WORLD GREEN BUILDING COUNCIL

#BUILDING LIFE

NATIONAL ROADMAP ANALYSIS

ABOUT WORLDGBC

The World Green Building Council (WorldGBC) is the largest and most influential local-regional-global action network, leading the transformation to sustainable and decarbonised built environments for everyone, everywhere.

Together, with 75+ Green Building Councils and industry partners from all around the world, we are driving systemic changes to:

- **Address whole life carbon emissions of existing and new buildings**
- **Enable resilient, healthy, equitable and inclusive places**
- **Secure regenerative, resource effcient and waste-free built environments**

We work with businesses, organisations and governments to deliver on the ambitions of the Paris Agreement and UN Global Goals for Sustainable Development (SDGs).

#BuildingLife is a project led by WorldGBC, and driven by 12 Green Building Councils (GBCs): Croatia, Czech Republic, Finland, France, Germany, Hungary, Ireland, Italy, the Netherlands, Poland, Spain and the UK. The project is working to deliver on the European Green Deal aim of a climate neutral Europe by 2050 by working to eliminate both the operational and embodied carbon – 'Whole Life Carbon' (WLC) – impact of buildings.

www.worldgbc.org/buildinglife

About this report

This document presents the results of an analysis of the first 10 national roadmaps developed by Green Building Councils in Europe as part of the first phase of #BuildingLife. The results will help shape our ongoing work in the project to drive forward the implementation of the existing roadmaps and to expand the coverage into more countries.

The #BuildingLife project is generously supported by:

IKEA Foundation

Laudes Foundation

European Climate Foundation

European Bank for Reconstruction and Development

This study was supported by the following European Regional Partners of WorldGBC:

KNAUF INSULATION

SAINT-GOBAIN

Report authors

Éva Beleznay, Vincent Briard
Celine Carre, Stephen Richardson
Laura Pallares

ABOUT #BUILDING LIFE

- #BuildingLife is a project convening 12 European Green Building Councils (GBCs) working to deliver on the European Green Deal.
- The Green Building Councils are supporting climate action through national and regional decarbonisation roadmaps, which tackle the whole-life environmental impacts of the building and construction sector.
- #BuildingLife focuses not only on the operational emissions of buildings, but also the environmental impact of the manufacturing, transportation, construction, and end-of-life phases – often called embodied emissions.
- Tackling these emissions is essential to address the total impact of the built environment, and progress towards the European Green Deal's aim of a climate neutral Europe by 2050.
- #BuildingLife has helped leverage almost €60 million in national and European Union (EU) funds to drive innovations that will reduce whole-life carbon.
- The project is creating a pathway for other world regions to follow through a roadmap demonstrating how European Union (EU) buildings policy can adopt whole life carbon targets.
- The Green Building Councils spearheading the project are: Croatia, Czech Republic, Finland, France, Germany, Hungary, Ireland, Italy, the Netherlands, Poland, Spain and the UK.
- #BuildingLife is funded by grants from IKEA Foundation, Laudes Foundation, European Climate Foundation and the European Bank for Reconstruction and Development.
- Please note that the data held within this report was captured in 2022, when the first phase of the project concluded.

SUMMARY

Increase in awareness

Over the three year process all countries now experience interest in establishing measures in the industry and policy coming from a starting point of no or initial discussions.

National roadmaps accepted as reference frameworks

Over 1,550 stakeholders participated in the development of the national roadmaps through working groups and workshops and the main stakeholders of the future tasks have all been represented in the discussions.

The process of wide stakeholder involvement and the launch of the roadmaps resulted in positive and supportive feedback. As a result, national roadmaps are accepted as reference frameworks.

Alignment with EU policies

National roadmaps are fully/highly aligned with EU policies (Fit for 55, Renovation Wave, Green Deal), climate-neutrality goals, Level(s) framework and Whole Life Carbon (WLC) standards. EPBD (Energy Performance of Buildings Directive) is the most important and most broadly referenced.

The primary focus of the national roadmaps is on the whole life carbon approach of existing, new buildings and materials. Topics of sufficiency at building level and bio-based materials are lagging behind.

Government engagement

The most important stakeholders are the national and local governments, developers, manufacturers/suppliers.

The highest number of endorsements and commitments occur in countries where continuous activities follow the roadmap launch.

While in most countries national and local public administration were taking part in the discussions, only a few could reach policy and legislative change. As all roadmaps highlighted legal framework and incentives as key drivers to reaching the climate goals, there is still much to do in engaging governments.

Transparency, data and reporting

The operational data sources are EPCs (Energy Performance Certificates), mostly available for the residential sector, where the calculated data frequently differs from actual use. The embodied carbon database is scarce. GBCs focus on building EPD (Environmental Product Declaration) databases to fill in the gap.

Quantitative carbon projections mostly rely on top-down models, using carbon budgets and the data of NECPs (National Energy and Climate Plans) and LTRSs (Long Term Renovation Strategies). Carbon removal and potential overshoot is not addressed. Qualitative analysis substituted quantitative where the modelling was not available.

Roadmaps for Netherlands, Finland, France, UK and Ireland stipulate a reporting target timeline of 2023–2024, while roadmaps for Germany, Italy, Spain and Poland stipulate a timeline of 2025–2030.

Roadmaps for Finland, Ireland, Germany, UK and Poland stipulate whole life carbon (WLC), embodied carbon (EC) and operation carbon (OC) targets for assets should be set by 2023–2025.

Policy recommendations

On the policy side, national priorities in legislation and incentives need to shift to building stock renovation and material use reduction. National target setting for OC, EC and WLC needs to be accelerated.

Industry recommendations

On the industry side, WLC attitude and reporting should be adopted not only by industry leaders, but all actors. The whole range of WLC reduction needs to be accelerated. Advancement in material reduction and circularity, EPD disclosures and low-carbon materials is needed.

IMPACT OVER THREE YEARS

Roadmap development

WorldGBC launched the EU Whole Life Carbon (WLC) Policy Roadmap in 2022 and it is now regarded as a reference point by the European Commission.

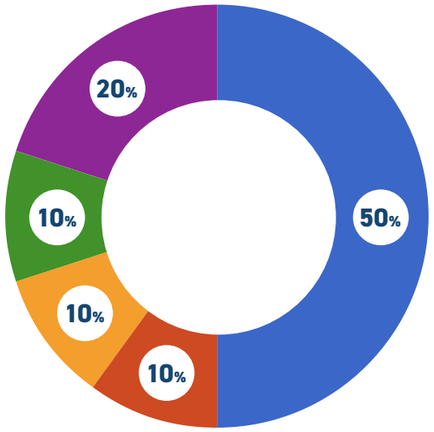
Each of the 12 #BuildingLife GBCs has developed and launched a National Decarbonisation Roadmap over the last three years.* The process involved wide stakeholder involvement, and built a community of hundreds of leaders across the region calling for urgent political and industry action to reduce whole life carbon emissions.

The #BuildingLife project has brought WLC into the mainstream in Europe.

*Hungary due Q4 2024. **All the data is based on responses from 10 GBCs unless otherwise stated.

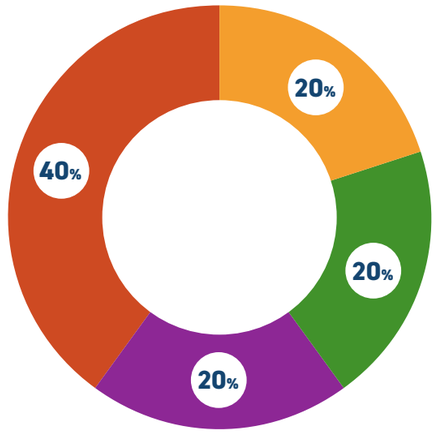
What was the status of whole life carbon policy at the beginning of the roadmap development?

Ireland, Croatia, Poland, Spain, UK, France, Netherlands, Finland, Germany, Italy



What is the current status of whole life carbon policy after roadmap publication?

Italy, Croatia, Poland, UK, Ireland, Spain, Finland, Germany, France, Netherlands



● No discussion ● Initial discussions (eg political debate, included in party manifestos, some politicians calling for action, etc) ● Regulation announced but not yet under development ● Regulations under development ● Regulation in place

Advancement in Whole Life Carbon policy

The scope of the whole life carbon policy includes energy performance, nationally required WLC measures and limit values and WLC criteria for public procurements.

Over the three year process there is a big advancement on the WLC policy. From no or initial discussions all countries experience interest in establishing measures in national policies and regulations.

Frontrunners (France, Netherlands, Finland) already had their regulations in place or under development at the beginning of the #BuildingLife project and the national roadmap development.

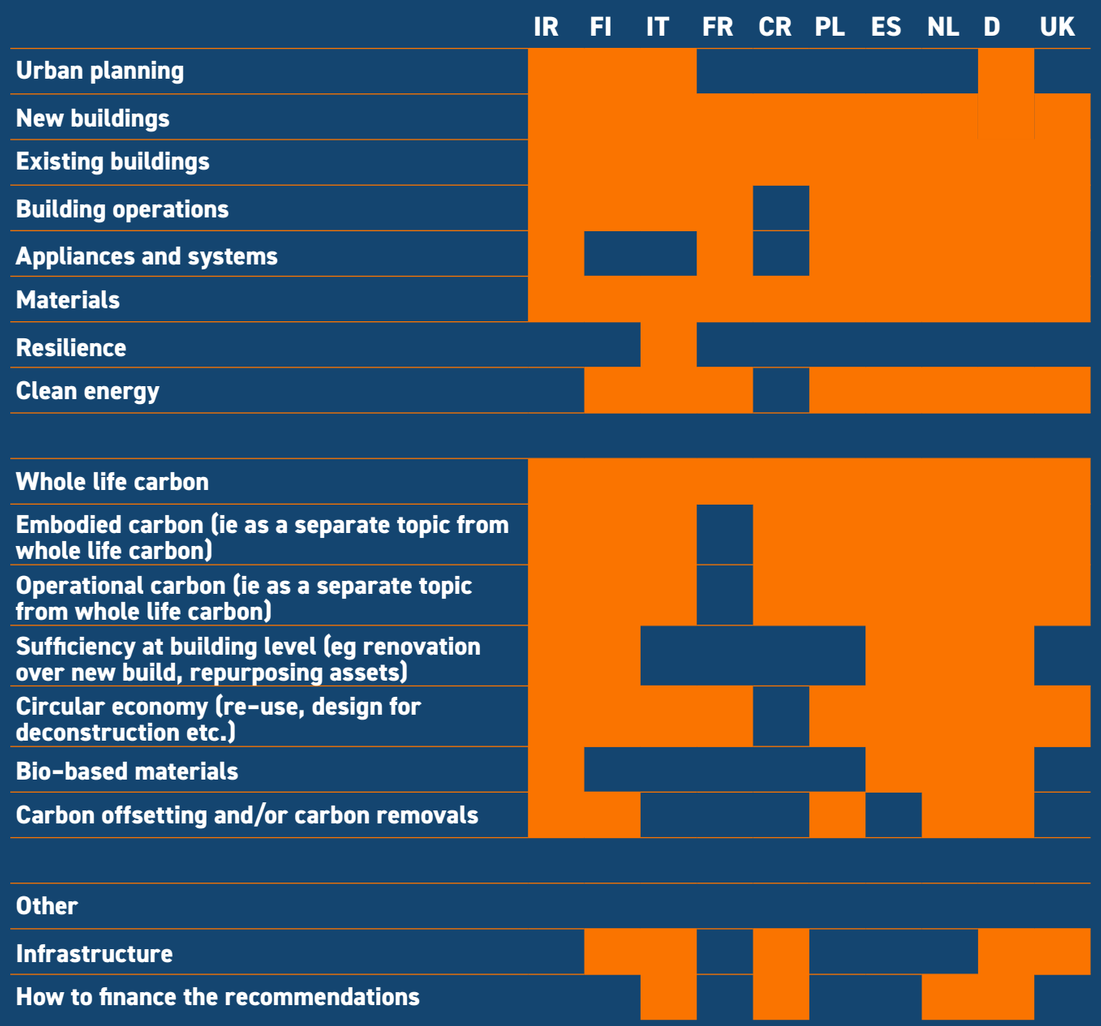
SCOPE: TOPICS

All roadmaps addressed existing and new buildings and materials, adopting the whole life carbon approach.

The roadmaps focused on climate mitigation, however, as the understanding of the social and economic impacts of climate change increases, the need to take a holistic view of sustainability increases.

Topics of sufficiency at building level and bio-based materials are lagging behind.

Topics addressed by roadmap

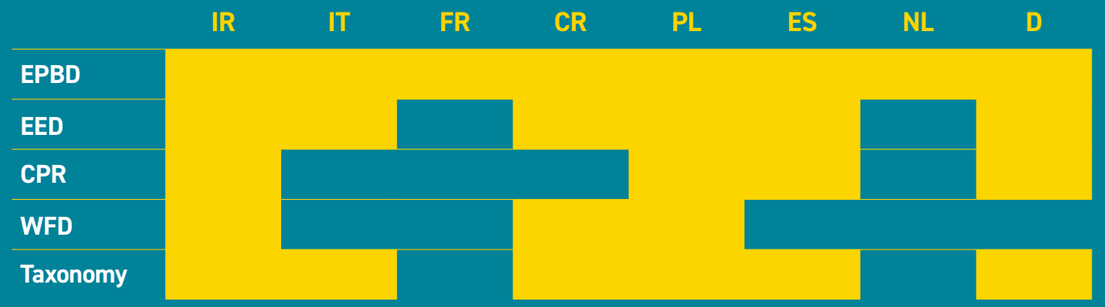


Roadmaps have full or high alignment with EU policies (Fit for 55, Renovation Wave, Green Deal), climate-neutrality goals, Level(s) framework and WLC standards.

The degree of coverage is different in the national roadmaps. The most important and most broadly referenced is EPBD. The countries involved in LIFE Level(s) project have more defined referencing to Level(s).

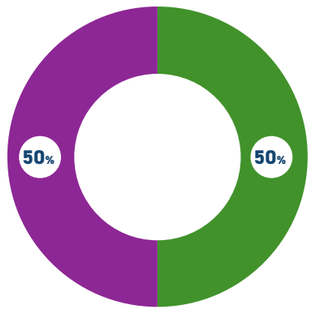
All roadmaps address green public procurement.

EU policies addressed by roadmap



Alignment to EU climate-neutrality goals

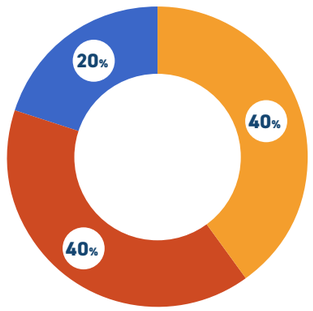
Ireland, Finland, Poland, Spain, Netherlands, Italy, France, Croatia, Germany, UK



- Roadmap is fully aligned
- Roadmap is not fully aligned or alignment was not a consideration

Reference to Level(s) framework

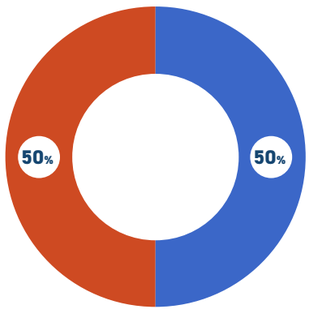
France, Poland, Netherlands, UK, Finland, Germany, Ireland, Italy, Croatia, Spain



- Yes, it refers to it briefly
- Yes, it makes recommendations of how Level(s) can or should be implemented in the market
- No

Reference to Life Cycle Standards EN 15978 and EN 15804

France, Croatia, Spain, Netherlands, UK, Ireland, Finland, Italy, Poland, Germany



- Yes, it refers to one or both, briefly
- Yes, it makes detailed recommendations about them or explicitly recommends their adoption

STAKEHOLDERS

The roadmaps found:

- **National and local governments, developers, manufacturers/suppliers are the most important stakeholders and therefore addressed by every roadmap.**
- Designers/engineers, contractors and asset owners are addressed by most of the roadmaps.
- The **least reached groups are the building occupants and training providers.** The former needs more emphasis as it represents the demand side. The latter group's knowledge is in the GBC's priorities.

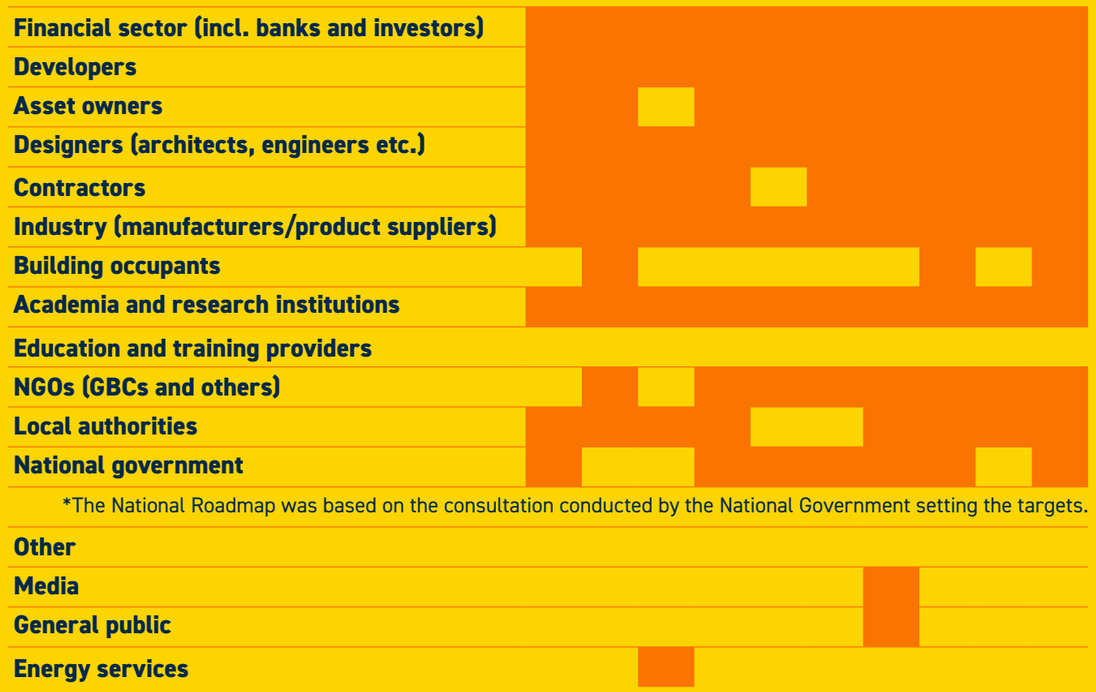
Over 1,550 stakeholders participated in the development of the national roadmaps through working groups and workshops.

Consultations were made wide and public in Ireland, Finland, Italy, Croatia and Poland, resulting in 287 responses.

The main stakeholders of the future tasks previewed by the roadmaps have all been **represented in the discussions.**

Stakeholders addressed by roadmap

Stakeholders represented in the development of the national roadmaps through working groups and workshops



*The National Roadmap was based on the consultation conducted by the National Government setting the targets.

ENDORSEMENTS AND COMMITMENTS

The highest number of endorsements and commitments occur in countries where continuous activities follow the roadmap launch.

Overall the highest interest is shown from owners/developers, designers, engineers, consultancies and manufacturers.

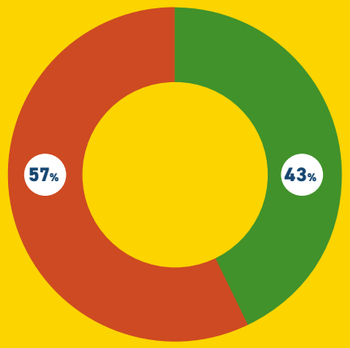
What is the current status of your recruitment of endorsements/ commitments to the roadmap?

Italy, France, Croatia, Spain, UK, Ireland, Poland, Finland, Germany, Netherlands

● We have not started recruiting yet ● We collected endorsements of support for the roadmap launch but no further recruitment ● We are actively collecting endorsements (ie since the roadmap launch) ● We have collected commitments (ie more than just endorsements) to implement roadmap actions ● We have collected commitments to implement roadmap actions and already have plans in place for how to monitor progress of efforts undertaken since the launch

How many endorsements does your roadmap have? (9 responses)

Ireland, Italy, France, Croatia, Poland, Spain, UK



How many commitments does your roadmap have? (2 responses)

Finland, Netherlands

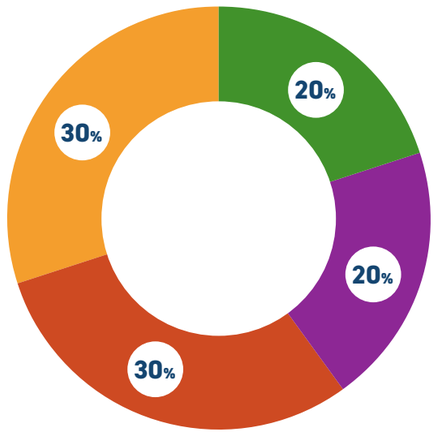
● From 11 to 30
● From 51 to 100

While in most countries national and local public administration were taking part in the discussions, **only Finland and France could reach political visibility,** which is a willingness and prior commitment to advance on WLC in national laws and regulations.

As all roadmaps highlighted legal framework and incentives as key drivers to reaching the climate goals, there is much to do regarding government engagement.

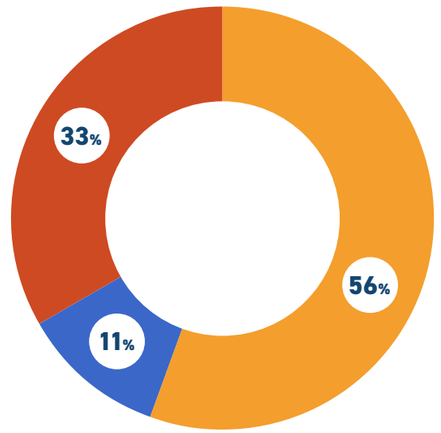
To what degree was the national public administration involved in the development of the roadmap?

Finland, France, Spain, Netherlands, Ireland, Croatia, UK, Italy, Poland, Germany



To what degree was the local public administration (eg cities, municipalities) involved in the development of the roadmap? (9 responses)

Ireland, Italy, Netherlands, Germany, UK, Poland, France, Croatia, Spain



● Not involved at all ● Low involvement (eg some civil servants aware of the roadmap and in contact but with little direct input to the roadmap) ● Medium involvement (eg key civil servants were are and gave some input to the roadmap and indicated it would be a relevant resource but little or no visibility or commitment at political level) ● High involvement (eg significant involvement from key civil servants into the roadmap development and a clear willingness expressed to use it as a major reference point and some visibility at political level but no clear political commitment to the recommendations) ● Very high involvement (eg significant input as above but with further political visibility such as coverage in parliamentary debates or public statements of support from one or more senior political leaders such as mayors, ministers, shadow ministers or party leaders)

DATA AVAILABILITY AND MANAGEMENT

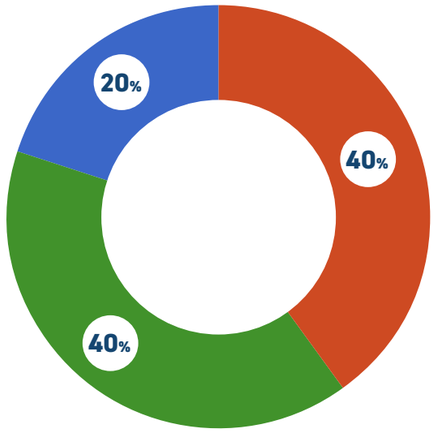
Finland, Netherlands, Germany and France are frontrunners in building embodied carbon databases. In Ireland, Italy, and Spain and the UK, the industry generally has access to only partial data for conducting WLC assessments.

Central and Eastern European (CEE) Countries need to speed up the process of data availability to be more accurate regarding government engagement in the building sector's contribution to to the EU's carbon-neutrality goal.

The most common source for operational carbon data is Energy Performance Certificates, which are particularly dominant in the residential sector.
The calculated energy performance can in some cases differ from the actual measured data.

Is the following statement accurate? "Harmonised and high-quality data on embodied carbon are widely available in this country."

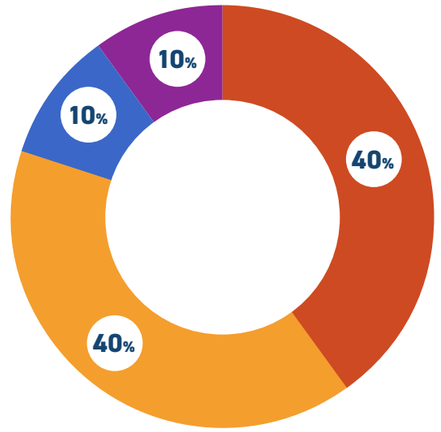
Finland, Netherlands, Germany, France, Ireland, Italy, Spain, UK, Croatia, Poland



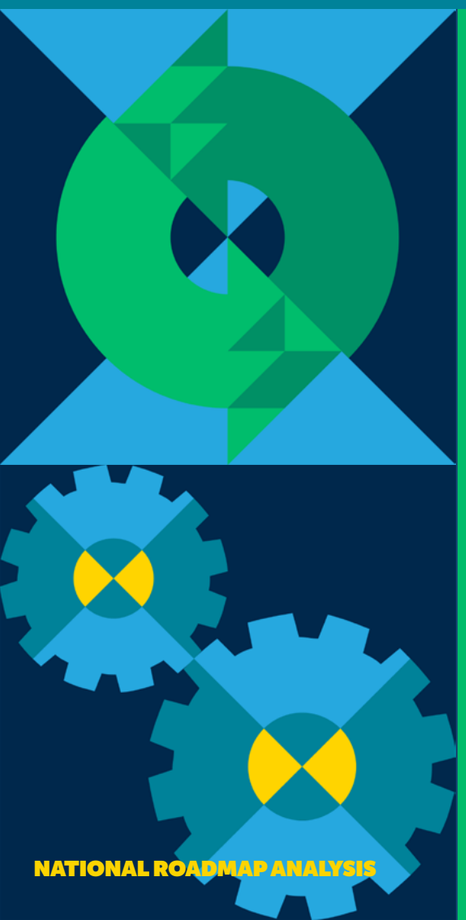
● Completely Disagree ● Disagree ● Agree

How challenging was the availability of data for the creation of the roadmap in the country?

Ireland, Italy, Spain, UK, Croatia, Netherlands, Germany, France, Poland, Finland



● Highly challenging ● Challenging ● Neutral ● Very straightforward/easy



The embodied carbon database is scarce. GBCs focus on building EPD databases to fill in the gap.

Carbon projections rely on top-down models, using carbon budgets and the data of National Energy and Climate Plans and Long Term Renovation Strategies.

POLAND

No data on embodied carbon. Operational data from EPCs (calculated), however it is partial and not publicly available. Publicly available sources were used and consultant's own WLC calculations on exemplary buildings.

SPAIN

No publicly available reference database integrating all product and building related information. The private ones have partial and divergent data. Operational data is primarily residential.

ITALY

No database available.

IRELAND

No database available.

CROATIA

No database available.

NETHERLANDS

Data from the work of the Economic Institute of Buildings (EIB), and from MPG of certified BREEAM projects.

FRANCE

EPDs are available but there was no data on WLC emissions of the built environment construction sector.

FINLAND

Data available from already gathered construction industry data about the emissions

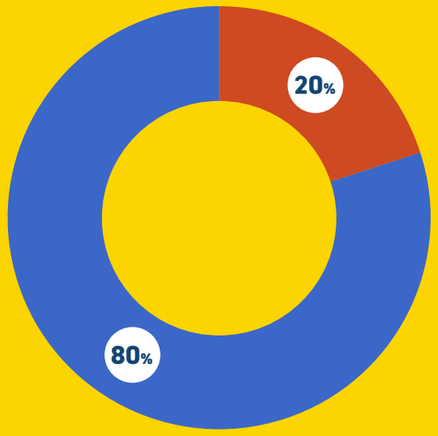
RESPONSE TO THE ROADMAPS

In most countries GBCs experience industry support among involved value chains and wider membership. The process of wide stakeholder involvement and the launch of the roadmaps resulted in positive and supportive chains. Advocacy efforts and awareness are needed to maintain and progress WLC thinking in the industry, and to raise interest and engagement in policy.

National roadmaps are accepted as reference frameworks. Members and stakeholders engage in adopting Paris Proof targets and have a better understanding of the role of the building sector in reaching the Paris agreement.

What was the general feedback from your members when the roadmap was launched?

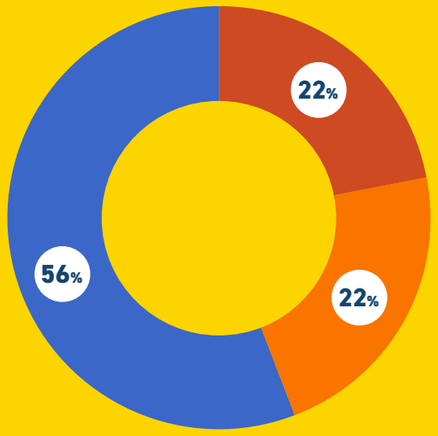
Croatia, France, Ireland, Finland, Italy, Poland, Spain, Netherlands, Germany, UK



- Very Positive
- Positive
- Neither positive or negative

What was the general feedback from wider stakeholders when the roadmap was launched? (9 responses)

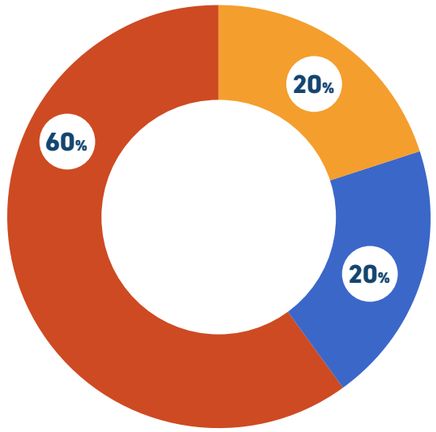
Ireland, Finland, France, Germany, Italy, Poland, Spain, Netherlands, UK



Coverage of the roadmaps from established sectoral media partners was strong. There was less interest in wider mainstream media, however the carbon modelling data, where this was published as part of the roadmap, are mentioned in articles on a regular basis.

What was press coverage like when the roadmap was launched?

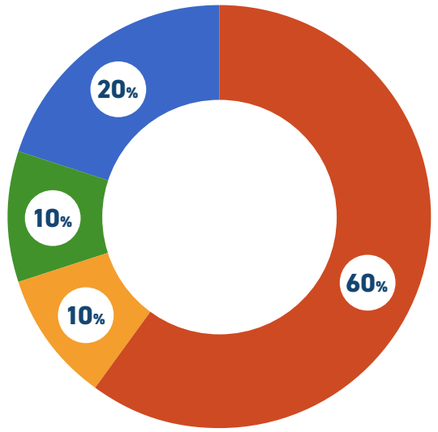
Ireland, Finland, Italy, Netherlands, Germany, UK, Croatia, France, Poland, Spain



- Very good (eg positive in top tier national media)
- Good (eg positive coverage in trade media)
- Average (eg coverage only in low level trade media)

Was the coverage described above in line with your expectations based on coverage achieved with past GBC deliverables?

Ireland, Finland, Italy, France, Poland, UK, Croatia, France, Spain, Netherlands



- Coverage exceeded expectations
- In line with expectations and exceeded past coverage
- In line with expectations and comparable with past coverage
- In line with expectations, but lower than past coverage

OVERVIEW OF QUANTITATIVE ANALYSIS TECHNIQUES USED

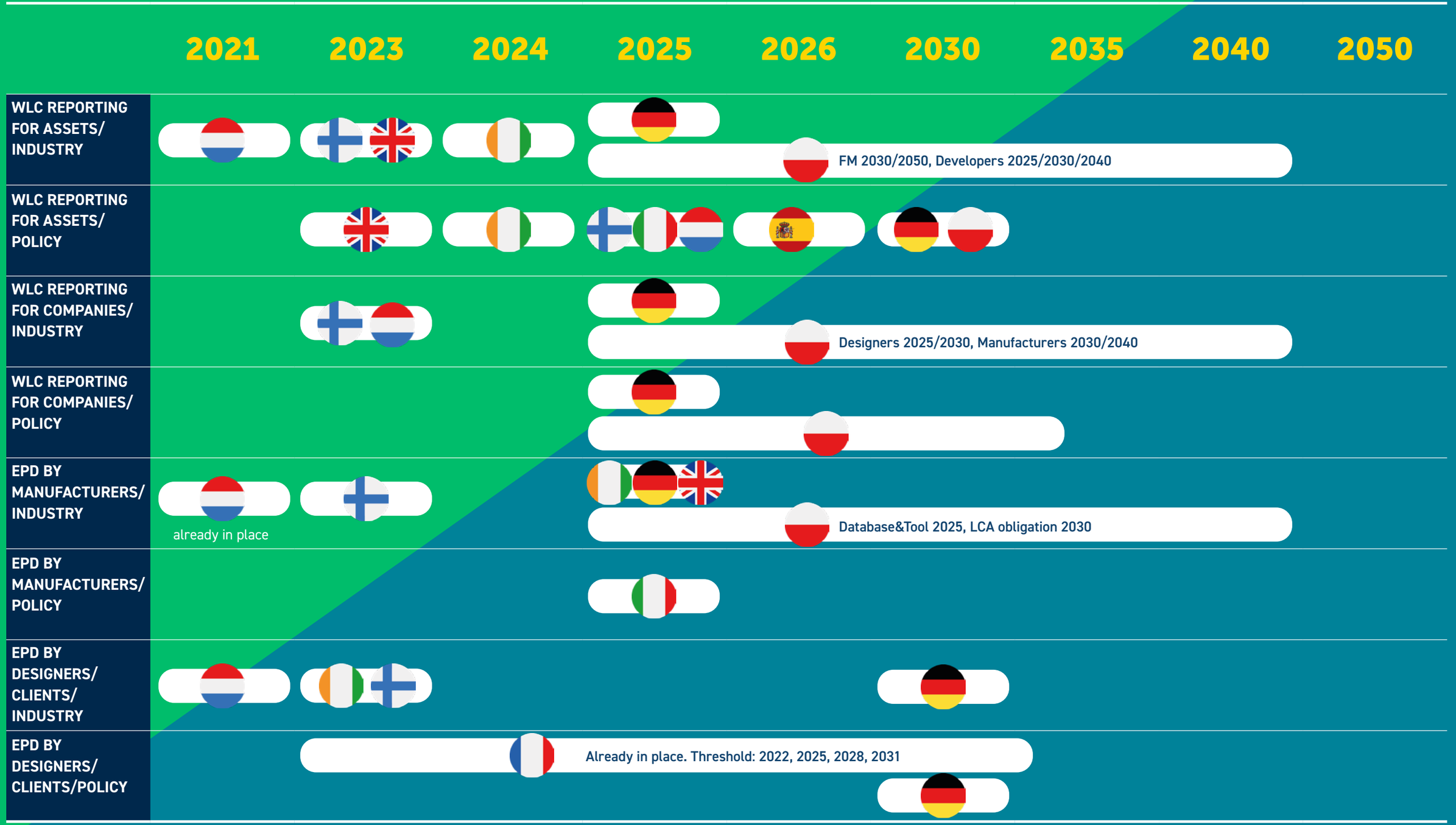
	IRELAND	SPAIN	NETHERLANDS	UK	Finland
QUANTITATIVE APPROACH ADOPTED	Research estimates of current WLC emissions and projections to 2030. Scenario developed to achieve 51% reduction in carbon emissions by 2030 (national commitment).	Three scenarios developed: 1. Trend (forecasts contained in National legislation, regulations and strategies); 2. Sector (trend scenario refined by forecasts currently announced by the building sector); 3. #BuildingLife (maximum carbon budget for the residential sector 2021–2050, extracted from IEA sustainable development scenario by 2070)	MPG* calculations of 47 projects from BREEAM in the development of our carbon budget scenarios – combined with scenarios of biobased content, re-used content and decarbonisation pathways of the traditional material sector. *MPG: Milieuprestatie Gebouwen, Environmental Performance of Buildings	Carbon budgets were aligned with Government six-yearly budgets according to the Climate Change Act. Existing data to create the pathway up until the current point in time, trajectory going forward was based on what's needed according to the budgets, combined with estimated impacts of key initiatives.	Target setting based on current emissions.
DATA SOURCES USED	Publicly available databases and key reports published by the EPA, SEAI, CSO. Key academic literature, listed in the BL document's bibliography.	Long term renovation strategy; Population and Housing Census; IEA and IPCC reports; Net-zero buildings. Where do we stand?	BREEAM project MPG data (national) and EIB data (national).	Operational Energy from public Government statistical reporting and Embodied Carbon calculated through MIMO modelling.	National Construction industry association evaluation regarding built environment annual carbon emissions and future scenarios.
POTENTIAL OVERSHOOT INCLUDED	**NO**	**YES**	**NO**	**NO**	**NO**
QUANTITATIVE CARBON TARGETS OR LIMIT VALUES	**SECTOR LEVEL** **OC = Operational carbon** **EC = Embodied carbon** **WLC = Whole life carbon** At sector level, the target is based on national 2030 and 2050 targets. Asset level quantitative carbon targets were not included (lack of information). UpFrontCO2 and Indicate projects help address the latter.	**SECTOR LEVEL** **OC = Operational carbon** **EC = Embodied carbon** **WLC = Whole life carbon** Calculations are made separately and the addition of both throws the whole life carbon target. Some reference figures are taken at asset level for the calculation of the scenario based on carbon budget (what figures should be considered as average to make the numbers fit).	**ASSET LEVEL** **OC = Operational carbon** **EC = Embodied carbon** Different approaches for OC and EC. OC follows the green energy supply in the future, cascading back for today (available in WEii.nl). EC uses a carbon budget derived from the IPCC report for NL, calculated per m2 for new built and renovation for the upcoming 10 years.	**SECTOR LEVEL** **OC = Operational carbon** **EC = Embodied carbon** Industry level operational energy and embodied carbon targets are given for domestic, non-domestic, and infrastructure. The Roadmap and Net Zero Framework from UKGBC have since led to the Net Zero Carbon Building Standard project, which is setting targets per asset type.	**SECTOR LEVEL** **OC = Operational carbon** **EC = Embodied carbon** Separate reduction targets for the whole industry for embodied emission, construction and transportation, and operational emission. Carbon removals set to be 20%, reported separately from reductions. Details about the type of removals were not defined.

OVERVIEW OF QUALITATIVE ANALYSIS TECHNIQUES USED

	ITALY	FRANCE	CROATIA	POLAND	NETHERLANDS
SOURCES USED FOR BASELINE OR CURRENT STATUS OF THE MARKET	Market consultation, academia involvement, analysis of regulatory framework.	French regulations thresholds are defined for 2025, 2028 and 2031.	Data from 'The long-term strategy of renovation of the national building stock until 2050'.	Existing sources and studies were used to determine the current status of the market. Lack of building database, LCAs are not performed as standard (most often privately done in green certifications).	By BREEAM projects.
BACKCASTING	**YES**	**YES**	**NO**	**YES**	**YES**
RECOMMENDATIONS AND TIMELINES DEFINITION	Three strategic areas were identified and their final objectives to be achieved by 2050 were fixed. 53 progressive goals were placed on a timeline with milestones in 2025, 2030, 2040. Preparatory actions (such as the definition and development of plans, guidelines, tools and methods, but also of training and awareness-raising activities) were identified and attributed to the first stages of the timeline, passing then to specific measures for the implementation and running-in phases.	French regulations threshold are defined for 2025, 2028 and 2031 according to the proposal by the HQE Alliance of a set of indicators (Energy & Carbon – E+C-) in 2012. E+C- experimentation launched in 2016, and national consultation initiated by the public authorities with stakeholders in the sector.	Sector-based recommendations were given (i.e. special recommendations for local and national government, investors, financial institutions, manufacturers, developers, asset managers, NGOs, etc.) No time-restricted timelines were provided as the #BuildingLife ideas and concepts have just been introduced with this project and more initiative and effort will be required going forward to bring these topics to light.	Market analysis and the assessment by a working group was the core methodology. The analysis included: current status of the market, EU and national legislation, previous decarbonisation initiatives and actions taken by construction sector stakeholders and their level of ambition, changing technologies and new trends in design and construction, the status of advanced countries. As a result, potential scenarios for different stakeholder groups were set. The availability of reliable data for the calculation will present an impact on the final result.	In collaboration with our Ambassadors, and a series of workshops (online) with experts.
FURTHER VALIDATION OF RECOMMENDATIONS AND TIMELINES	**NO**	**YES**	**YES**	**NO**	**YES** Ambassador meeting checks

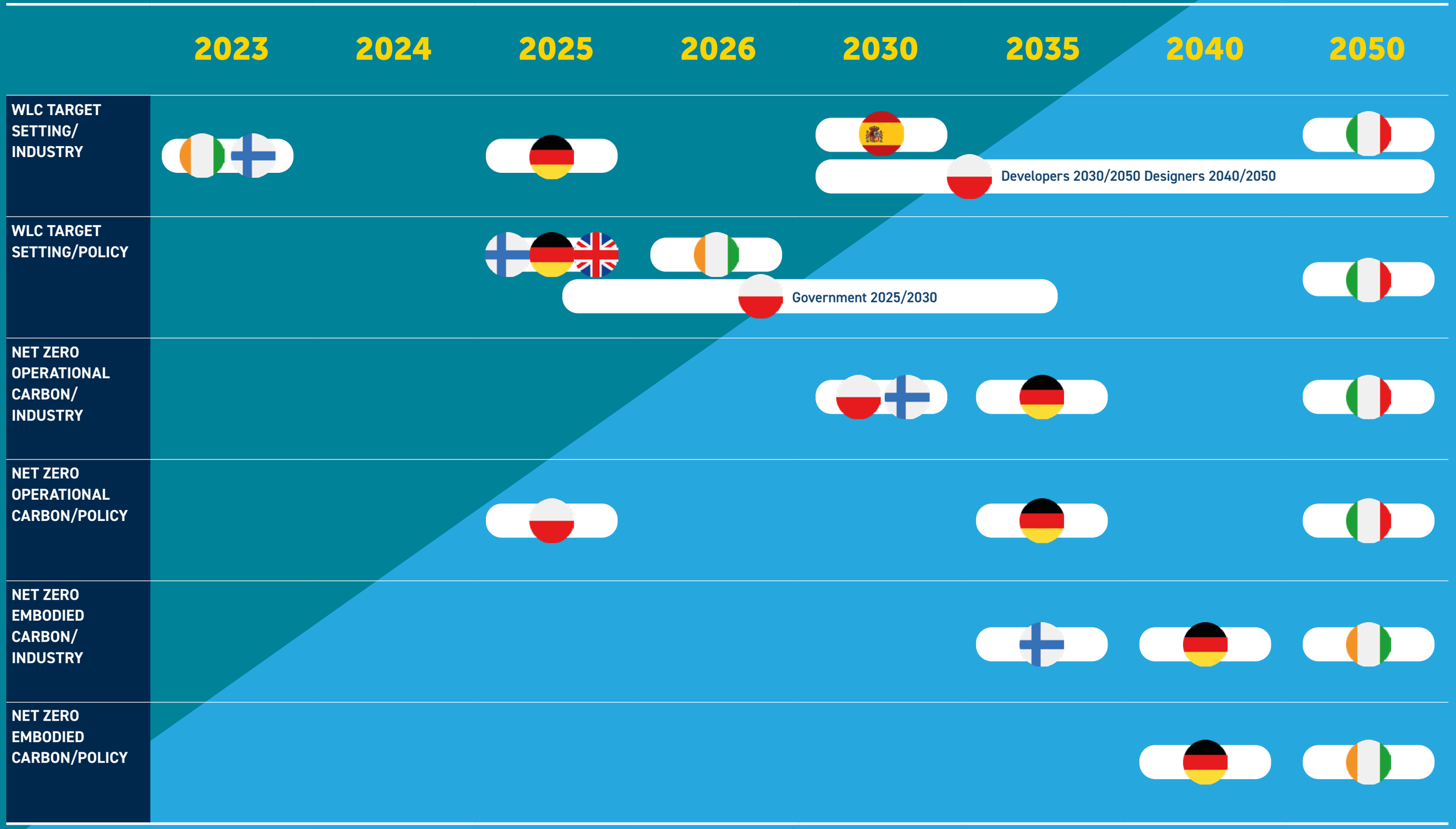
REPORTING TARGET TIMELINES

Chart indicates when each national roadmap stipulates a reporting requirement to be implemented



TARGET SETTING TIMELINES FOR ASSETS

Chart indicates when each national roadmap stipulates carbon targets should be set by industry leaders or in policy for whole life carbon (WLC), embodied carbon (EC) and operational carbon (OC)



RECOMMENDATIONS: POLICY

Setting priorities

Decreasing demolition (FI)

Advocate for renovation and adaptive reuse (IE)

Prioritising the use and renovation of existing building stock (ES)

Develop and implement policies to support a better use of our existing stock (2023) (IE)

There can be no further delay in embarking on a national programme of home retrofitting (UK)

Implementing a National Retrofit Strategy (UK)

Rationalisation of new construction (ES)

Decarbonisation of construction products (ES)

Green Public Procurement (FI)

Improvements of public procurement policies and public construction programs (HR)

BUILDING STOCK RENOVATION AND MATERIAL USE REDUCTION SHOULD BE MORE EMPHASISED IN NATIONAL PRIORITY SETTING.

National policy, regulations, target setting

Review our building regulations/ planning system to support the transition (2024) (IE)

WLC legislation for new construction 2025 (FI)

WLC limit values for new buildings and renovation (DE)

Adopt Paris Proof energy targets for the built Environment (NL)

Moving towards the incorporation of the level(s) framework into regulations and harmonisation at the European level (FR)

Introduce regulation mandating whole life carbon measurements first (2023) and them limits (2026) (IE)

Set the targets for energy consumptions and emissions, fossil fuels phase out and renewable sources (by 2030/2040) (IT)

Introduction of MEPS (DE)

A range of policy levers and interventions will be required, prioritising building fabric upgrades to ensure effective deployment of domestic heat pumps (UK)

Performance Based Ratings for operational energy (UK)

2030 – Introduce an obligation to design and construct all new buildings to achieve a whole life net zero carbon footprint by 2050 at the latest (PL)

Start to request/ develop building renovation passports (2023) (IE)

Mandatory energy disclosure and performance-based rating systems are required (UK)

Legislation to measure and limit embodied carbon must be introduced at the earliest opportunity (UK)

Materials passport boost (ES)

2025 – Introduce a requirement for all new and retrofitted buildings to achieve net zero operational carbon footprint (PL)

Whole Life Carbon reporting and limits (UK)

Enhance the control/ quality of MPGs (Environmental Performance of Buildings (NL)

LEGISLATION AND TARGET SETTING FOR OC, EC AND WLC NEEDS TO BE ACCELERATED.

Most important recommendations for policy makers

Most important recommendations for industry regarding new construction

Most important recommendations for industry regarding renovations

Other

RECOMMENDATIONS: POLICY

Data, calculations, methodology

2025 – Establish and maintain a database with all the data necessary to calculate the carbon footprint of a building (PL)

Getting the NMD (National Environmental Database) more professional with better quality data (NL)

Mandating complete reports for WLC and defining the methodology for calculating, reporting and scoring under the module EN 1597816 (HR)

Introduce WLC (A–C including B6 and D separate) and upfront embodied as two separate indicators instead of the single MPG (Environmental Performance of Buildings score (NL)

Establishing technical working groups for the alignment of national and local plans to the decarbonisation strategies and for the development of feasible tools and methods (by 2025) (IT)

Financing, incentives

Local governments and municipalities – incentivising renovation campaigns, creation of committees for raising awareness and advising real-estate owners on the importance and benefits of renovation (HR)

2030 – as part of the application for mortgages for new and existing buildings: Introduce an obligation to provide a digital building logbook to monitor the building for new buildings and the operational carbon footprint form existing buildings (PL)

Finance (serial) Renovations (DE)

Financial institutions – creation and promotion of financial instruments for low-carbon projects (HR)

Create incentives to support deep renocation, energy sources shift, digitisation, decarbonisation of the construction and manufacturing processes (by 2025) (IT)

Upskilling, training, awareness

Upskill in addressing WLC (2023) (IE)

Initiation of programs for upskilling relevant stakeholders in the construction sector value chain (HR)

Upskill to deliver high quality, low carbon deep renovations (2023) (IE)

Upskilling and building capacity in industry is key (IE)

Publish reports on environmental impacts (NL)

CLEAR METHODOLOGY AND DATA ARE CRUCIAL TO ACHIEVE RESULTS

INCENTIVISING RENOVATIONS AND DECARBONISATION OF THE BUILDING STOCK IN PUBLIC AND PRIVATE FINANCING

UPSKILLING CRUCIAL TO ACHIEVE RESULTS

Most important recommendations for policy makers | **Most important recommendations for industry regarding new construction** | **Most important recommendations for industry regarding renovations** | **Other**

RECOMMENDATIONS: INDUSTRY

Setting targets

Developers: 2040 – Use a common business practice of reporting and reducing emissions in line with international standards (e.g. SBTi, CDP, NZC Buildings Commitment) (PL)

Take embodied carbon calculations into your design as soon as possible (NL)

A pivot from theoretical comparisons to real world outcomes (Energy Intensity, i.e., kWh/m2/year) which can be linked to the Net Zero trajectory (UK)

Build within the carbon budget (NL)

All new and renovated buildings are ZEB with 50% reduction of embodied carbon (by 2030) (IT)

Multicriteria approach for new buildings (FR)

All new and renovated buildings are ZEB with net zero embodied carbon (by 2040) (IT)

Design a strategy for decarbonisation of production and product/system (ES)

All existing buildings are in C class by 2040 for non-residential buildings and from 2043 for residential buildings (IT)

All buildings are ZEB with net zero embodied carbon (by 2050) (IT)

All existing buildings are in E class by 2030 for non-residential buildings and from 2033 for residential buildings (IT)

Developers: 2030 – Establish design specifications that take whole life carbon reduction into account (PL)

WLC reporting (FI)

Set performance targets for OC/EC (2024) (IE)

WLC ATTITUDE AND REPORTING SHOULD BE TAKEN NOT ONLY BY INDUSTRY LEADERS.

Renovations

WLC for renovation (FR)

Calculate the embodied carbon impact of renovation measurements and choose the best option (NL)

2030 – Retrofit the existing building stock in accordance with decarbonisation plans contained in digital building logbooks (PL)

Industrial solutions for renovation with low impact (ES)

RENOVATIONS SHOULD BE PRIORITISED OVER NEW BUILDINGS

Operational energy

Reduce demand in existing buildings (DE)

Switch to renewable (DE)

Use the actual energy usage as starting point (WEii) (NL)

ENERGY EFFICIENCY FIRST, ENERGY REDUCTION

Roadmap

Reduction target setting and roadmap (FI)

Climate action roadmaps (building specific) for all buildings (DE)

SETTING REDUCTION TARGETS

Circularity

Solutions to improve circularity (ES)

Circular economy must be included from the beginning of a product and operation conception (FR)

2030 – Implement policies and procedures to reduce waste generation and promote recycling (PL)

Support for industrial decarbonisation of key material supply chains and reduced demand for new construction and materials through increased design efficiency, re-use and circularity (UK)

Designers: 2030 – Conduct analysis and optimisation of the carbon footprint in all phases of the building life cycle during the design process (based on data sources such as EPDs) (PL)

Investment towards new technologies for decarbonising fossil-fuel-intensive processes for manufacturing building materials (HR)

Recovery, recycling or reuse of 80%/100% of demolition and construction waste (by 2030/2050) (IT)

Implementing circular solutions (FI)

ADVANCEMENT IN MATERIAL REDUCTION IS NEEDED

EPD

Greater focus on creating EPDs for construction products (HR)

Generate EPDs for your products (ES)

Greater focus on creating EPDs for construction products (HR)

ADVANCEMENT IN EPD DISCLOSURES IS NEEDED

Material use

Usage of nature-based materials in construction (HR)

Use re-used materials as often as possible, then biobased and only then virgin if necessary (NL)

Design and provide low impact materials (bio-based, decabonistion of existing ones...) (ES)

ADVANCEMENT IN LOW-CARBON MATERIALS IS NEEDED

Most important recommendations for policy makers

Most important recommendations for industry regarding new construction

Most important recommendations for industry regarding renovations

Other

IMPACT AND NEXT STEPS

As a result of the process there is an **increased awareness and understanding of whole life carbon** amongst industry stakeholders in all countries, which can be leveraged in the second phase of the #BuildingLife project. Having a structured outreach, simplifying and growing support within and beyond the GBC community will help in preparing the ground for an uptake of future legislation.

Interest among policymakers has started, however it has to be further worked upon in order to implement WLC into legislation and incentive systems. Stronger advocacy is needed to get the same priority with current resilience issues (fires, earthquakes, etc) and can be dealt with in a shorter time scale (beyond election cycle).

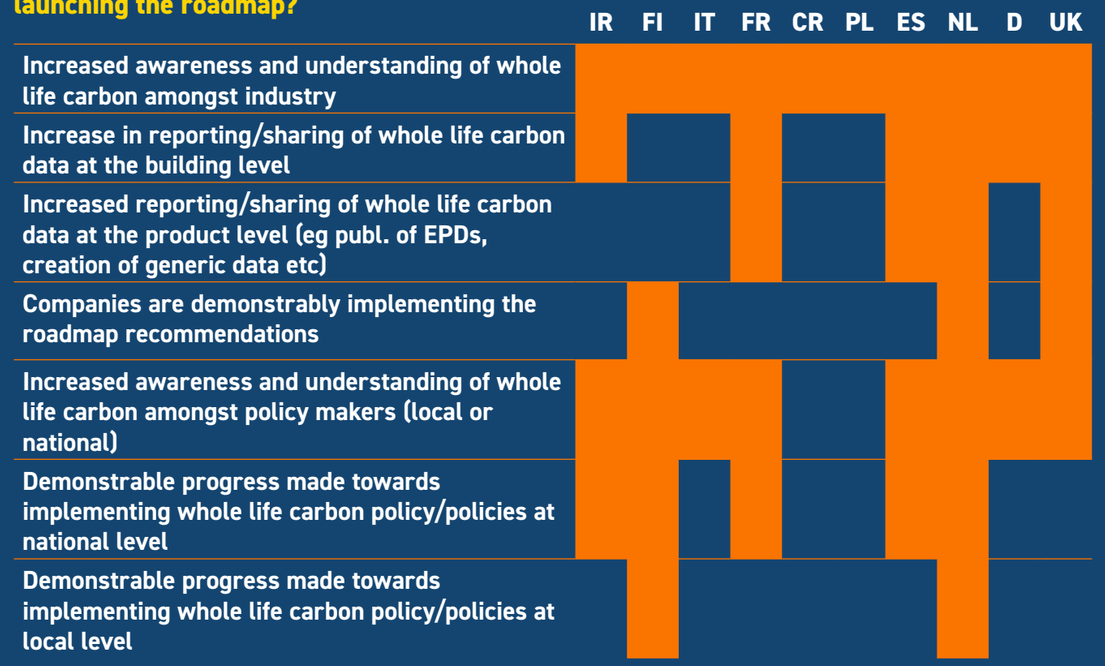
Training programmes (increasing the skills in supply chain, renovation and circularity), WLC communities, WLC ambassadors and WLC projects (providing data and knowledge) are key elements to assure sustainability and growing engagement over time.

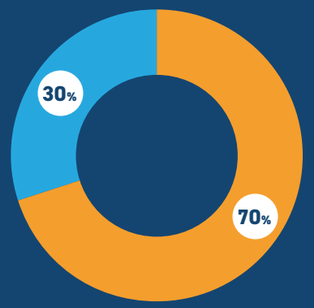
National roadmaps can be refined **if data is available** on the product, asset and sector levels.

Incentives and financial resources should be aligned with the volume, weight and significance of the built environment.

All GBCs are planning to develop an **implementation tracker** for the industry, and most for the policy as well.

Which of the following impacts do you perceive have been achieved since launching the roadmap?





In your next steps, are you planning to develop an implementation tracker (eg report or webpage)?

Ireland, Finland, Italy, Croatia, Spain, Netherlands, UK, France, Poland, Germany

● Yes, for industry ● Yes, for industry and policy

What do you think are the main challenges you will face in the next steps to implement the roadmap?