certainly deliver significant reductions in carbon emissions, it is unlikely to deliver a climate-neutral building stock because emissions from the manufacturing, construction and renovation processes are not accounted for. Not all carbon emissions are energy related. With this in mind, as the EU seeks out decarbonisation pathways, the building sector must be treated as a priority. Choosing a 'buildings first' approach, **focusing**

**on both operational and embodied carbon reductions** ahead of grid decarbonisation, will ensure that the co-benefits of building renovation (e.g. improved indoor environmental quality, health, productivity, jobs) are realised, and also that costly investments in energy infrastructure are avoided. Assessing the WLC footprint will help to better understand the full impacts of construction and renovation and how they can be mitigated.

## A COMPREHENSIVE PERSPECTIVE ON BUILDINGS POLICY



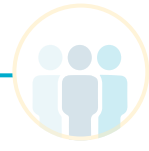
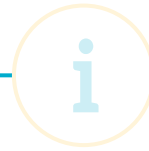
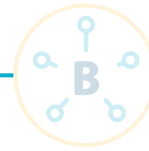
Our exhaustive **Final report** on lessons learned to inform integrated approaches for the renovation and modernisation of the built environment, commissioned by the European Commission and published in July 2021, has been hailed as 'the Bible' for building decarbonisation policies. It's a landmark achievement for BPIE, one which was made possible thanks to our close collaboration with three partners. The

report provides an overview of policies implemented in EU Member States in relation to: built environment sustainability and adaptation to climate change; clean and sustainable mobility; digital technology; district approaches; engaging in the transformation or phasing out of inefficient buildings; financing renovation; and health and well-being.



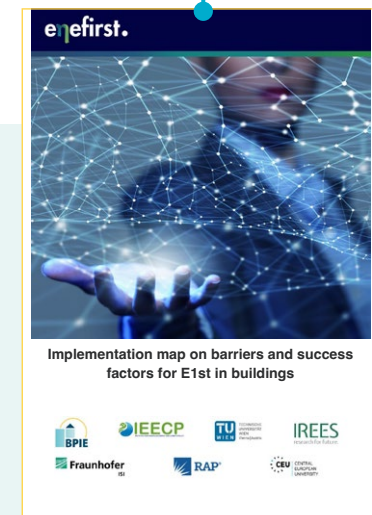
**Our exhaustive report on lessons learned to inform integrated approaches for the renovation and modernisation of the built environment has been hailed as 'the Bible' for building decarbonisation policies.**





## PUTTING ENERGY EFFICIENCY FIRST (E1ST) INTO PRACTICE

E1st is a decision-making principle that has been enshrined in EU legislation since 2018, but has yet to be systematically or effectively implemented. The idea is that priority should be given to demand side resources whenever they are more cost-effective from a societal perspective than investments in energy infrastructure. This should be applied to all energy-related investment planning. Understanding and implementing the E1st principle is vital for the effective rollout of the Renovation Wave and the achievement of the climate goals. As a partner in the ENEFIRST Horizon 2020 project, BPIE has made significant progress in terms of cracking the E1st nut, identifying both its **barriers** and **success factors**, and the policy options available. Close cooperation between national and regional authorities is essential, especially in the building and district heating sectors where most decision-making takes place locally.





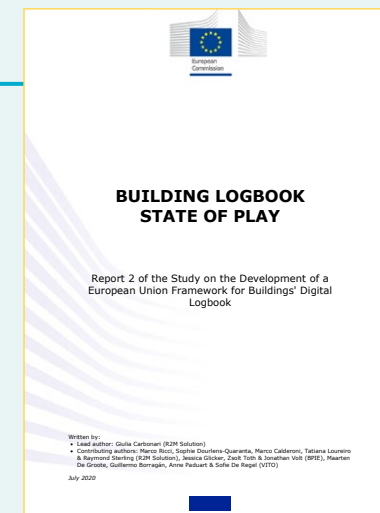
## ACCELERATING RENOVATION EFFORTS ON THE GROUND

BPIE closely focuses on developing and promoting solutions that help to overcome the many barriers to deep renovation. We implement a well-targeted and diverse portfolio of projects that accelerate renovation efforts.

### DIGITAL BUILDING LOGBOOK (DBL)

In collaboration with VITO and R2M Solution, BPIE took important strides towards developing the concept of, and a framework for, a Europe-wide DBL over the course of a study commissioned the European Commission. 'DBL' and similar terms, such as 'Building Renovation Passport', have become buzzwords among building professionals. They're subject to many different interpretations, both in terms of what they are and what they should be, resulting in an array of tools and requirements for collecting and using data from buildings. Our breakthrough [report](#) develops the first-ever complete definition of a DBL. At its core, **a DBL brings together all the relevant building data - and makes sure the right person has access to the right information at the right time - in order to facilitate transparency and decision-making in a renovation context.** The report's findings highlight the potential of DBLs to encourage data transparency and to increase the availability of data among a broad range of market players (including property owners, tenants, investors, financial institutions and public administrations). In order

to inform future decisions and support the habitual, widespread use of DBLs across Europe, the follow-up study analyses [the state of play](#) of the DBL in Europe, looking at what is already available, what works and what doesn't. These studies proved invaluable to European policy-making: the Renovation Wave Strategy, published on 14 October 2020, included the DBL as a fundamental action point.





## BUILDING RENOVATION PASSPORTS



Building owners face multiple barriers when planning an energy renovation. One of the most difficult aspects is knowing which measures to implement, and in what order. Building Renovation Passports are one instrument that can help address this challenge and accelerate the renovation rate in the EU. Developed by the four-year iBRoad Horizon 2020 project, a Building Renovation Passport consists of a customised renovation plan over a long-term period (a Building Renovation Roadmap) and a Digital Building Logbook (DBL). At the project's closure in 2020, we produced a [step-by-step guide](#) so EU countries could design and implement Building Renovation Passports. The guide outlines barriers to, and things that facilitate, the design and implementation of both Building Renovation Roadmaps and DBLs, so that these tools can be developed and replicated across Europe. Both elements are now included in the European Commission's Renovation Wave Strategy and will be rolled out in EU legislation in the coming years. In autumn 2021, the project entered its second round, iBroad2EPC: this project is designed to integrate Building Renovation Passports into energy performance

certification (EPC) schemes to support a decarbonised building stock. The project is now exploring energy performance assessment schemes and certification practices to promote and showcase the integration of individual Building Renovation Passport elements into EPC schemes. It will adapt the Building Renovation Passport model so it becomes part of EPC across Europe. The iBRoad2EPC model will be tested in six EU Member States (Bulgaria, Greece, Poland, Portugal, Romania and Spain).



**Building owners face multiple barriers when planning an energy renovation.**

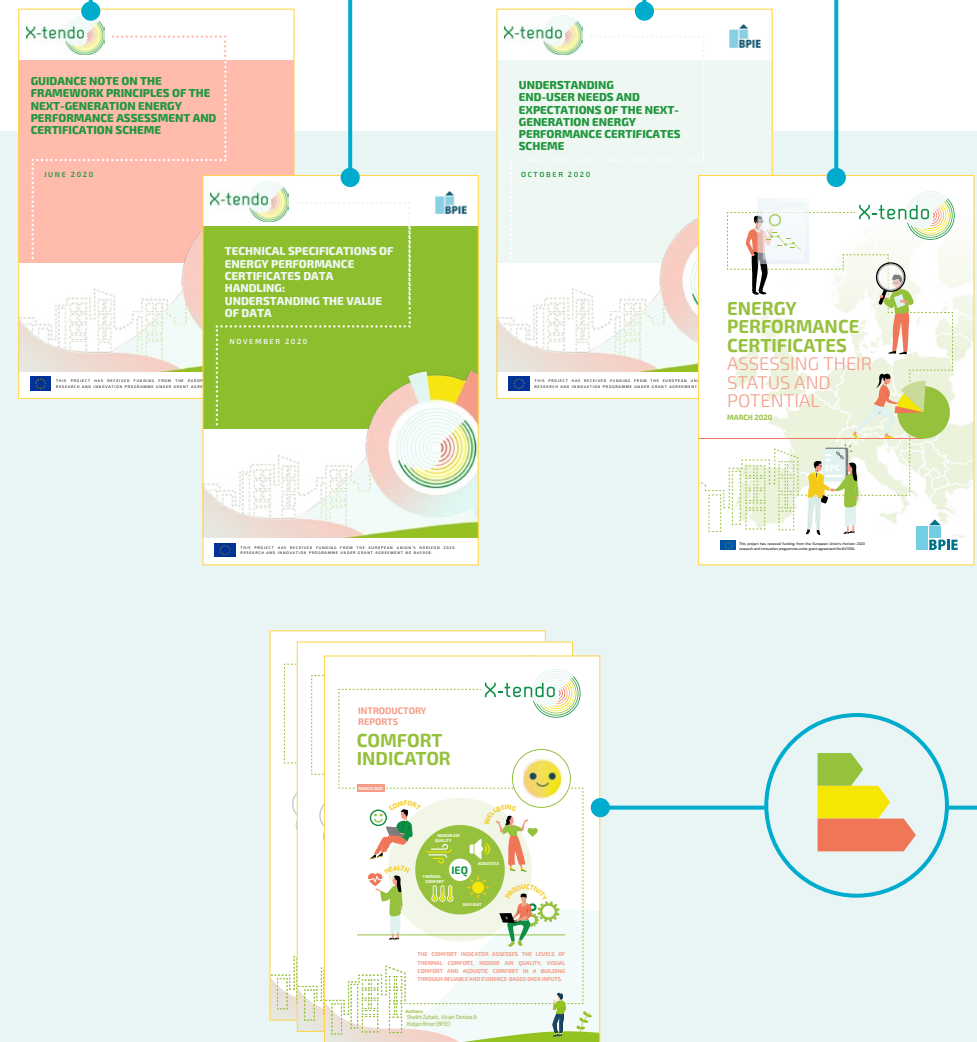
**One of the most difficult aspects is knowing which measures to implement, and in what order.**





## PREPARING FOR THE NEXT GENERATION OF EU EPCs

BPIE also examined the existing European EPC framework. EPC is meant to give a transparent indication of a building's energy efficiency, and is one of the EU's main instruments for facilitating the long-term decarbonisation of the building stock. However, for EPC to become a catalyst for energy renovations, [we found](#) that it is necessary to provide a more reliable, standardised service across EU Member States, one which is tailored to end-users. Within the framework of the X-tendo Horizon 2020 project, we produced a [guidance note](#) outlining the common requirements for developing and assessing innovative features for the next generation of energy performance certificates. We also provided updated knowledge on [user needs and expectations](#) and [technical specifications for handling EPC data](#). Additionally, we [identified 10 innovative features](#) that can help to fully unlock the potential benefits of EPC. This work is very relevant now and into the future: improving the features and data handling of EPC was named as a priority for the Renovation Wave.

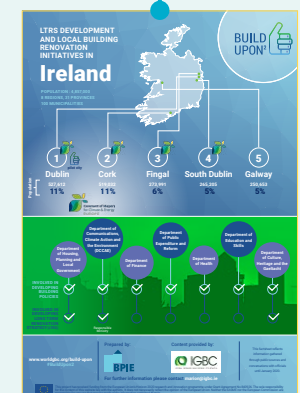
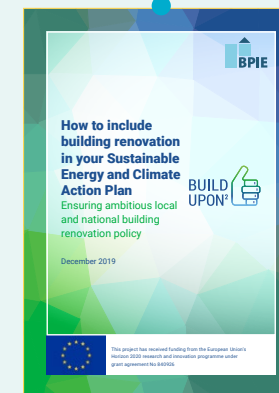




## ONE-STOP-SHOPS, RENOVATION JOURNEYS AND TECHNICAL ASSISTANCE

Technical assistance can close the energy efficiency finance gap, enabling the implementation of building renovations through simplifying the renovation journey and connecting projects to available finance. Unfortunately, it's an under-used tool.

As partner in the [Turnkey Retrofit](#) Horizon 2020 project, BPIE played a key role in developing a new, homeowner-centric renovation journey, Solutions4Renovation. We transformed the complex and fragmented renovation process into a simple, straightforward and attractive procedure for homeowners. Solutions4Renovation includes the initial technical and behavioural diagnosis, the technical offer, the development and agreement of the contract, and the structuring and provision of financial support, as well as the on-site coordination of works and quality assurance. It uses a service-oriented model through which the homeowner is offered tailor-made solutions for the entire duration of the customer journey. The service is accessible through a user-friendly digital platform and addresses drivers of building renovation that go beyond a desire to reduce energy bills and increase asset value. It takes things such as home improvement, increased comfort, and better health and quality of life into account. BPIE was instrumental in the development of this one-stop-shop solution from the earliest stages. We reviewed, analysed and benchmarked existing integrated renovation services in Europe, and conducted market analysis to identify business opportunities for running, replicating and upscaling





Solutions4Renovation in other countries. Finally, as the platform was originally intended for France, we built a community of market actors committed to its further replication in Spain and Ireland, and provided [policy recommendations](#) to encourage the reproduction of one-stop-shop solutions in Europe. The platform is now freely available in [France](#), [Ireland](#) and [Spain](#).

Local authorities are essential for ensuring that Europe meets the commitments and climate targets of the Paris Agreement. However, matching local practices up with national renovation strategies and the Covenant of Mayors' Sustainable Energy and Climate Action Plans (SECAPs), [requires a concerted effort](#). To make this achievable, the BUILD UPON2 Horizon 2020 project developed a multi-level renovation impact framework so cities could assess the diverse benefits of renovation projects. It uses environmental, social and economic factors to identify which of these can be scaled up to regional and national levels.

Over the course of the project, BPIE provided expertise on buildings renovation policy, and mapped governance procedures for the adoption of LTRS in [eight European countries](#). We provided an analysis of the alignment of LTRS under the EPBD and the requirements of the SECAPs. Finally, within the context of the InvestEU Programme from the Recovery and Resilience Facility and the Fit for 55 legislative package, we provided an analysis of [existing technical assistance programmes](#) and initiatives. The report highlights that, despite existing gaps between projects' ideas and their implementation, it is possible to improve the delivery of technical assistance support at a local level based on our

recommendations – indeed it's essential. The revision of the EPBD and the creation and delivery of services like the InvestEU Advisory Hub means that now is the right time to address these challenges.



**Technical assistance can close the energy efficiency finance gap, enabling the implementation of building renovations through simplifying the renovation journey and connecting projects to available finance... The revision of the EPBD means that now is the right time to address these challenges.**





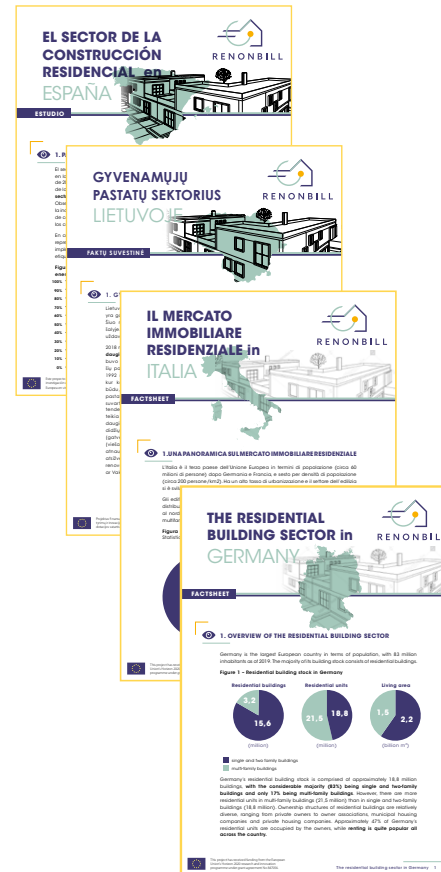


## ADVANCING INNOVATION IN RENOVATION FINANCING

The upfront costs of renovation are among the leading deterrents that prevent the owners of buildings from investing in ambitious energy efficiency measures. On-bill schemes provide innovative approaches to financing energy renovations, using the utility bill as the repayment vehicle. On-bill schemes has been in use for more than 30 years, and it is especially widespread in the USA and Canada, where it significantly influences the building renovation market (over \$1 billion in investments were secured by 2013). As part of the RenOnBill Horizon 2020 project, we led the market scoping and policy analysis, laying the groundwork so that on-bill schemes can be properly exploited and scaled-up in the EU in the future.

In October 2021, the RenOnBill project was awarded the prestigious Citizens' Award at the EU Sustainable Energy Awards. European Commissioner for Energy, Kadri Simson, congratulated the winners at the online awards ceremony which kicked off Day 1 of the EU Sustainable Energy Week (EUSEW).

Commissioner Simson praised all five EUSEW Award winners commenting, "The projects and individuals that are being recognised today are not only leaders in transforming Europe's energy landscape, they are role models. Their work is a testament to the importance of citizen engagement in making the European Green Deal a reality. We've been working hard to develop policy instruments, which guide



**ambience**

### The Active building Energy Performance Contracting concept

**AEPC**

- is enhanced**: It provides additional services and business opportunities compared to the current EPC model.
- is modular**: It consists of different building blocks or modules that can be tailored to specific customer requirements.
- is performance-based**: It is output-driven because the ESCO takes on costs or energy savings performance guarantees.
- is a delivery mechanism**: It provides all the elements to ensure the full energy saving and demand response potential to the customer.
- uses financing**: The business concept includes a financing solution or scheme that allows for a third party to pay upfront for the necessary investments while being reimbursed over a longer period of time.
- stimulates energy optimisation**: It includes the demand side services that allow for the energy consumption and costs optimisation.
- stimulates energy renovation**: It includes the typical EPC building renovation services.
- can be used in existing buildings**
- can be used in new buildings**
- leverages a set of parameters**:
  - technical**: It uses the technical and operational characteristics of installations to introduce flexibility, allowing the delivery of active building energy services.
  - operational**
  - usage**
  - behavioural**
- dynamic energy pricing**: It uses implicit and explicit demand response.
- dynamic CO<sub>2</sub> pricing**: It uses direct (through CO<sub>2</sub> trading) and indirect (by stimulating the use of renewable electricity) mechanisms.

For more details, read the full report

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and support action on the ground, and it is truly inspiring to see this vision at work. Together, we are bringing Europe closer to its climate goals."

Another business model that BPIE explored (within the AmBIENCE Horizon 2020 project) is the concept of extending energy performance contracting to active buildings. This model essentially combines energy efficiency renovations with demand response and flexibility measures in one contract model. This can make renovation attractive in a wider range of buildings, as savings from energy efficiency can be combined with additional savings – and even earnings – from the active control of assets, leveraging for example, price-based incentive contracts ('implicit demand response'). For AmBIENCE, we provided recommendations and guidance for the deployment of an effective energy performance contract model that can work for active buildings, and organised regional workshops that brought together various stakeholders in order to assess best practices and learnings. We also developed a database outlining the parameter values for various types of buildings in the EU, which fed into the project's development of an online platform to support the creation of active building performance contracts.



**On-bill schemes provide innovative approaches to financing energy renovations which uses the utility bill as the repayment vehicle... As part of the RenOnBill Horizon 2020 project, we led the market scoping and policy analysis, laying the groundwork so that on-bill schemes can be properly exploited and scaled-up in the EU in the future.**

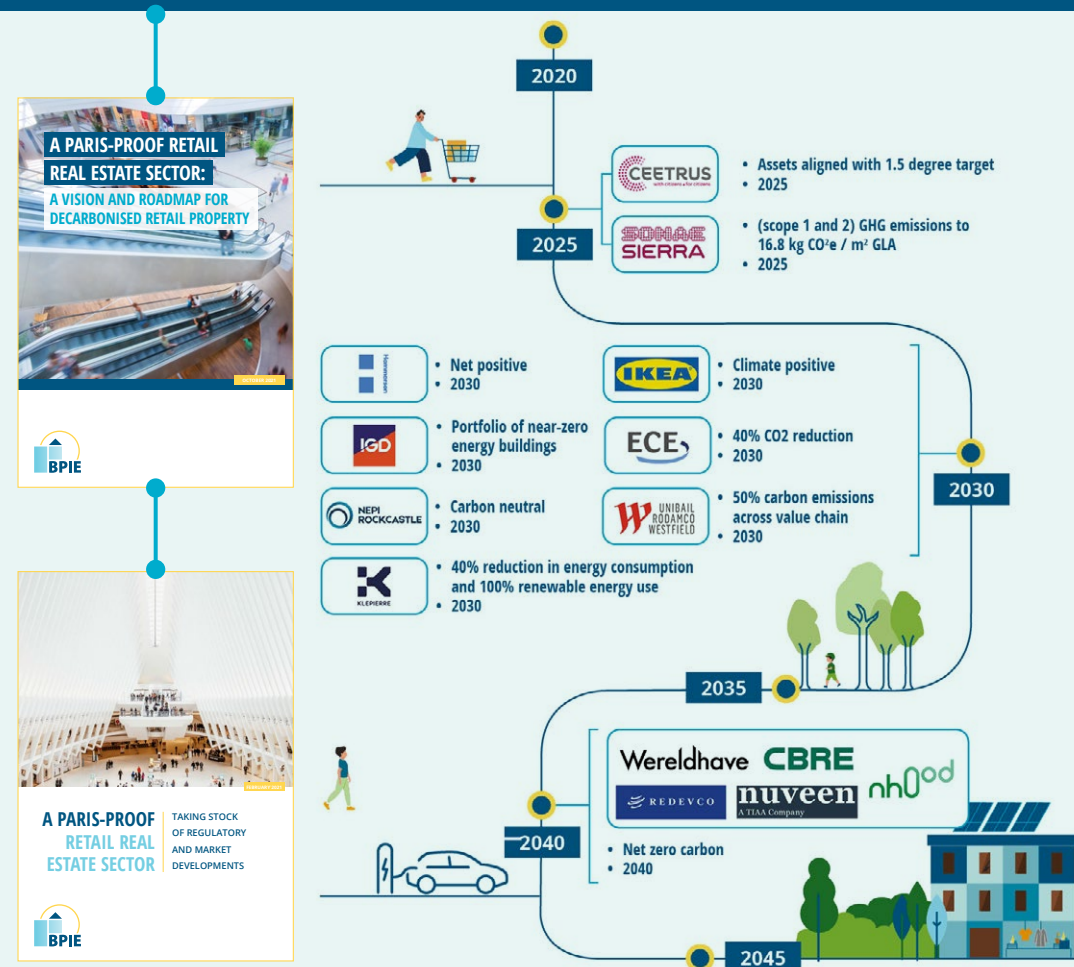


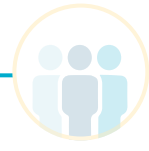
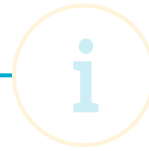
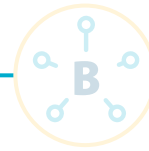


## COLLABORATING WITH CHANGEMAKERS

### CREATING THE VISION AND ROADMAP FOR A 'PARIS-PROOF' RETAIL REAL ESTATE SECTOR

While the pandemic torpedoed the possibility of in-person meetings, BPIE (in partnership with the Redevco Foundation) nevertheless broke new ground by launching an intensive dialogue with global and European leaders from the **retail real estate industry**, helping the sector to become Paris-proof. BPIE organised several closed stakeholder workshops to collectively define **market barriers to and opportunities for** the decarbonisation of the sector. At the end of 2021, we launched a shared **vision and roadmap** so the retail real estate sector can achieve carbon-neutral shopping spaces and collectively reach net zero carbon emissions by 2050, in line with the Paris Agreement. A first-of-kind effort for the sector, the roadmap provides a step-by-step action plan for the entire retail property value chain (including the property sector, policymakers, commercial tenants, the construction sector, and financial institutions), setting targets for 2025, 2030 and 2040. The roadmap was launched as part of a webinar that attracted over 200 participants from the global and European retail real estate sector, and was featured on numerous occasions in **Europe's leading media platform for retail real estate practitioners**.





### MAKING DEEP RENOVATION ACCESSIBLE

BPIE has played an important role in stakeholder engagement and developing market-friendly tools that are adapted to the needs of building users as part of many new Horizon 2020 projects in the past two years. The [e-SAFE](#) and [ComAct](#) projects focus on social aspects. E-SAFE aims at creating a **market-ready, decarbonising, multi-purpose deep renovation system** for buildings, one which encompasses technological, functional, aesthetic, financial and economic aspects. It concentrates on integrated solutions for the energy efficient and earthquake-safe deep renovation of existing non-historic buildings. ComAct seeks to **make the deep renovation of multi-family buildings affordable and to reduce energy poverty** in Central Eastern Europe and former Soviet republics. [BuiltHub](#) aims at positively disrupting building policy and market design by collecting, processing, and sharing building stock data through the **development of a publicly available online platform.**



**BPIE has played an important role in stakeholder engagement and developing market-friendly tools that are adapted to the needs of building users as part of many new Horizon 2020 projects in the past two years.**





## BEYOND EUROPE

BPIE has never limited its activities strictly to EU countries. Over the past two years we have enhanced our role as a global player in buildings policy, helped to inform global priority setting, and facilitated dialogue and best practice sharing with countries outside the EU.

### TRACKING THE GLOBAL DECARBONISATION OF BUILDINGS WITH A BUILDING CLIMATE TRACKER (BCT)

As a founding member of the Global Alliance of Buildings and Construction (GlobalABC) at the Paris Agreement negotiations, we contribute to its annual flagship Global Status Report on Buildings and Construction (B-GSR), the foremost global reference document on the building sector – published by the United Nations Environment Programme (UNEP). In 2020, BPIE developed GlobalABC's first-ever BCT, which tracks decarbonisation in the building and construction sector worldwide and measures the alignment of the sector with the Paris Agreement.

The BCT is designed as an index that comprises a range of indicators for measuring progress towards achieving the objectives of the Paris Agreement. In 2021, the BCT appeared to indicate that the building and construction sector is on track for complete decarbonisation by 2050. However, this was only a temporary result, one which reflected the unprecedented changes in building use during the pandemic. We concluded that a negative rebound in overall progress should be expected unless decarbonisation efforts in the sector significantly increase.



Global Alliance  
for Buildings and  
Construction



## FOSTERING CLIMATE DIPLOMACY

Over the course of 2020–2021, BPIE led a number of bilateral best practice sharing and capacity building initiatives within the framework of the EU’s Strategic Partnership for Implementation of the Paris Agreement (SPIPA). Working with national governments and the European Commission, we brought together over a thousand policymakers and buildings experts from Canada, Russia, Brazil and the United States of America so they could have bilateral exchanges with the EU. Through the EU–Korea Climate Action Project, we also organised two bilateral (online) exchanges between the EU and South Korea.

## CANADA-EU EXCHANGE ON ENERGY EFFICIENCY IN BUILDINGS AND HOUSING

The bilateral Canada–EU Exchange brought together several hundred stakeholders. In March 2020, BPIE organised a two-day conference with the European Commission and Natural Resources Canada. The EU and Canada confirmed their determination to promote energy efficient solutions in buildings to address the climate challenge. European and Canadian policymakers, as well as national and local experts, shared best practices – including governance and political agenda setting – in the context of the Clean Energy for All Europeans Package and the European Green Deal. The event also confirmed the EU and Canada’s mutual desire to continue to exchange on key topics of interest, especially in the face of urgent challenges in planning for a sustainable economic recovery. BPIE led the Canada–EU Exchange through a series of five webinars over the course of 2021, covering selected building policies and programmes, their implementation, best practices and innovative policies across Canada and EU Member States. The key outcomes were summarised in a [report](#).





## THE UNITED STATES OF AMERICA (USA) – ADVANCING THE TRANSATLANTIC ECONOMIC RECOVERY WITH BUILDING RENOVATION AND CLEAN ENERGY SOLUTIONS

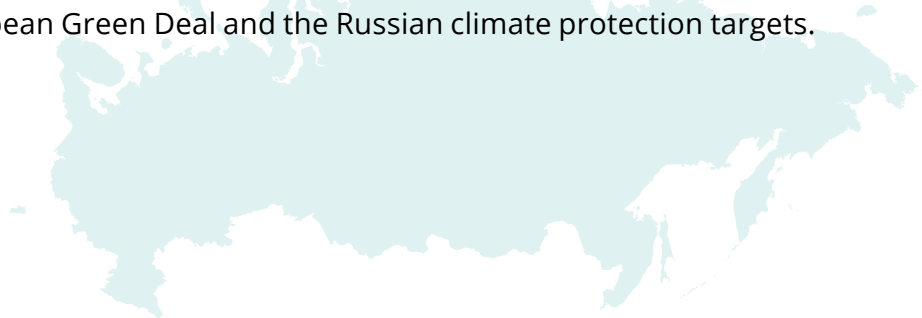
Within the broader topic of green recovery, this EU–USA cooperation action focused on reducing the energy consumption of the building stock, in the USA in particular. It was hosted by BPIE in collaboration with the US Department of Energy, the US Department of Housing and Urban Development, the European Commission and the EU Delegation to the US. The programme provided an opportunity to advance economic recovery through transatlantic collaboration and exchanges on climate mitigation policy and green recovery policies, in the context of renewing and strengthening the relationship between the USA and the EU. The programme included a series of five webinars bringing together over 700 stakeholders, including key decision-makers from both the private and public sector.

Emissions from buildings in the USA (including heating, cooling and electricity use) make up over a third of their total CO<sub>2</sub> emissions. Per capita, building-related emissions are by far the highest in the G20. The EU and the USA have both committed to a net zero climate goal by 2050. Reducing the carbon footprint of buildings is crucial for achieving this target.



## RUSSIA-EU EXCHANGE ON SUSTAINABLE BUILDING POLICIES AND MEASURES

Jointly organised with the non-profit Russian Association of Engineers for Heating, Ventilation, Air-Conditioning, Heat Supply and Building Thermal Physics (ABOK), the EU–Russia exchange on sustainable building policies and measures provided a platform for collaboration, knowledge exchange and capacity building. It united more than 500 stakeholders in building production, design, trade, installation and maintenance, academia and civil society within Russia and the EU. Through a series of three workshops, a final conference and a full report, we provided an overview of the current legislation in the EU and Russia as well as innovative approaches to, and instruments for, decarbonising the building stock and implementing the objectives of the European Green Deal and the Russian climate protection targets.

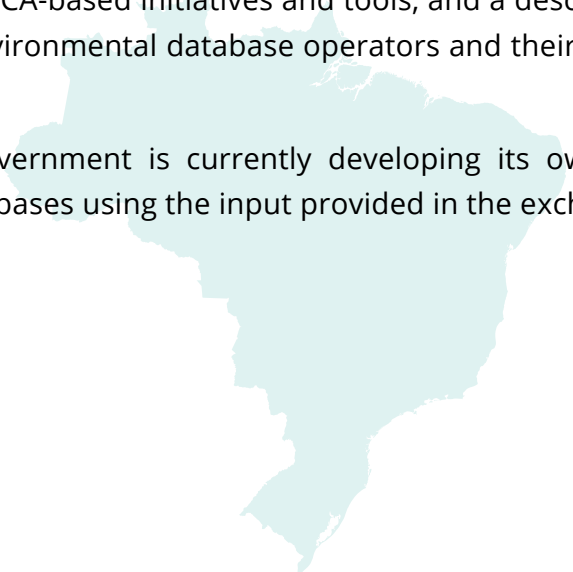




## BRAZIL – SHARING INTERNATIONAL EXPERIENCE ON LOW CARBON PERFORMANCE ASSESSMENT TOOLS AND CONSTRUCTION POLICIES

Within the framework of the SPIPA's life cycle assessment (LCA), BPIE organised five meetings with LCA experts and government officials, organised a webinar with LCA experts from the EU on environmental database operations, and provided a [report](#) to the Brazilian government. The report contained an overview of the relevant EU institutions and LCA-based initiatives and tools, and a description of the EU-based environmental database operators and their business models.

The Brazilian government is currently developing its own set of policies and databases using the input provided in the exchange.



## EU-KOREA CLIMATE ACTION PROJECT, KOREA ENERGY AGENCY

In Korea, where 37% of the building stock is over 30 years old, buildings account for 17% of total energy consumption. Working with the EU-Korea Climate Action Project and the Korea Energy Agency – and supported by the EU Delegation to the Republic of Korea and the Korean Ministry of Land, Infrastructure and Transport – BPIE [assisted in](#) two public exchanges on incentive schemes for energy efficient buildings and innovative business models in the EU and Korea. The exchanges brought together over 400 stakeholders from local government, NGOs, academia, business, and civil society.







# Our PEOPLE



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# BPIE STAFF 2020-2021



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Communications Manager



**Janne Rieke Boll**  
Project Manager



**Rutger Broer**  
Researcher



**Serban Danciu**  
Senior Consultant



**Xerome Fernández Álvarez**  
Researcher



**Elodie Da Rocha**  
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**Roberta D'Angiolella**  
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2020-2021



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**Victoria Taranu**  
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**Sheikh Zuhaib**  
Project Manager



**Jonathan Volt**  
Project Manager



**Arianna Vitali Roscini**  
Senior Project Manager



### REMEMBERING SERBAN

Serban Danciu, BPIE's cherished 'man in Bucharest', passed away suddenly on 11 October 2021.

Serban was with BPIE since the beginning, leading our activities in Romania. He was a passionate networker and convener, and ensured that BPIE's work was seen and recognised in Romania and beyond. He was instrumental in growing the energy efficiency market in Romania and in creating BPIE's reputation, and was a tireless advocate for policies and programmes that would lead to better buildings with a lower climate impact. The host of numerous lively and constructive debates between stakeholders and policymakers, he helped to build consensus for the benefit of everyone.

Serban was a man of great integrity and kindness. At BPIE's regular team meetings he shared new political insights gleaned from his work on the ground, and listened and engaged with all members of the team. He treated everyone with great respect and always provided a wealth of knowledge. He was extremely generous with his time; many of us have fond memories of receiving Serban's royal treatment during events in Romania, where he would take special care that we came away with a better understanding of the local culture and history. Serban's passing was sudden and unexpected, but we are sure that his life and work will continue to make an impact beyond what we are able to measure. We are all deeply grateful to have had the chance to know him and to work with him.



## BOARD OF DIRECTORS



**Julian Popov**  
Chairman

Julian Popov is Fellow of the European Climate Foundation and Former Minister of the Environment of Bulgaria. He is a former energy security adviser to the President of Bulgaria, the founding Vice Chancellor and current Board Member of the New Bulgarian University, founding Board Member of Sofia Platform, former Board Member of the American University in Bulgaria, former Chairman of the Bulgarian School of Politics and co-founder of the Tunisian School of Politics (established following the Arab Spring).



**Randall Bowie**

Randall Bowie is Director of the European Centre for Economic, Environmental and Energy Sustainability, in Sweden. He was previously Chief Consultant for Public Affairs at Rockwool International, and focused on EU energy affairs in Brussels for over 10 years. Before that, Mr Bowie spent 11 years at the then Directorate-General for Energy and Transport of the European Commission (from which he retired). While there, as a chief architect of the EPBD and the Energy Services Directive (and a major progenitor of the Energy Efficiency Directive and of energy efficiency targets), he was one of the original driving forces behind energy efficiency legislation in the Commission.



**Tatiana Bosteels**

Tatiana Bosteels is Senior Economist at the European Investment Bank (EIB), and focuses on Energy Transition Programmes within the Project Directorate. The Project Directorate's mission is to provide advice to the EIB's decision-makers (on sector policies, potential sector issues and on the quality of projects and the risks associated with them) and to advise promoters on the development and implementation of projects. Tatiana is also chair of the UNEP's Finance Initiative Investment Committee and Board Member of the Institutional Investors Group on Climate Change (IIGCC).



## BOARD OF DIRECTORS



**Anneli Pauli**

Anneli Pauli is Professor of Practice (Global Grand Challenges) at the Institute for Atmospheric and Earth System Research (INAR), the University of Helsinki. Anneli Pauli has extensive national and international experience in leading science, research, innovation and university policies. Previously, Anneli Pauli held several key senior management positions over a period of 22 years.

For example, she worked at the European Commission as Deputy Director- General both at DG “Research and Innovation” and in Commission’s Joint Research Centre (JRC), and as a Senior Advisor to the Director General in Innovation and Competitiveness issues at DG Climate Action.



**Hans-Peter Meister**

Hans-Peter Meister founded IFOK in 1995 and led the business until 2017, when he took on a supervisory role and became a Senior Vice President at Cadmus Group, overseeing the further international expansion of IFOK and Cadmus Group before his recent retirement. He has established several successful companies after having worked at the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety and at BASF. He serves as President of the non-profit Transform e.V., which runs the European Citizens Network, giving people a voice in political decision making.



## BOARD OF DIRECTORS



**Agneta Persson**

Agneta Persson is Managing Director at Anthesis Sweden. She is a leading expert in sustainable energy systems, energy efficiency, low energy buildings, technology procurement, demand side management and market transformation, and has 35 years of experience in energy and environmental issues. She is a pioneer in the technology procurement area, whose broad experience includes developing, managing and implementing several Swedish and European projects in this field.



**Pete Harrison**

Pete Harrison is Executive Vice President for Regions at the Environmental Defense Fund, overseeing EDF's regional offices for the US, Europe, India and China. Before that he was the Executive Director for EU Policy at the European Climate Foundation (ECF), overseeing programmes for the transport, building, energy systems, land use, finance and industrial decarbonisation sectors. This comes after seven years of leading ECF's work on cleaning up the mobility system. Prior to joining the ECF, Pete worked for the international news agency Reuters, where he directed coverage of all aspects of European energy policy and geopolitics.



# FINANCIAL information



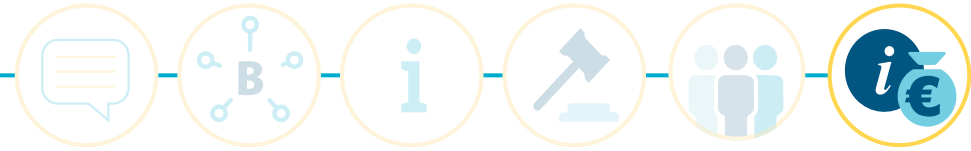
INCOME SOURCES 2020–2021

FUNDERS

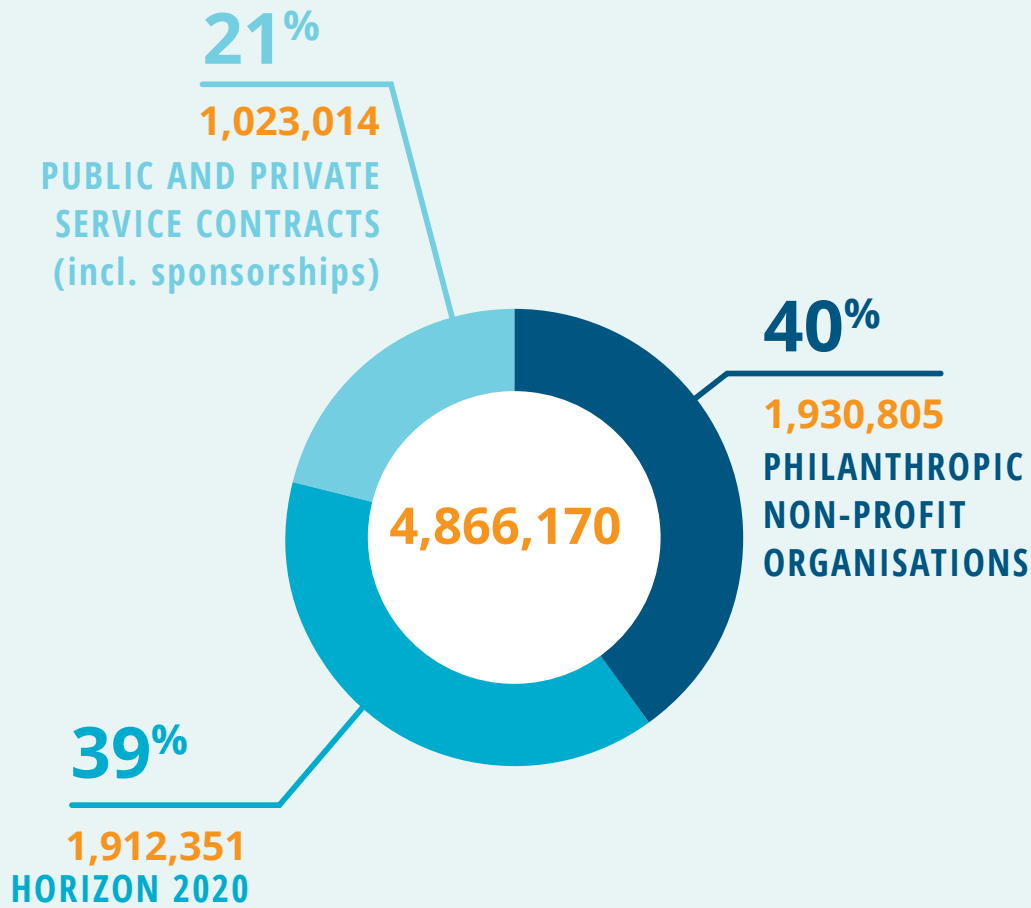
PARTNERS







## INCOME SOURCES 2020–2021



## FUNDERS

Our work was made possible thanks to a diverse range of project funders.



Framework Convention on Climate Change



European Climate Foundation



REDEVCO FOUNDATION



eurima

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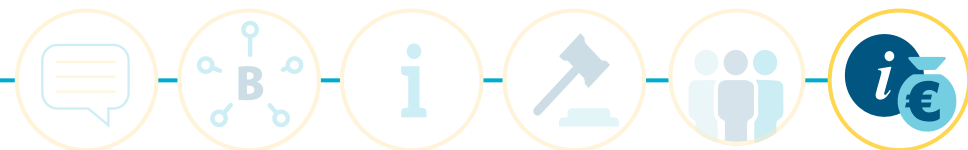


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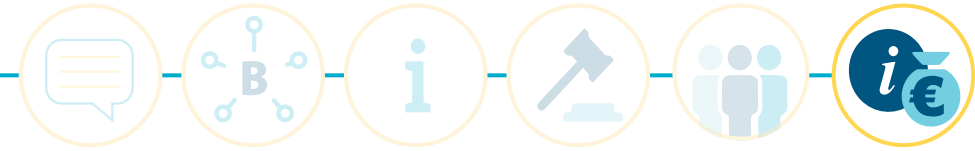


## PARTNERS

In 2020–2021, we collaborated with the following research partners:

EASt	Austria	Enova	Bosnia and Herzegovina	Endule	Germany
Energy Economics Group	Austria	Municipality of Burgas	Bulgaria	energielenker	Germany
e-think	Austria	Econoler	Bulgaria	Fraunhofer Institute for Systems and Innovation Research	Germany
Graz Energy Agency	Austria	EnEffect	Bulgaria	ICLEI	Germany
Heimat Österreich	Austria	Efficiency Canada	Canada	Institute for Energy and Environmental Research (IFEU)	Germany
PINK	Austria	Croatia GBC	Croatia	IFOK	Germany
Vienna University of Technology	Austria	Deloitte	Cyprus	Institute for Resource Efficiency and Energy Strategies	Germany
Blue Planet Academy	Belgium	Aalborg University	Denmark	Initiative Wohnungswirtschaft Osteuropa (IWO)	Germany
Cast4All	Belgium	COWI	Denmark	Navigant	Germany
CLIMACT	Belgium	Danish Energy Agency	Denmark	Steinbeis Innovation	Germany
Climate Alliance	Belgium	ENFOR	Denmark	The CO-Firm	Germany
Daikin Europe	Belgium	Technical University of Denmark	Denmark	Center for Renewable Energy Sources	Greece
DCINERGY	Belgium	Viegand Maagøe	Denmark	INZEB	Greece
EEIP	Belgium	Anne Soojus	Estonia	National Technical University of Athens	Greece
Energinvest	Belgium	Eesti Energia	Estonia	SALFO	Greece
European Network of Living Labs	Belgium	Gren Tartu	Estonia	SYMPRAXIS	Greece
FLUX500	Belgium	Institute of Baltic Studies	Estonia	Advanced Building and Urban Design	Hungary
Futech	Belgium	Tallinn University of Technology	Estonia	Central European University	Hungary
Futureproofed	Belgium	City of Tartu	Estonia	Hungary Green Building Council	Hungary
Van Roey Group	Belgium	Tartu Regional Energy Agency	Estonia	Metropolitan Research Institute	Hungary
Housing Europe	Belgium	University of Tartu	Estonia	Irish Green Building Council	Ireland
IMEC	Belgium	Scientific and Technical Centre for Building (CSTB)	France	National University of Ireland, Galway	Ireland
In Site	Belgium	Énergie Perspective	France	Eurac Research	Italy
KU Leuven	Belgium	EP France	France	National Agency for New Technology (ENEA)	Italy
LITOBX	Belgium	Operene	France	Bluenergy Group	Italy
MAC Management	Belgium	R2M Solution	France	ENG	Italy
MOVERIM	Belgium	Adelphi Research	Germany	Epta Group	Italy
Nieuw Dak	Belgium	BBH	Germany	Green Building Council Italia	Italy
Regulatory Assistance Project (RAP)	Belgium	co2online	Germany		
Stad Genk	Belgium	DENEFF	Germany		
Stebo	Belgium	Ecologic Institute	Germany		
VITO	Belgium				

# FINANCIAL INFORMATION



IAC	Italy
Italian Federation for Energy Efficiency (FIRE)	Italy
Rettagliata Tech	Italy
University of Bologna	Italy
UNICIT	Italy
University of Genoa	Italy
Lithuanian Consumers Alliance	Lithuania
Kauno energija	Lithuania
Lithuanian Energy Institute	Lithuania
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Area	the Netherlands
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Polish National Energy Conservation Agency (KAPE)	Poland
ADENE	Portugal

Centre for New energy Technologies	Portugal
EDP	Portugal
INESC TEC	Portugal
Portuguese Energy Agency (ADENE)	Portugal
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National Research and Development Institute	Romania
Romanian Network of Energy Cities (OER)	Romania
Romanian Association of Energy Auditors for Buildings (AAECR)	Romania
ABOK	Russia
Nadácia Habitat for Humanity, International	Slovakia
Alonso Hernandez & Asociados Arquitectura	Spain
National Association of Rehabilitation and Reform Companies (ANERR)	Spain
IK4 Research Alliance	Spain
Ceit-IK4	Spain
Municipality of Pamplona	Spain
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IREC	Spain
NTT DATA Spain	Spain
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Research Institutes of Sweden (RISE)	Sweden

University of Applied Sciences and Arts of Western Switzerland (HES-SO)	Switzerland
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UNEP Finance Initiative	Switzerland
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Odessa Housing Union (OHA)	Ukraine
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Energy Pro	United Kingdom
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UK Green Building Council	United Kingdom
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UCL	United Kingdom
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