

From Ideas to Action: Supporting municipalities, schools and national governments in the transition to climate neutrality

Final report of the Bridging European and Local Climate Action project



On behalf of:



Federal Ministry
for the Environment, Nature Conservation
and Nuclear Safety



European
Climate Initiative
EUKI

of the Federal Republic of Germany



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Date: August 2021

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The project Bridging European and Local Climate Action was financed by the European Climate Initiative (EUKI). EUKI is a project financing instrument by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU). It is the overarching goal of the EUKI to foster climate cooperation within the European Union in order to mitigate greenhouse gas emissions. It does so through strengthening cross-border dialogue and cooperation as well as exchange of knowledge and experience.

The information and views set out in this report are those of the authors and do not necessarily reflect the official opinion of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety.

On behalf of:



of the Federal Republic of Germany



CONTENTS

1.	What is BEACON?	4
1.1	BEACON – building bridges for climate action	4
1.2	Challenges of local climate action	7
2.	What did we achieve? Five steps from identifying needs to implementing climate action	10
2.1	Identified needs and created support structures	10
2.2	Established cross-border networks and collaboration	12
2.3	Built capacities and raised awareness	14
2.4	Developed long-term strategies, supported ambitious policies and vertical collaboration	18
2.5	Created ideas and implemented projects	21
3.	What can we do next? Success factors and action areas	25
3.1	Success factors	25
3.2	Action areas and outlook	28

WHAT IS THE BEACON PROJECT?

BEACON – building bridges for climate action

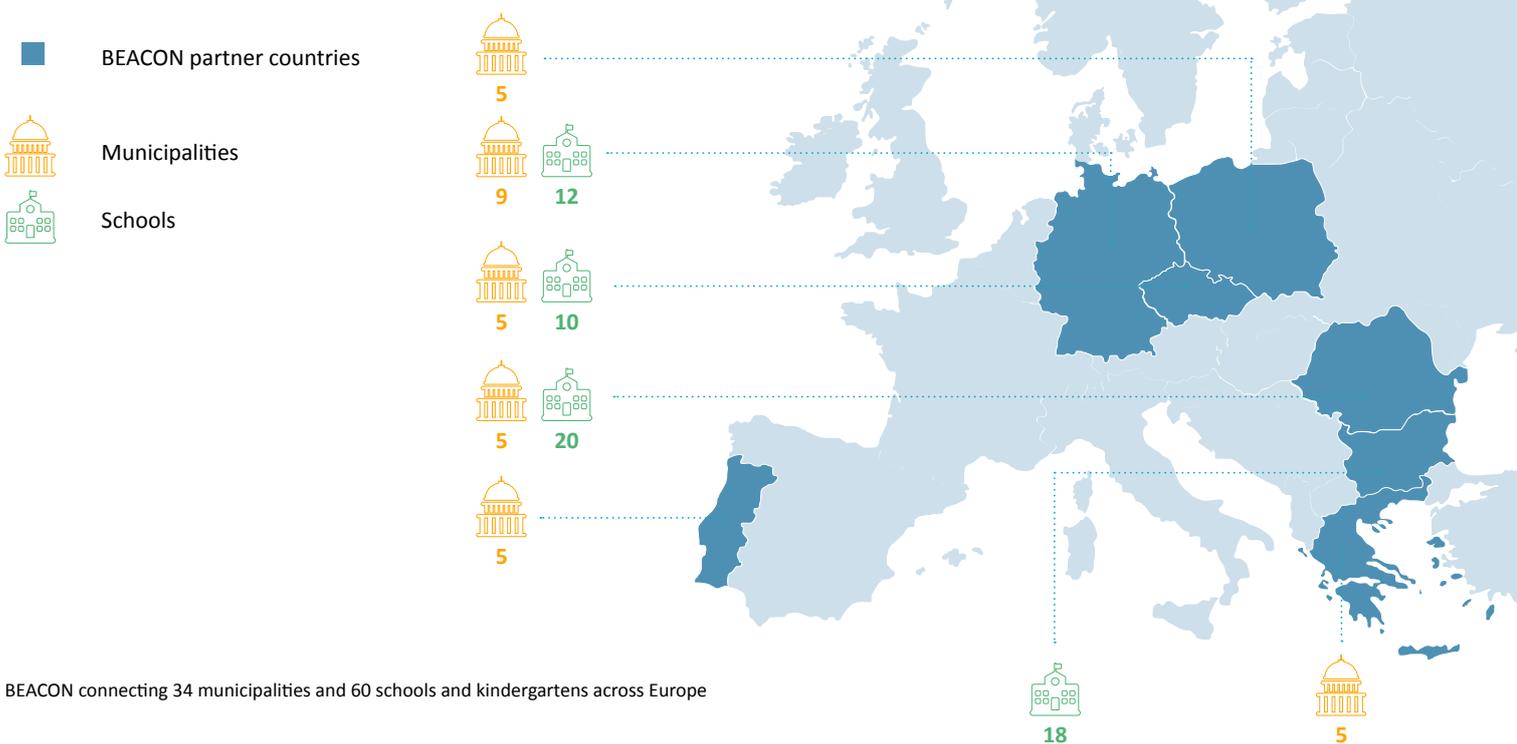
Setting the scene

Transformative action is required to mitigate climate change and meet the objectives of the Paris Agreement and the targets set by the EU’s climate and energy framework for 2030. The EU Green Deal is Europe’s strategy for a carbon-neutral transformation supported by substantial funding to support and accelerate this process, including from the Next Generation EU fund, the historical stimulus package for the recovery after the COVID-19 pandemic. Now, climate action needs to be enhanced across all levels of governance to meet these mid- and long-term targets:

- **National governments:** To a large extent, delivering on international and EU-wide commitments depends on the development and provision of effective policies and reliable framework conditions set up by national governments.
- **Local governments:** Municipalities can act as a major driving force in implementing climate change mitigation measures. Urban climate leadership can lead to profound decarbonisation and social transformation processes.
- **Schools:** Besides raising awareness among citizens, educating future generations on causes and impacts of climate change and empowering them to take actions against it is imperative. Schools can lead by example by reducing their own carbon footprint, showcasing solutions, and supporting the development of zero carbon visions.

Examples of successful local climate change mitigation measures can be found all across Europe. Municipalities, local communities, and younger generations are shaping the path towards net-zero emissions. In addition to critical and urgent environmental concerns, actors in all parts of the world have recognised the added benefits of climate action such as increasing well-being and health, promoting innovation, and stimulating the local economy.

Vertical collaboration among and between different levels of government under a multilevel governance framework is a fundamental element to scale up and accelerate local climate actions. A joint understanding of the challenges of local climate action and the role local and regional actors play in reaching national and EU climate goals is required to create the necessary conditions at national level for local climate action.



BEACON connecting 34 municipalities and 60 schools and kindergartens across Europe

About the project

Between 2018 and 2021 the project Bridging European and Local Climate Action (BEACON) supported the implementation of local climate action by connecting local stakeholders horizontally within countries and across borders, and vertically from the local to national and EU levels. Funded by the German Environment Ministry's European Climate Initiative (EUKI), BEACON's support focused on local actors in Poland, Czech Republic, Bulgaria, Romania, Greece and Portugal, while also connecting them with counterparts in Germany for the exchange of good practices. Through joint learning, networking, and needs-based advisory services, policymakers, municipal actors, and educators gained technical and process-related skills that helped them develop, refine, and implement measures to reduce greenhouse gas emissions. BEACON built bridges for climate action within countries and across borders, within peer groups and between different actors.

Successful practices in local climate action were identified and shared across a network of 34 small and medium-sized local authorities from the Czech Republic, Romania, Greece, Poland, Portugal, and Germany. To develop awareness and knowledge about climate change and to create incentive models for energy savings, 58 schools and two kindergartens in Bulgaria, the Czech Republic, Romania, and Germany participated in the project. These local stakeholders were connected with regional and national authorities in integrated vertical workshops to stimulate collaboration and joint climate action. BEACON also helped aligning national climate policies with the goals of the Paris Agreement by examining successful national climate policies from across Europe in dedicated in-depth factsheets focusing on the buildings, transport, small industry, and agriculture sectors. Led by Guidehouse, adelphi, and Independent Institute for Environmental Issues (UfU), BEACON was implemented by a project team of altogether 11 partner organisations.

BEACON partner countries

Energie Cités
POLSKA SIEĆ
The Association of Municipalities Polish Network „Energie Cités” (PNEC)

Guidehouse
Guidehouse Energy
Germany GmbH

adelphi
adelphi

UfU
Unabhängiges Institut für Umweltfragen
Institute for Environmental Issues (UfU)

SEVEn
SEVEn, The Energy Efficiency Center

FCiências^{ID}
ASSOCIAÇÃO PARA A INVESTIGAÇÃO E DESENVOLVIMENTO DE CIÊNCIAS
Institute of Social Sciences – University of Lisbon (FCiências.ID)

Network partner:

ENERGYCITIES
Energy Cities

SNRB
SNRB Association

OER
OER
Energy Cities Romania (OER)

NATIONAL TRUST ECOFUND
National Trust Ecofund Bulgaria (NTEF)

KAPE CRES | CENTRE FOR RENEWABLE ENERGY SOURCES AND SAVING
Centre for Renewable Energy Sources and Saving (CRES)

BEACON connecting 11 partner organisations across Europe

The overarching goal of the BEACON project is to contribute on different levels to the successful implementation of the Paris Agreement in Europe. The underlying assumption is that local actors such as municipalities and schools play an important role in achieving

this goal. We furthermore assume that actors move at different pace, that all over Europe good practice examples exist on the local level, and that challenges need to be addressed to realise the full potential of these stakeholders. The following graphic shows the intervention logic of the BEACON project.

ACTIVITIES

Local capacity building for municipalities

- Needs-based coachings & advisory
- Guidance for PR
- Guidelines & publications

Cross-border dialogue & exchange

- 2 European municipalities conferences
- 12 transnational thematic workshops
- 7 municipal climate change partnerships

Education on climate change & exchange

- 80 teacher trainings
- 30 climate action days
- 14 bike cinema screenings;
1 comic book
- 12 school partnerships & 6 study visits

Incentivising energy savings in schools

- Energy tours and support for 57 schools
- 14 workshops on incentive systems

Stimulating vertical collaboration

- 12 vertical workshops and conferences with municipalities, schools, regional and national authorities

Supporting national climate policies

- Analysis of 21 national climate policy instruments from across Europe
- Technical workshops & dissemination

OUTPUT



Know-how & means to step up local climate action, e.g. for:

- Developing targets & commitments
- Identifying & pursuing financing opportunities
- Initiating projects to save GHG emissions

Enabled mutual learning & collaboration:

- Knowledge transfer, inspiration from good practice
- Cross-border collaboration & building of a European network

Raised awareness among pupils & staff

- Raised awareness for climate change
- Transnational exchange, inspiration and mutual learning

Know-how for incentive schemes

- Enhanced knowledge about technical building systems & related energy use
- Knowledge how to implement incentive schemes

Awareness for good practices & challenges

- Among national decision-makers: enhanced understanding of needs for local climate action; knowledge of successful national climate policies across Europe
- Improved understanding of national policies & programmes among local actors

OUTCOME



Bolstered municipal action for mitigating climate change

- Enhanced integration of climate change in municipal planning & management structures
- Strengthened technical competencies
- Improved awareness for benefits of climate action among citizens & stakeholders
- Additional municipalities beyond those directly supported inspired to take action

Education & activities on climate change

- Implemented pedagogical activities
- Transnational collaboration, e.g. joint school action days
- Additional schools beyond those directly supported inspired to take action

Behavioural change for energy savings

- Among pupils and school staff
- Implementation of incentive schemes

Improved framework conditions for local climate action

- National decision-makers consider feedback of local actors, e.g. when updating or initiating support programmes

Enhanced national climate policies

- Effective instruments or elements from other countries are transferred & adopted

IMPACT



Municipalities contribute effectively to the goal of the Paris Agreement of keeping global warming well below 2°C

- Municipalities actively promote climate action among citizens and stakeholders
- Strengthened bi- and multilateral collaboration across borders to address climate change
- Enhanced sense of a European community

Climate change and climate action become a formative element of school education

- Schools contribute effectively to the carbon-neutral transformation by saving energy and leading by example
- Pupils & teachers are empowered for climate-friendly behaviour and act as multipliers

Enhanced alignment of national climate policies with Paris Agreement goals

- Vertical dialogue and collaboration on climate action is strengthened and sustained
- National frameworks empower local climate action

About this report

The BEACON project made a difference in its communities in a myriad of ways – from raising climate ambition to developing strategies and from implementing climate protection projects to enabling visions of a carbon-free world. Over the course of the project, qualitative and quantitative evaluations we carried out, providing a good overview of the challenges, needs, and success factors to local climate action. The data shown in this report is drawn from evaluations with more than 25 municipality and 40 school staff members of the BEACON countries. Since it is not possible to capture the individual stories of all the pupils, teachers, and municipal administrators or technicians we worked with along the way, this report summarises the achievements of the BEACON project along the following five steps:

1. Identify needs and create support structures
2. Establish cross-border networks and collaboration
3. Build capacities and raise awareness
4. Develop long-term strategies, support ambitious policies and vertical collaboration
5. Create ideas and implement projects

To bring meaning to these, specific examples are included or referenced throughout, linking to outputs of the project or successful initiatives.

For even more impact stories from BEACON municipalities and schools, we have developed an accompanying brochure entitled *From Action to Impact: Supporting municipalities, schools and national governments in the transition to climate neutrality*. The brochure outlines stories of how many of BEACON's 60 schools and kindergartens and 34 municipalities have been affected by the project, including numerous photos to bring their experiences to life. References to the brochure are scattered throughout this report. These references can be found in the **yellow call-outs** which each include a link to the report.

See page X of *From Action to Impact*

We would like to encourage you to become active, to get inspired, and to implement climate action projects in your school, your municipality, or your region. If you have questions, please get in touch with the organisations involved. We hope you enjoy this report.

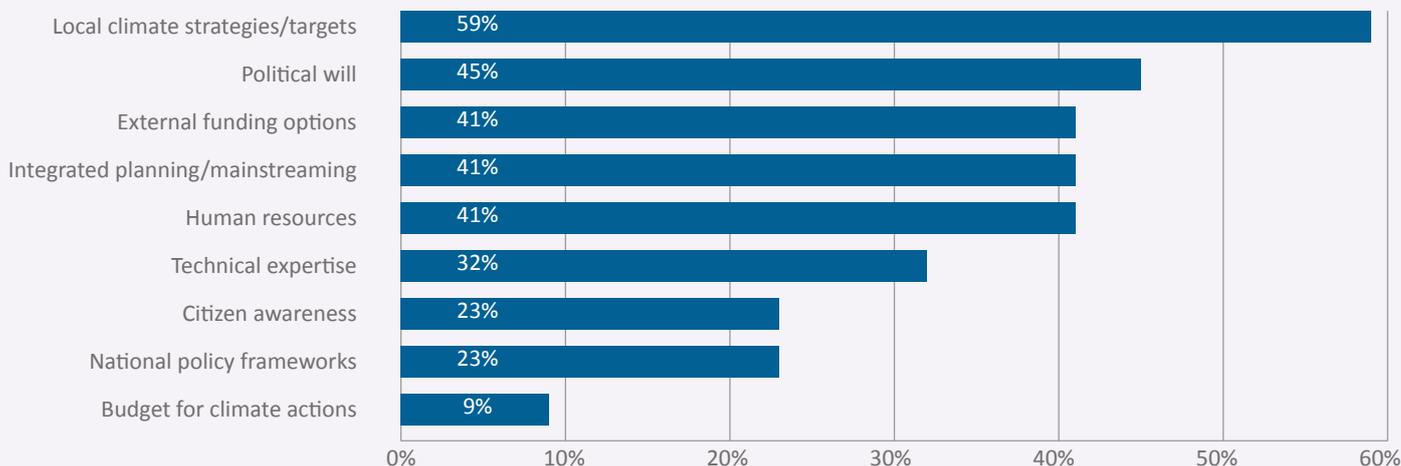


Challenges of local climate action

Municipalities

Municipal staff are confronted with a number of challenges when setting ambitious climate goals and taking action to fulfil their commitments, as confirmed by the municipalities participating in BEACON.

Barriers to local climate action



Barriers to local climate action perceived by BEACON municipalities.

Finance

- The **lack of financial resources** for climate action investments remains a major challenge. Municipalities often struggle with low budgets and other investment priorities prevailing over climate change investments.
- The **lack of knowledge** about appropriate external public and private funding sources omits or slows down climate investments. Accessing external funding is also hampered by shortages in municipal staff. Surveyed representatives from national and regional authorities confirmed that having sufficient human resources (70% rating it important or very important) and budget for climate action (55%) as well as the needed technical expertise (57%) represent key challenges for municipalities in implementing climate action measures.
- Municipalities and national governments agree that **difficulties in accessing funding** slows down the timely achievement of climate targets.

Awareness

- Local narratives for climate action often clash with more reluctant discourses in broader media, undermining local efforts and discouraging municipal representatives. Nearly one in five BEACON participants said they **needed support to raise awareness** for climate action within the municipal administration and local leadership, or they stressed the need to address young people and set up educational programmes in schools.

- National and regional officials also found **citizen awareness and stakeholder engagement** a major challenge for municipalities, with 80% of the surveyed representatives rating them as important or very important.

Governance

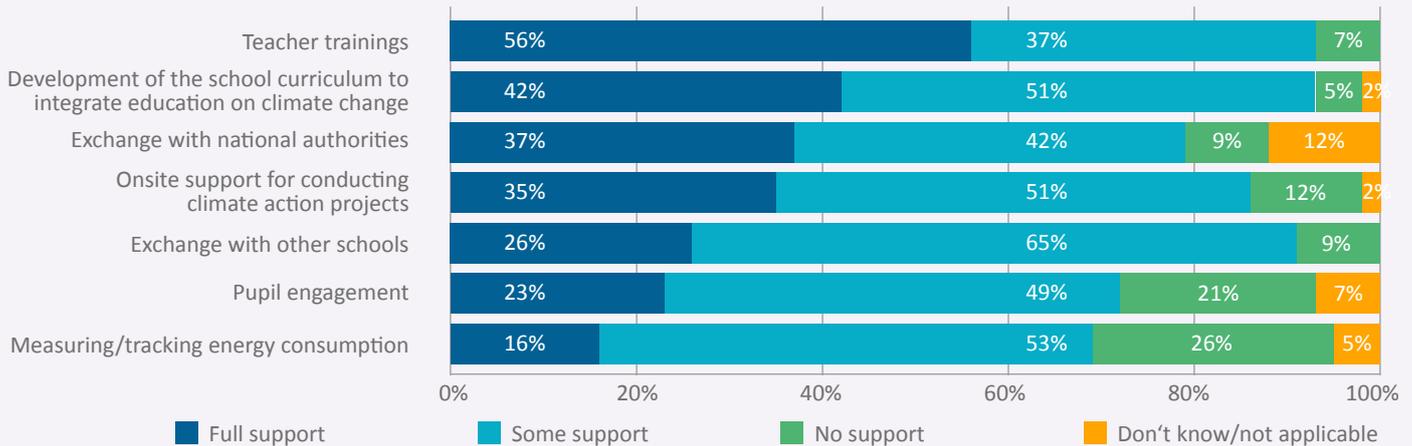
- Of the municipal representatives participating in BEACON, 45% see certain **unfavourable national climate and energy policy frameworks** as the main obstacle for municipalities to implement climate action. Related obstacles include lack of vertical coordination, limited municipal power to influence relevant action areas, national zoning and spatial planning or procurement guidelines.
- A **lack of municipal staff and technical expertise** in the municipal administration to coordinate, plan, and implement climate-related actions was mentioned by 41% of respondents.
- About one-third of municipalities struggle to implement climate action throughout municipal fields of responsibility, mainly due to a **lack of awareness in the relevant departments and cooperation between the responsible administrative units**. Mainstreaming climate action in all municipal planning and strategies thus remains a challenge.
- Many respondents (23%) acknowledged that a **lack of political will** to engage in climate action among key decision makers is hindering local climate action, too.
- One in ten respondents added that their municipal **climate strategies or targets were outdated or incomplete**. However, only one reported having adopted a climate neutrality target but 89% of the municipalities have this under consideration.

Schools

Good education on climate change and mitigation is of key importance for future generations. BEACON’s educational work in schools served to train future generations in the adequate and economical use of resources and to create awareness of climate change and ways to tackle it. Practical learning material, supportive equipment and school buildings which are energy efficient and own energy producers can help to activate students and teachers, as well as municipal

stakeholders. Schools are often not yet equipped to become climate-neutral or to offer roadmaps for climate projects on a regular basis in the near future. As the graphic shows, teacher trainings, integrating topics into the school curriculum, and dialogues with other schools and responsible ministries are rated as the most important fields of action by school staff.

Which areas would you need further support on to sustain the climate action initiated at your school?



Areas requiring further support to sustain climate action at schools.

- Teacher education:** Climate action topics are complex and good preparation is necessary for interdisciplinary teaching. Therefore, teachers need appropriate advanced trainings and corresponding teaching material. Such trainings and tools in most cases do not exist and teachers need to develop own material and ideas.
- Onsite support:** It is important and motivating for pupils to work with external climate and energy experts. These experts can provide support, especially in technical areas (for example energy tours in the school building), have the necessary expertise to explain complex climate issues, and advise schools on the concrete implementation of climate action measures.
- Development of school curricula:** Climate action topics are still far from being a standardised part of the school curricula and cross-sectional aspects of it are not consistently covered. An important task for national ministries will be to integrate these topics into the school curricula and the national curricula framework.
- Relationships between schools and municipalities:** Schools are among the largest public consumers of energy, so municipalities should reduce the energy consumption of these buildings. To become climate-proof for the future, school buildings have to undergo deep renovations. While municipalities have no or little influence in implementing educational and user behaviour projects, the energy cost savings do not remain with the school and provide little incentives. A good communication and coordination between municipality and school is, hence, necessary and incentive systems should be developed.

Vertical dialogue between governance levels

Many of the before-mentioned challenges remain due to a lack of communication between governance levels. The streamlining of climate policies and strategies, best practices or financial support schemes can maximise the potential of climate action. For this reason the BEACON project provided dedicated platforms for **vertical exchange and collaboration on local climate mitigation action, i.e. between the local, regional, and national levels**. Only 17% of the representatives from surveyed national and regional administrations deemed vertical integration dialogues as well-established in their countries, while 72% characterised it as developing. The main reasons for missing vertical integration platforms are lack of budget or time of national authorities (65% of respondents), missing priority of multilevel exchange on the political agenda (47%), and missing fora for such dialogue (27%).

According to **92%** of school staff, stimulating the environmental behaviour of pupils and school staff is the area with the highest potential for schools to advance the energy transition.

HOW CAN IT BE DONE? – FIVE STEPS FROM IDENTIFYING NEEDS TO IMPLEMENTING CLIMATE ACTION

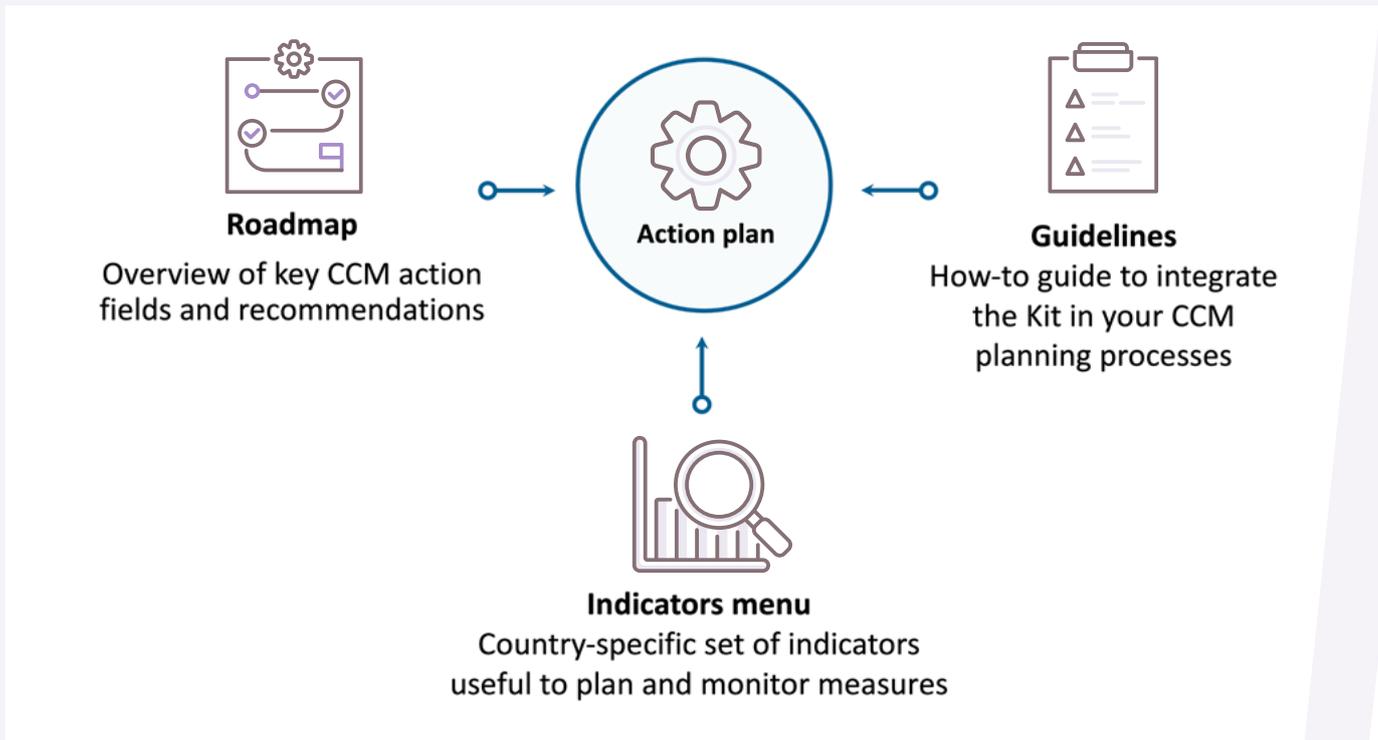
1 Identified needs and created support structures

Municipalities

The BEACON municipalities had already taken first steps to mitigate climate change before the project started. Many had completed a climate or energy strategy but wanted to deepen their knowledge and extend their activities. Using an initial needs assessment, we supported them in systematically taking stock of their current climate action effort across relevant sectors like energy, buildings, and transport. As a result of this effort, administrations had a clear understanding of what climate change mitigation action entails, which endeavours they want to prioritise, who needs to be involved, and what data and indicators are helpful for planning, implementing,

and evaluating the measures. The efforts were summarised inter alia in the BEACON publication - Climate Change Mitigation Kit (CCM Kit). The kit, available in all BEACON languages, helps bridge the gap between theory and practice by helping municipal actors know which actions to explore, how to track and measure them, and how to successfully implement them. We used the kit as a basis for helping the municipal actors structure their post-BEACON activity-planning. If in need of fresh ideas for climate action, or where there is national funding and data sources to realise these actions – then the CCM Kit is the place to look.

Looking for guidelines to plan and monitor your climate change mitigation (CCM) measures? The CCM Kit provides guidance for municipalities in all BEACON languages.



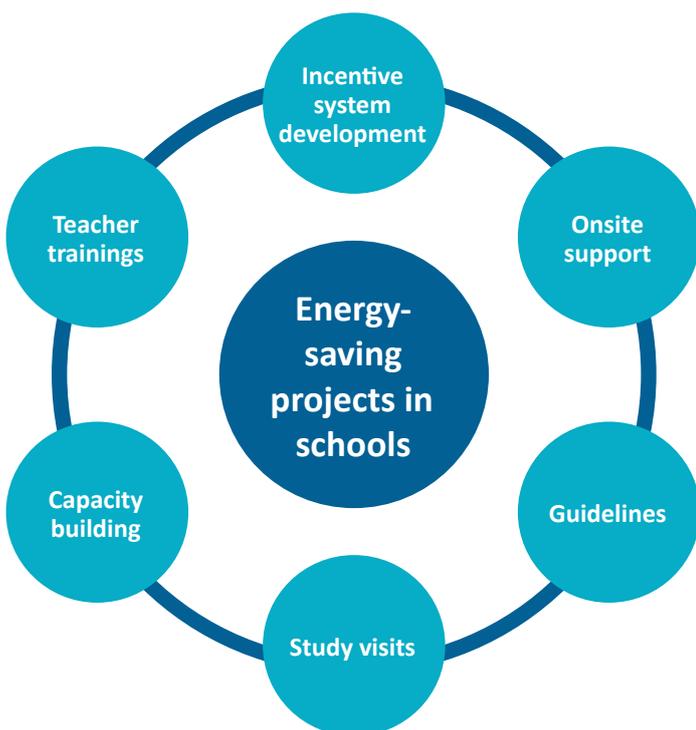
BEACON's climate change mitigation kit

Tailored and needs-based support helped several BEACON municipalities introduce or consolidate work processes and structures that broke down sectoral silos and enabled more ambitious and effective climate action. These processes span from informal and formal meetings that took place on a regular basis after being initiated by BEACON to the initiation of joint working processes and new permanent positions or units being created in the administration to facilitate a synergised implementation of climate strategies. In Greece, every participating municipality reported either restructuring their municipal government to better facilitate tackling cross-sectoral climate change challenges or an increase in interdepartmental liaising for climate change goal setting and climate plan coordination. In all countries, the enhanced communication has fostered a culture of improved knowledge exchange and inclusion in decision-making. As a result, BEACON participants across countries observed more support for climate action from colleagues in their administration since the project start.

Schools

We supported participating schools in introducing and implementing pedagogical energy-saving models. In addition, further matters of sustainability and climate action were introduced in teacher trainings and climate action days, such as effects of climate change, water protection, biodiversity, or healthy nutrition.

Through energy-conscious behaviour, energy consumption and CO₂ emissions can be reduced without any (or low) financial investments. To take stock of the situation, we conducted **energy tours** in 57 of the participating schools. During these onsite visits, data on relevant factors such as the energy consumption and technical building systems was recorded, which allowed schools to develop a list of measures and guidelines that were used by the teachers in their pedagogical work.



Overview of BEACON activities which supported schools

Examples

- In Sztum (Poland) a **new unit**, the Integrated Development Department, was established to lead local climate and energy policy and introduce appropriate organisational changes throughout the entire administration. A new position for climate projects and policy will also be filled soon.
- In Setúbal (Portugal) an interdepartmental **climate action team** was established to deal with all matters regarding the planning and implementation of climate action measures, creating both awareness and ownership throughout the municipal administration.
- In Agios Dimitrios (Greece) internal municipal structures were optimised and strengthened to enhance **cross-departmental collaboration** on climate action.

Lesson Learned

Enabling cross-departmental collaboration and breaking down administrative sectoral silos can create synergies and efficiencies through the pursuit of common climate action goals.

BEACON filled the gap of schools typically lacking staff and know-how to implement energy-saving projects. While some schools had already included aspects of resource efficiency and environmental education in their lessons, climate change and ways to mitigate it were missing from the **curriculum**.

The project team supported schools and the corresponding municipalities in developing tailored **incentive models** that were key to initiate self-sustaining energy-saving projects and motivate schools to participate. BEACON also enabled teacher trainings, study visits to Germany, and exchanges with partner schools to stimulate insights and ideas on how to implement environmental and energy-saving projects in schools.

2 Established cross-border networks and collaboration

Municipalities

BEACON offered various opportunities for dialogue and networking across countries – at conferences, thematic workshops, and municipal partnership meetings, municipalities shared tips, experiences, and know-how on specific climate action fields.

In 12 thematic workshops, municipal staff connected with peers and experts, facilitating small communities of practice on a range of specific topics. These topics included:

- municipal energy management
- energy communities
- municipal climate governance
- data management for and evaluation of climate change mitigation
- nature-based solutions
- smart city
- waste management
- sustainable tourism
- transition pathways

Based on knowledge gained in the workshops, several municipalities revised their priorities, adjusted the weighting of individual measures, and added new topics to their agenda. Peer learning with other municipalities accelerated the measure planning in their administrations.

Example:

Inspired by the energy management software presented by Rožnov pod Radhoštěm (Czech Republic) at a BEACON workshop, Cieszyn (Poland) decided to look for a similar solution to systematically monitor energy consumption in public buildings. The city decided to start with a tailored, non-commercial solution that will provide the data required to update its Low-Emission Economy Plan (LEEP), which was initiated in 2021.

Within BEACON we established seven climate municipal partnerships for long-lasting cross-border cooperation. The exchanges offered insights into climate action practice at eye level. Tried and tested approaches were transferred between municipalities with similar profiles.

Example:

The partner municipalities [Schwäbisch Hall \(Germany\)](#) and [Zamość \(Poland\)](#) revived their partnership by bringing together their public utility companies to discuss common renewable energy project ideas. Mutual visits by experts with onsite inspections were part of the exchange and helped to showcase projects worthy of replication.

Through cooperation in climate action, partner municipalities also expanded their knowledge. If expertise in a certain subject area was lacking in one city, colleagues from the partner city might have been able to provide support.

Example:

An expert from [Bottrop \(Germany\)](#) provided input and advice to colleagues from the municipality of Agios Dimitrios (Greece), which is switching its streetlighting to LED, reducing greenhouse gas emissions and public spending.

Municipalities were also encouraged to join external cross-border projects, which provide additional networking opportunities.

Example:

Cieszyn (Poland) joined the Erasmus+ project [EYES](#), which aims to foster youth participation in local energy and climate planning. Coruche (Portugal) joined the [Green City Accord](#) launched by the European Commission.

See page 13 of [From Action to Impact](#)

See page 17 of [From Action to Impact](#)

Schools

The BEACON schools had several opportunities to network and learn from each other through teacher study visits to Germany, reciprocal partner school visits of 24 schools, and a transnational climate change workshop.

Study Visits

In two series of study visits, school representatives from Bulgaria, the Czech Republic, and Romania visited schools and educational institutions that carry out energy-saving projects as well as energy-saving laboratories and other environmental educational institutions in Germany. The visits connected actors with one another to discover commonalities in their climate action work.

Due to the COVID-19-pandemic, the second series of study visits took place virtually and provided multipliers with informative and illustrative best practice examples for local climate action. The [two short videos](#) *Wind, Venture, Involvement and Networked-Active-Sustainable* were developed for this exchange.

School partnerships

In 12 school partnerships German schools and selected schools in the partner countries exchanged on leading practices in the area of Education for Sustainable Development (ESD), concrete activities and actions for climate action, and mutual learning on equal terms. The partner schools implemented joint activities, such as a joint climate action day or workshops. They also sent ambassadors to their respective partner school to participate in joint activities in person.

Beyond the school partnerships, more than half of the school representatives surveyed indicated their school joined a climate action network or environmental network during the BEACON project or that they are planning to do so.

Workshop on climate change

Representatives from schools and educational institutions, research and training institutions, and local administrations in the Czech Republic, Romania, Bulgaria, and Germany came together to gain a deeper understanding of Education for Sustainable Development (ESD) and the link to climate action in a virtual BEACON workshop.

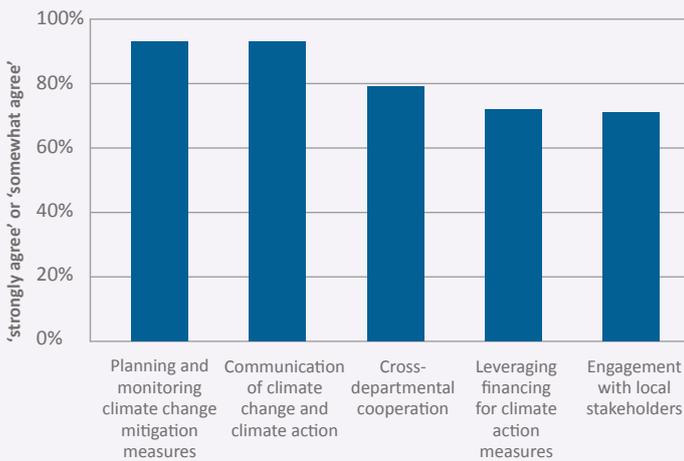
Participants discussed the implementation of ESD regarding climate action, barriers to implementing ESD in their country, and ways to overcome these barriers. The discussions were inspired by leading practice examples from across Europe. In separate country sessions, the discussions focused on specific topics like climate neutrality and the obstacles to introducing it in schools (Bulgaria), the necessity of digitalisation to gain attention from the younger generation (Romania), and reasoning and ways to teach about climate change (Czech Republic).

3 Built capacities and raised awareness

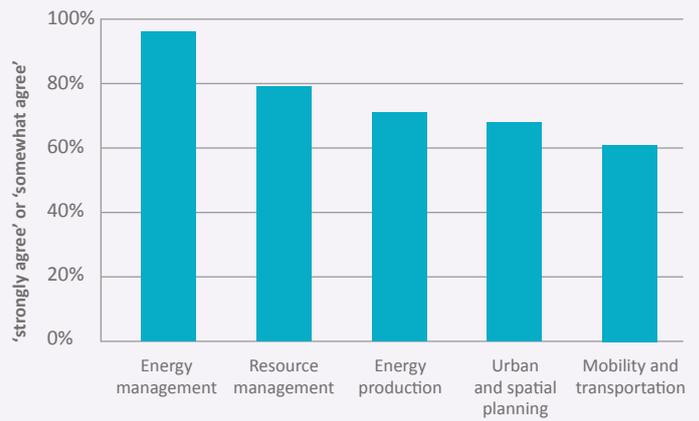
Municipalities

BEACON provided extensive support to municipalities to improve their in-house technical and strategic skills required to accelerate the implementation of climate change mitigation measures. Capacity building ranged from internal climate governance to communication of climate action and collaboration with external stakeholders.

Representatives from BEACON municipalities have acquired knowledge that will be useful to continue climate action with regard to:



Representatives from BEACON municipalities have acquired knowledge that will be useful to continue climate action on the topics of:



Capacity building for municipalities in BEACON

Example:

Climate and Energy Managers make a huge difference! Polish municipalities learned about the role, necessary skills, and expected tasks of a climate and energy manager in a coaching session featuring Polish pioneer city Bydgoszcz. Technical staff gained a tangible understanding of energy management best practices and funding opportunities available for such a position.

BEACON also helped municipalities to address the lack of public awareness about climate change, an aspect they repeatedly named a key obstacle.

- We offered trainings on climate communication in various settings – be it a conference session on communicating the effects of climate change at the local level, a national training session on communicating pro-climate actions of the local government towards citizens in Poland, or a workshop on climate communication addressing municipal representatives and journalists in Portugal.

- The Romanian cities of Deva, Făgăraș, and Râmnicu Vâlcea implemented the [Traffic Snake Game](#) campaign in selected elementary schools. Originally a European campaign, these action days help raise the awareness of children and their parents for walking and cycling to school with the aim to reduce traffic, environmental, and health issues.
- In [Přeštice \(Czech Republic\)](#), we supported a communication strategy, which led to the creation of a communication officer position with a mandate that includes climate change communication. The municipality also created an app that broadcasts important municipal information, including on sustainability and climate-related topics, to about half of the municipal population.
- [Písek \(Czech Republic\) and Pirna \(Germany\)](#) joined forces to boost sustainable mobility, so they developed a [guidebook with best practice examples](#)¹. The guidebook is targeted towards teachers, municipal representatives, and parents, showcasing how cycling, walking, and public transportation contribute to a safer environment in the vicinity of schools and help reduce air pollution.

See page 49 of *From Action to Impact*

See page 11 of *From Action to Impact*

1 Guidebook available for download in Czech, German, Greek, and Polish.

BEACON supported municipal staff in expanding and solidifying their cooperation with relevant external stakeholders:

- On the Greek island of **Syros**, we helped pave the way for a local climate forum, bringing together key local stakeholders such as hotel owners and representatives from the island hospital who are both large energy consumers and renewable energy producers. Municipal staff learned how to strategically map actors, define responsibilities, and draw links to ongoing projects, consequently developing a consolidated pathway for climate protection.
- In **Setúbal**, a major harbour city in Portugal, we re-established an exchange on climate action with industry leaders for the first time in years. The group provided input to the development of the Sustainable Energy and Climate Action Plan (SECAP). The final plan will be presented to private sector stakeholders in the near future to mobilise funding. In **Coruche**, we initiated a collaborative process between local authorities and the charcoal industry, which led to a joint strategy to reduce emissions in the sector.

Over 270
municipal staff
participated in the
project activities
or received tailor-
made support from
BEACON experts.

What will your city look like in 30 years from now? BEACON helps you to create visions of a net zero emission future.

We don't know how cities and communities will look like in the future. But we know that digitalisation, innovation, and decarbonisation will transform the way we work, live, consume, or travel. A successful transition path puts citizens first and develops a vision of the future with them. We developed concepts and tools for "vision workshops" to create and idea and spread awareness about climate neutrality. Click the link to find a dedicated [toolbox](#) with everything required to implement vision workshops in your municipality or schools (available in Bulgarian, Greek, Polish, and Romanian).

In an inclusive and interactive format, these vision workshops bring together representatives from different groups (the general public, local administrations, and schools) in their local context to make the concept of climate neutrality accessible and to develop a vision for a climate-neutral future. Vision workshops help foster awareness of how national and EU climate policy goals can be broken down to the local level and citizens' immediate environment.

Schools

The BEACON team provided schools with comprehensive support in developing pedagogical concepts to foster the implementation of climate change education in their school curriculum. From each school interested teachers and the groundskeepers (technical staff) received training on technical and organisational matters of efficient heating, ventilation, and use of lighting and electricity.

The training included a theory section on the anthropogenic greenhouse effect, the resulting climate change, and the most important measures for climate action. We also included hands-on approaches or topics – in particular on the ways how energy saving, protecting biodiversity, recycling and CO₂-savings can be taken up or conveyed in an interesting way in class.

The effects of capacity building and project-related teaching in the classes became noticeable with time. A vast majority of the teachers observed behavioural changes in favour of saving energy, including proper ventilation and room heating.

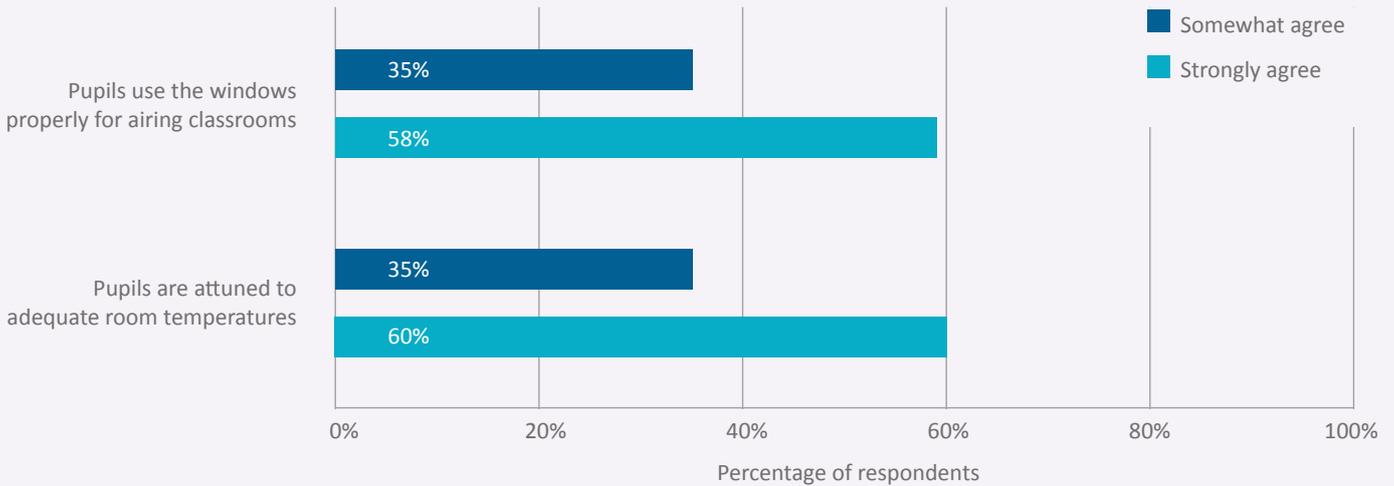
90% of school
representatives reported
that their school
established a working
group on climate action
or energy saving.

See page 26 of *From Action to Impact*

See page 31 of *From Action to Impact*

See page 29 of *From Action to Impact*

Evidence of behavioural change



Behavioural change stimulated among pupils

88% of school representatives have observed increased interest in or engagement with climate action among their pupils as a result of BEACON.

Pupils everywhere make themselves heard on climate action
Pupils from participating BEACON schools in Romania, Bulgaria, and Germany solidarized with the Fridays for Future movement. They participated in the Global Climate Strike on 15 March 2019. Just like youth all over the world they are concerned about climate change, pollution, and the loss of biodiversity.



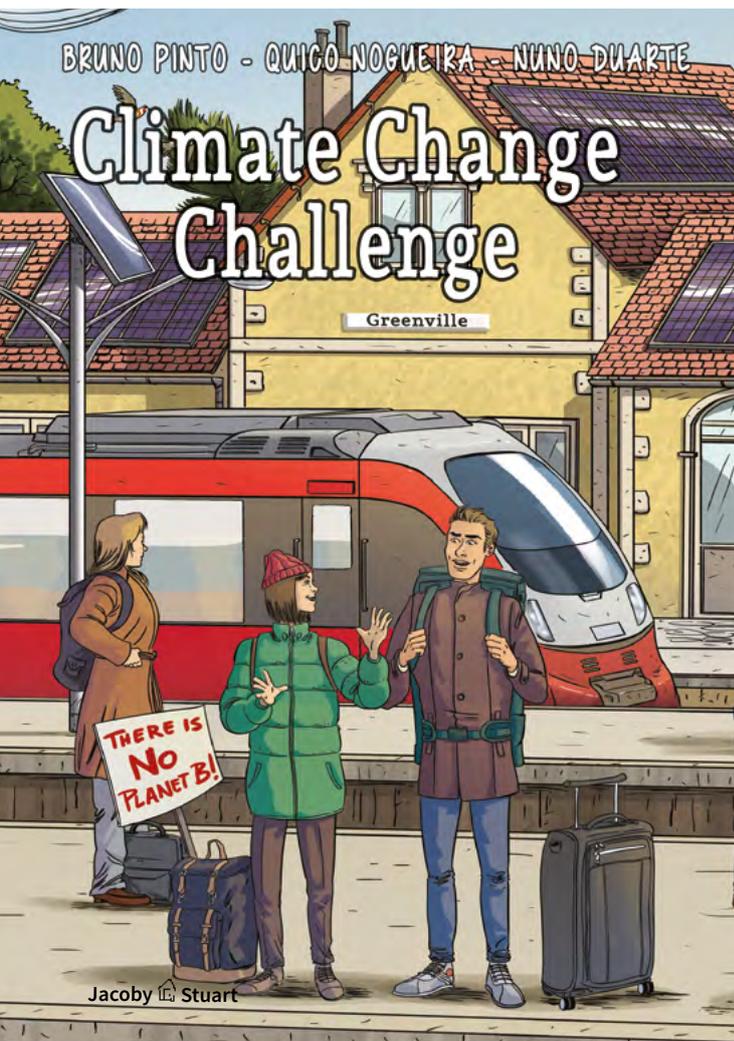
Pupils in Germany, Romania, and Bulgaria demand more climate protection, © photo: BEACON

Examples of teacher trainings

- **Bulgaria:** Trainings in Sofia and Veliko Tarnovo covered pedagogical and technical content of climate protection and climate change education, which otherwise are not part of regular teacher education and thus successfully sparked participants' interest and motivation to implement climate protection activities.
- **Czech Republic:** Even the smallest school can successfully engage in energy saving projects. In the village of Kněžice (u Městce Králové) the teacher training was conducted in the local elementary school which hosts only three teachers and 17 pupils! The headmaster, the responsible teacher and the caretaker developed an action plan based on the learnings of the teacher training, which also includes the local biomass plant, which produces energy from surrounding agricultural biomass.

Over
6,320+
pupils participated
in BEACON
activities.

- **Romania:** Due to the COVID-19 pandemic, the third round of trainings took place in a hybrid format and thus tried different approaches. A network of teachers and other pedagogical multipliers gathered for an exchange of experiences and discussed the question "What new input can educational staff get to implement an energy-saving project?" Also the importance of extracurricular learning centers has been emphasized.
- **Now it is your turn!** You want to find out how you can implement energy saving projects in schools? We have translated the updated [LENA handbook](#) on energy saving projects in schools into [Czech](#), [Romanian](#) and [Bulgarian](#). It's no coincident, that the handbooks were strongly demanded and immediately used in teacher trainings and regular school classes. Intuitively structured, one surely can find fast and easy suggestions for schools and their administrators to implement energy-saving projects in schools.



Comic book cover, © Verlagshaus Jacoby & Stuart, Berlin

Climate Change Challenge, a comic book developed by BEACON

You are tired of long texts and want to approach climate change education in a more creative way? Maybe we can help you out: our comic book takes children and adults alike on a journey across Europe to learn about climate change and climate action.

You can follow Sofia and her younger brother Gabriel on this trip to gather information and ideas for a game Sofia is developing about climate change. They come across different countries and people and learn about the devastating effects of climate change and how communities are developing innovative ways to fight against it. Their first-hand experiences reinforce their understanding that climate change is complex and real, but that individuals, communities, and cities can make a big difference.

Currently, the following versions are available:

- German: #KlimawandelChallenge. [Jacoby & Stuart](#)
 Romanian: Problema schimbărilor climatice. [Curtea Veche](#)
 Greek: The Challenge of Climate Change. [Mikros Iros](#)

The German and English versions are available on the [EUKI website](#) as free PDF.

4 Developed long-term strategies, supported ambitious policies and vertical collaboration

Municipalities

Experience in the BEACON project have demonstrated that municipalities benefit from support in developing and defining climate plans and goals. Goal definition and plan creation is important on multiple levels. Firstly, in order to find out what can be done, it is necessary to find out what is currently being implemented. BEACON helped garner not only an overview of what was being done, but who was involved, thereby allowing for (re)new(ed) opportunity for interdepartmental collaboration. Bringing different departments helped goals be oriented in a synergistic sectoral-overarching manner. Secondly, goal definition and plan creation help create direction. The planning process undertaken in the context of the project helped identify what the main priorities were. Once the priorities were clear, the accompanying actions were easier to identify and plan for. Thirdly it provides the basis for further political commitment and other integrated processes that can simultaneously support and create internal momentum for further climate action. One such example is participation in the Covenant of Mayors (CoM).

At the start of the project, 15 of the 25 participating municipalities in Poland, Czech Republic, Romania, Portugal, and Greece were signatories to the CoM. Eight of them have renewed or are working on renewing their commitment to the CoM for 2030, and/or have advanced the development of their SECAP. **Kalamata (Greece)** has joined the CoM during BEACON and is working on delivering its SECAP commitments. Joining the CoM was an important landmark for BEACON municipalities because this commitment requires adoption by the local council and cannot easily be dismissed.

Beyond the decision to commit to a 2030 target, we supported the municipalities in the realisation of the commitment itself. This includes preparing emissions baselines, defining targets, prioritising measures, and submitting reports to comply with the CoM requirements. Taking these steps imply a lengthy process, which tends to lose steam after the initial pledge due to the limited staff resources. It is noteworthy that of the 177 Romanian signatories to the CoM, only 68 have submitted action plans. Of these 68, only 10 have submitted all three plans within the scope of the Covenant (the initial 2020 action plan, the 2030 plan, and the adaptation plan), with three of these 10 being BEACON municipalities.

In Greece, we focussed on strategically linking prevalent initiatives and projects with the SECAP under development. This created a solid basis for carrying out the municipalities' commitments. Beyond plans linked to the CoM, in certain instances, such as **Bielawa (Poland)**, we facilitated the update of other types of long-term, integrated climate strategies, in this case the Low-Emission Economy Plan. Other municipalities received support on developing a Sustainable Urban Mobility Plan.

In addition to results in overarching strategy and political framing, several municipalities developed or revised planning documents for specific sectors – for example a land use plan in Přeštice (Czech Republic) and a circular economy action plan in Loulé (Portugal). Alba Iulia, Zalău, and Deva (Romania) developed an integrated strategy for urban development focusing on climate change. The strategy looks at consequences and mitigation and adaptation potential. Inspired by its Czech partner municipality Písek, Pirna (Germany) developed a smart city strategy with its own funds that emphasises climate, energy, and mobility. The strategy is feeding into its targets of ramping up climate action and reducing motorised traffic.

Schools

Developing financial incentive systems to establish long-term energy-saving projects

In all BEACON countries we developed concepts for incentive systems for energy savings in schools to motivate schools to continuously carry out energy-saving projects. These differ across countries because the approach, local context, and involved actors differed from country to country. However, all systems are similar in the fact that they are adapted to local contexts, have been developed by the key people on the ground, and are based on the BEACON project work in the schools. The incentive systems can be transferred to other municipalities in the country or have even been set up at national level such as in Bulgaria so that they can be introduced nationwide. In the Czech Republic and Romania, the national level has also expressed interest in expanding the incentive system.

Are you interested in establishing an energy saving incentive system in your school? Reach out to the BEACON partners NTEF (Bulgaria), SNRB (Romania), or SEVEN (Czech Republic). They have prepared reports that outline the objectives, methodology, and design of the incentive system.

See page 34 of *From Action to Impact*

See page 25 of *From Action to Impact*

Incorporating climate action in curricula

An important factor for the long-lasting implementation of energy-saving and climate action projects is that they are embedded in the right framework conditions. BEACON assessed how climate action is reflected in the national curricula framework and the schools' individual curricula. These conditions were then addressed in different ways:

- In Romania, a curricula task force consisting of a dedicated group of Romanian teachers was established to embed climate action in the national framework curriculum.
- In the Czech Republic, the need for a national task force was mutually agreed and the relevant contents have been identified.

The aim of the task force is to better integrate climate protection and education for sustainable development into national and school curricula. In addition to the Ministry of the Environment, the Ministry of Education and the National Pedagogical Institute are supposed to participate in the task force.

- In Bulgaria, a draft document was developed describing the concept of a National Initiative for energy saving projects in schools to be adopted by the Government of Bulgaria (Ministries of Education and Environment) and supported through financial instruments. It describes the roles of key stakeholders in how to structurally integrate climate action and energy efficiency into the curricula.

Better schools – better climate, a refurbishment guide for Romanian schools²

You want to renovate your school building? We show you what steps to take to “get the basics right” or to achieve a “high performance” building in our refurbishment guide. During the BEACON school visits in Romania, it became evident that many school buildings have poor energy performance and lack the basic technical system components to adequately manage and reduce energy consumption and related greenhouse

gas emissions. To support local authorities' technical and administrative staff in taking the right measures to improve the energy efficiency of schools, we compiled concrete guidance in a [refurbishment guide](#). The guide addresses the key aspects for a successful implementation of energy-saving measures and efficient operations and maintenance afterwards, including estimates of the savings in energy, costs, and greenhouse gas emissions expected from typical measures as well as references to available funding sources.

Sector	Country	Policy
 Transport	 France	Bonus-Malus Scheme
	 Norway	Incentives for E-mobility
	 Sweden	Company car taxation
	 Switzerland	Modal shift
 Buildings	 Denmark	Energy Performance Certificate Database
	 France	Energy transition tax benefit
	 Sweden	Innovation cluster
	 Czech Republic	New Green in Savings Programme
	 Latvia	Latvian Baltic Energy Efficiency Facility (LABEEF)
	 Slovakia	Slovak Sustainable Energy Financing Facility (SlovSEFF)
 Small industry	 Belgium	Tax reduction for energy savings
	 Denmark	Energy Efficiency Obligation
	 Sweden	CO ₂ -Tax
	 United Kingdom	Climate Change Agreements
 Agriculture	 Denmark	Action Plan Aquatic Environment
	 France	Biomethane support
	 United Kingdom	GHG Action Plan
	 Luxembourg	Agrocovenant

Overview of factsheets compiled on national climate policy instruments

2 The refurbishment guide is available in English and Romanian.

Supported ambitious national policies

We supported the governments and administrations to enhance their climate policies through best practice examples. Effective climate policy instruments implemented by governments across Europe have been compiled in 21 in-depth factsheets and a synthesis report. [Eighteen factsheets](#) address instruments in sectors outside of the EU Emissions Trading Scheme where action by national governments is particularly important, such as in transport, buildings, agriculture, waste, and small industry. For each policy we presented success factors and transferability. Further three factsheets examined the Energy Transition Act of France, the Climate Act of Sweden, and the Climate Change Act of the United Kingdom.

Findings from the comprehensive analyses were shared and discussed with national officials through a series of workshops on learnings and potential transferability of the instruments. The learnings fed into the political processes of the German government and informed policy makers on international best practice measures for climate action.

Enhanced vertical collaboration

BEACON developed targeted action to promote collaboration between national governments and local and regional authorities (vertical collaboration). The project team brought together local representatives with officials from national ministries, agencies, and regional administrations to develop common approaches and joint solutions on climate action.

- In Bulgaria, results of BEACON and [TICA](#) (Towards introduction of Climate Action in the Educational Curriculum of Bulgarian Schools) led to the development of a concept for a national programme for teacher trainings and energy efficiency projects, proposed to be incorporated in the 2022 state budget, and submission of a wider concept to the working group developing the Bulgarian National Recovery Plan and the Bulgarian Operational Programmes channelling EU funding.
- In Portugal, representatives from different governance levels and relevant funding agencies jointly discussed ways to improve the funding conditions for local climate action, resulting in the preparation of a policy brief with recommendations to share with policymakers.
- In Poland, the vertical collaboration enabled small and medium-sized municipalities to discuss the national Energy Strategy 2040 with the government and to provide input on the further development of funding programmes such as the 'City with Climate' programme. Joint conclusions covered a broad scope from energy efficiency and renewable energies to improving air quality.

85% of national and regional representatives and experts agree that BEACON helped to promote joint solutions to advance climate action across local and national levels of governance.

The vertical exchange enabled municipalities and school representatives to voice challenges and showcase leading practice solutions for local climate action. Likewise representatives from national and regional institutions presented national initiatives and (financial) support mechanisms. The vertical integration and, hence, harmonisation of climate action measures and initiatives is of fundamental importance, leading to more effective and collective efforts as well as allowing for a top-down and bottom-up exchange of information.

Of the national and regional representatives and experts surveyed, 77% strongly agree that BEACON contributed to expanding their understanding of the challenges and needs of local authorities in the field of climate action. More than half of municipal representatives surveyed observed action by national authorities to improve the conditions for local climate action. The feedback received suggests a lasting impact of the vertical networks enhanced by BEACON – almost all respondents expect to continue the multilevel exchange on climate action.

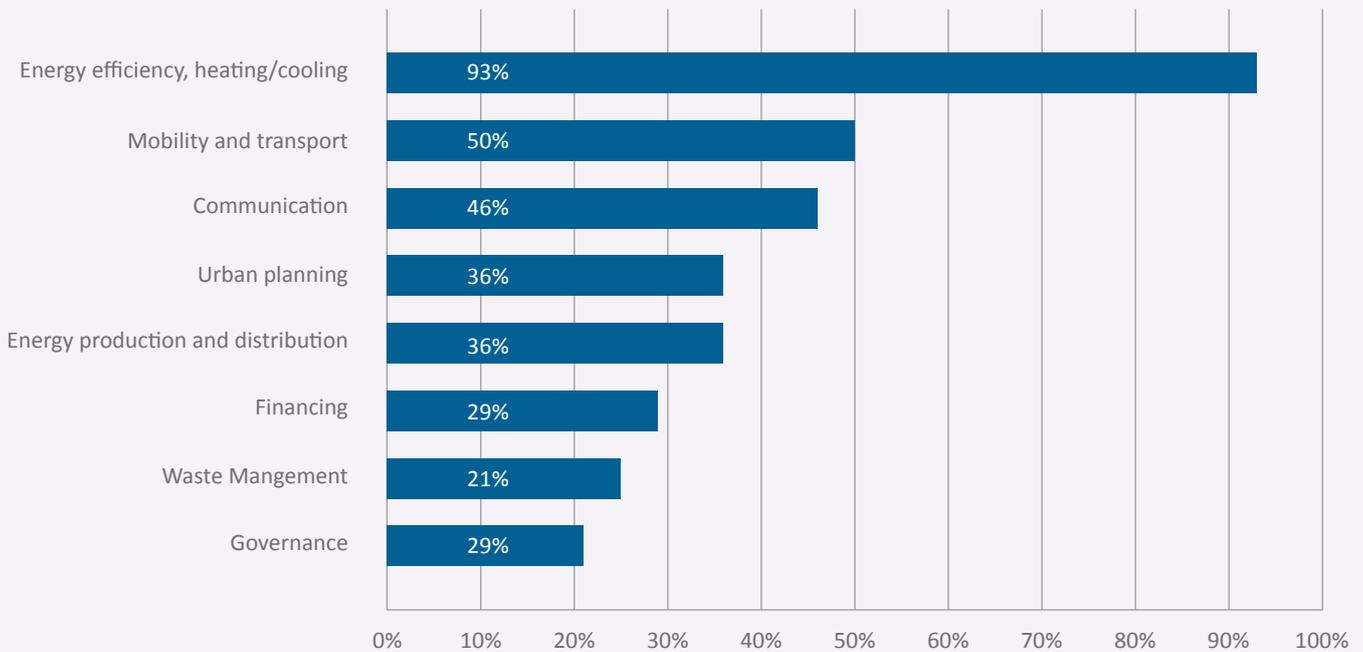
Lesson Learned

Vertical dialogue from local to national level supports better framework conditions for climate action.

5 Created ideas and implemented projects

Municipalities

Over 90% of BEACON participants reported that the project created a general atmosphere that led to the prioritisation and multiplication of climate action measures in their municipality. In many cases, prevalent project ideas were advanced due to strategic or technical support, partially up to implementation. In other cases, new ideas were brought to life.



Areas in which new projects have been realised or advanced as a result of BEACON.

A wide range of topics was addressed, with a notable focus on **energy efficiency improvements**.

- In **Greece**, Agios Dimitrios, Dorida, Farsala, and Syros-Ermoupoli were supported to set up energy management systems following the ISO 50001 standard. The emphasis was on establishing the necessary internal structures within the administration and on initiating systematic data collection. In parallel and as a consequence to these efforts, single energy-related retrofits and renewable energy investments in public buildings (for example the town hall and schools in Farsala, or the hospital in Syros) or in streetlighting and the municipal fleet in Dorida were initiated or completed.
- In **Romania**, most BEACON municipalities started tracking or improved the monitoring of energy usage of public buildings and produced annual energy reports. These reports provide invaluable data for the further measure planning and to apply for relevant grants.

See page 21 of *From Action to Impact*

Many municipalities were adamant in boosting **renewable energy production**.

- Dorida and Farsala achieved important milestones in establishing local energy communities. In Farsala, the municipal board approved the creation of the energy community that is to include the local water treatment company, a day-care centre, and several municipal associations. In Dorida, the energy community is expected to encompass the ports of Agios Nikolaos and Aigio.
- In **Romania**, all the municipalities conducted an initial study of the rooftop photovoltaic (PV) potential for six public buildings. The study evaluated the power that could be produced, the costs saved, and potential emissions reduced. The success of the initial study led them to extend it to eight additional buildings in each municipality (total of 14), and Alba Iulia has used the results as a basis to apply for funding via a EEA Norway grant to undertake the PV installation.

See page 39 of *From Action to Impact*

Linking climate change mitigation and adaptation was an important topic, particularly in the context of the climate municipal partnerships.

- **Coruche (Portugal) and Dorida (Greece)** are over 3,000 km apart, but distance did not diminish their ambitious plans that stemmed from inspiring expert meetings during their partnership activities. Because both struggle with droughts and high energy consumption in buildings, the municipalities will start a new chapter of cooperation on their roofs: Dorida will conduct a study on a combined green roof and PV system with the goal of reducing consumption and producing their own energy. Coruche will conduct a pilot project by greening the roof of the municipal library to see whether this practice could be expanded to other municipal buildings. The municipalities built a network around this idea to continue the exchange of results and further initiatives .
- Inspired by similar efforts in their partner municipality of **Bottrop (Germany), Agios Dimitrios (Greece)** decided to rethink its strategy towards private car use and take action. The municipality is going to redesign two traffic hot spots by adding green spaces and walkways to discourage speeding. With this, the municipality aims to give more space to people, reduce air pollution, and increase liveability.

In **Coruche**, a **deep transformation process of the local industry** was initiated with the support of BEACON: The city started addressing the decarbonisation of its traditional charcoal production by entering into a structured dialogue with producers and civil society. The result of this dialogue was a two-tier approach agreed on by all stakeholders. The majority of producers will form a cooperative and operate with a low-emission facility (zero-coal factory) built on municipal land. The remaining producers will take extensive measures to increase efficiency of their ovens (for example refurbishment) to minimise pollution.

These projects could not be realised without funding, so we continually advised and supported the participating municipalities in every BEACON country on **funding opportunities**. Examples of successful access to financing include the following:

- Jasło and Cieszyn (Poland) received support from the local BEACON partner to apply for the Norway Grants (part of the [EEA development grants](#)). Cieszyn was assisted in its successful application to the fund for energy and climate and receives support to prepare an energy consumption plan. The municipality will receive funding from the Local Development Programme worth €3.5 million. Jasło applied for the fund on

local development, also receiving €3.5 million. In the latter case, BEACON work was instrumental in integrating climate change mitigation in an application with an otherwise broader focus, making use of existing financing opportunities and priorities of the local decision makers to advance climate action.

- Alba Iulia (Romania) used the results of a rooftop PV study to apply for funding through the EEA grants to realise the installation.
- Sztum (Poland) was successful in acquiring funds from the European Cities Facility ([EUFC](#)) – one of two Polish municipalities selected in the first EUFC call. The municipality plans to realise new investments in its water and sewage management system. This includes the installation of renewable energy sources, the reduction of the energy intensity of the water supply and wastewater collection, and the possible introduction of electric vehicles as a form of energy storage.

BEACON participants were also advised to **implement financing mechanisms** that do not (solely) rely on grants.

- **Rožnov pod Radhoštěm (Czech Republic)** decided to set up an Energy Performance Contracting scheme to implement public building retrofitting in 30% of its public buildings. Annual savings are estimated to reach 1 GWh or 1.2 million CZK (€46,000), and investment of around 12 million CZK (€460,000). With our support the tendering process is to start in September 2021, and the contract to be awarded by the end of the year.

To further enhance **strategic financial planning and project development** for municipal climate action, we developed country-specific guidance reports for the Czech Republic, Greece, Romania, Poland, and Portugal. These reports summarise information on all available funding and financing opportunities for local climate action, both on the national and European levels. They are available for download on the EUKI website.

See page 10 of *From Action to Impact*

See page 10 of *From Action to Impact*

See page 29 of *From Action to Impact*

See page 50 of *From Action to Impact*

Schools

Thanks to the incentive systems developed and energy-saving pilot projects implemented during BEACON, schools were able to achieve energy savings up to 9% in electricity and up to 8% in heat consumption through low or no investment energy-saving projects carried out by pupils, teachers, and caretakers. Over 88% of surveyed school representatives found that BEACON contributed to reducing energy, waste, or water consumption in their schools and the project helped to engage with pupils on climate action.

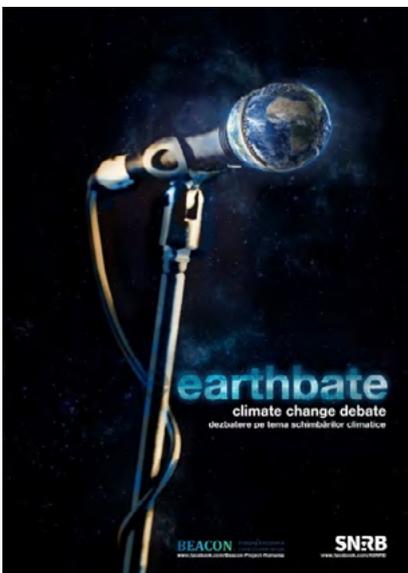
Pupils from Bulgaria are top-grade in energy saving

- BEACON schools in Bulgaria reduced their energy consumption by 7% per year, on average without any financial investments.
- If BEACON activities were implemented in all Bulgarian schools the saving potential is huge:
 - More than 43,000,000 kWh energy savings per year (heat and electricity)
 - More than € 2.7 million energy costs savings per year
 - Over 14,000 tonnes of CO₂ emissions saved per year³
- A national programme is being developed based on the positive experience with the energy-saving models promoted by BEACON.

536 tons
of CO₂-equivalent
were saved in
participating schools
through energy-saving
activities supported
by BEACON.

Over the course of the project, we developed various complementing creative ideas for more targeted external communication and to increase public awareness. These ideas were often the result of insights gained through the direct exchanges with the schools and municipalities, but they also constituted a way to respond to the COVID-19-related restrictions by creating new channels and platforms for exchange. In all cases, the schools benefited from the continuous and open sharing of ideas across borders in the project.

Examples



Earthbate – the climate change debate competition: During the COVID-19 pandemic, the local BEACON school partner in Romania created an interactive virtual format called Earthbate to raise pupils' awareness and motivation to discuss climate change-related topics. Earthbate is based on an existing concept of debate teams in schools and was inspired by the desire to include a local debate

competition in the climate action days of BEACON. The Earthbate competition involved 20 debate teams of three pupils and one teacher each, all from different schools. The debates took place in online live streams with up to 400 attendants and included participant voting to select the winners.

See page 63 of *From Action to Impact*



Bike cinema: In Bulgaria and Romania, children and adults can experience how much energy is needed to show a movie by producing the energy themselves. In bike cinemas the electricity is generated by participants cycling on connected bicycles to power the projection of a movie on a screen. The events raised awareness for a responsible



use of energy and resources and were often integrated in public fairs and festivals. Due to the high interest from schools and municipalities, additional events are already under preparation.

Bike cinema screening in Sofia, Bulgaria, © photo: BEACON

Floor stickers: These floor stickers created by our comic book authors remind pupils and teacher each morning of energy-saving and climate-friendly behaviour.



BEACON floor sticker with energy-saving tips

Involving Bulgarian kindergartens: Due to high interest from kindergarten teachers the municipality of Burgas introduced energy-saving activities in all their schools and kindergartens. We supported them with a teacher training for kindergartens that also involved lecturers from Sofia University. In total, 30 kindergarten teachers participated and received an official certificate and credits. Thanks to the training and measuring equipment received, six kindergartens were enabled to initiate energy-saving projects.

93% of school representatives found BEACON was effective in supporting the implementation of climate action measures and projects in their schools.

WHAT CAN WE DO NEXT?

SUCCESS FACTORS AND ACTION AREAS

Success factors

Overarching

- **Cross-border dialogue:** Connecting local authorities and schools from different countries into one network and facilitating regular exchange stimulated inspiration for robust climate action and created real added value in terms of mutual learning, the ensuing collaboration, and a sense of common identity. The project's success in creating actual beacons was also illustrated by additional schools and municipalities outside of those initially selected joining BEACON activities using their own resources.
- **Tailored support, flexibility, and innovation:** Grounding our support in a comprehensive needs' assessment carried out jointly with the municipalities involved allowed us to provide targeted support and helped maximise effectiveness. Similarly, fine-tuning project activities based on feedback from regular evaluations and adapting planned activities to the remote working and learning situations induced by the COVID-19 pandemic secured BEACON's sustained relevance and added value for all actors involved. The BEACON team continuously developed new ideas and innovations to meet target groups' demands and to increase the project's impact.
- **Vertical collaboration:** During the project, it became clear that many levers for climate action are not entirely in the hands of local actors but also depend on national framework and financial support. BEACON addressed these gaps and involved national, regional, and local decision makers in targeted exchange, and facilitated new relationships and networks. Only through vertical collaboration proven bottom-up initiatives have the potential to be scaled up to a nationwide programme.
- **Leveraging local knowledge:** Local partners led the implementation of BEACON in each partner country. In all project activities, these organisations used their knowledge of local policy frameworks, funding opportunities, and stakeholder networks to engage with target groups effectively and tailor project support to the local contexts.
- **Sustained support:** Building networks and meaningful collaboration within and across borders takes time. The effective project lifespan of nearly 3.5 years allowed us to become a trusted advisor for the diverse target groups, to build capacities, and to foster planning and implementation of concrete climate action projects. This laid the foundation to ensure replication and sustainability of the project impacts.

Guiding principles for effective collaboration in BEACON

Bilateral and multilateral cooperation are at the core of the EU and are paramount to the success of its climate and energy policy. For BEACON to succeed as a large-scale European project involving multiple work streams, target groups, and partner organisations, it was key to ground all project action in a collaborative framework. Five guiding principles were incorporated in all activities:

1. Climate action as a European vision – making the benefits visible
2. European community spirit – building a network
3. Working together at eye level – jointly examining decisions
4. Building bridges – creating synergies between different areas
5. Creating continuity – anchoring and multiplying knowledge

Municipalities

In addition to the overarching success factors, the following were specific to the municipalities during the BEACON project:

- **Political backing:** Municipalities that had their political leadership backing and engaged in the climate change activities were particularly successful in advancing the local agendas. High-level networking opportunities – such as the BEACON conference back-to-back to the International Conference on Climate Action in Heidelberg in 2019 – played an important role in shifting the perspective of elected representatives and placing climate action higher up the local agenda.
- **Clear responsibilities:** Municipalities that had clearly defined in their administration who coordinates climate action and/or specific domains related to climate action were better equipped to progress faster. In several cases, BEACON helped providing that clarity, which laid the ground for long-term impact. Oftentimes, the success of projects relied on the feeling of responsibility and commitment of individual staff members. It is therefore important to provide appropriate incentives and promote individual talents.
- **External expertise:** Support from external experts on strategic priority-setting, financing, and technical implementation was instrumental in reaching tangible impact. External experts helped fill capacities and/or knowledge gaps in the short term and therefore accelerated the pace of measures realisation.

- **Convening power of external facilitators:** Having persons external to the municipal administration initiate, moderate and/or inform the dialogue on climate action, often made it easier for staff members to exchange on priorities and develop a common approach. A new culture of collaborative work could be initiated, and cooperative approaches of municipalities led to better financing conditions. In some cases, this external impetus was paramount in committing to new climate goals.
- **Overarching narrative:** BEACON was particularly effective when municipal staff perceived it as one intervention in a continuum of efforts to tackle climate change spanning beyond the projects' lifespan. Linking strategies among each other, understanding various measures as being part of climate action when they used to be perceived as sectoral endeavours, and embedding projects in an overarching narrative helped create a climate identity, a general atmosphere conducive to the multiplication of climate action measures.

100%
of municipal
representatives intend
to continue climate
action measures
supported by BEACON
after the project ends.

1

Top three learnings for local authorities

Create a dedicated position – if possible, a team – for climate action in the municipal administration.

Skilled and dedicated staff will make a big difference in the pace and quality of transition to a sustainable and climate-friendly municipality. In a first step this may mean to reorganise available capacities. When doing so, you should distribute clear roles and bring staff members from various units together. Cross-departmental cooperation facilitates high consistency of the measures across the administration and helps to mainstream climate policy into various sectoral strategies and projects. Climate-proofing or Paris-alignment will become the standard for basically all investment decisions of a municipality, making additional staff necessary. Depending on your country, funding for staff costs may be leveraged via project-related grants or funding supporting the development of strategic concepts. For instance, this was the case in the Czech Republic via the National Programme Environment ([NPŽP](#)).

2

Work with people outside of the administration that can facilitate participation processes and provide additional expertise.

Their convening power helps build trust and cooperation among stakeholders. Their expertise also contributes to the high-quality development and technical realisation of the municipality's climate projects.

3

Engage with the younger generations!

Young people carry powerful messages. Create opportunities to amplify their voices – invite them to share their visions and demands, involve them in decision-making processes, open a direct dialogue between them and elected representatives. They help put pressure on political leadership and raise awareness of the local population on the urgency and benefits of climate action.

Schools

The following factors set the foundation for BEACON's success in increasing knowledge of climate change and climate action as well as for implementing climate action projects in schools and ensuring these are sustained long-term:

- **Whole school approach:** Schools were encouraged to act responsibly, actively pursue climate action and involve all relevant actors in an inclusive fashion. This involvement included headmasters, teachers, pupils, parents, technical staff, sports clubs, neighbours and the owners of the school buildings – the municipalities.
- **Cooperation with municipality:** The cooperation between school and municipality was found to be paramount to achieve long-term energy savings and emission reductions. While being the building owner, the municipality typically has no mandate regarding education. Therefore, municipalities were asked to include school operations in their strategy to reach their climate policy targets.
- **Networking and adoption of learnings:** All relevant stakeholders from schools and municipalities were brought together – within a municipality, within a country and also in exchange with their peers in other countries. Stakeholders were provided with relevant knowledge and experience to adopt learnings in their context which was paramount to long-lasting climate action in schools.
- **Integration of climate action into school curricula:** This integration was necessary to set up the pedagogical and organisational framework of the school, to ensure continuity and to contribute to the quality of teaching. It also helped to create a unique, progressive school profile, leading to increased ownership of the public with its school.
- **Profound trainings and capacity building:** Appropriate trainings and corresponding teaching material were necessary to carry out successful climate action projects. This included training for teachers, technical caretakers, and municipal representatives.
- **Long-lasting incentives for project implementation:** To make energy saving at schools a long-lasting, viable, and self-sustaining institution, it proved important to start with determining the duration of the project in agreement with the municipality and ask schools to sign an agreement with the municipal council. Experience has shown that the relevant stakeholders need incentives to implement energy-saving projects through incentive models tailor-made to the local context. Apart from financial benefits from savings in energy costs or other financial incentives for teachers (for example salary increase), schools have been motivated by the following factors: Pedagogical added value, equipment with measuring devices, onsite or external support on technical matters. Incentives for municipalities on the other hand included: Tangible energy savings and associated greenhouse gas emissions reductions. Technical know-how

Top three learnings for schools

1

Build up knowledge.

Through dedicated trainings and materials, teachers gain the necessary knowledge and tools to teach on climate change and to develop and implement their own projects.

2

Create networks to join forces and exchange experience. Building networks and conveying the feeling of not being alone is an important factor to motivate teachers and other school representatives. Working in networks also means joining forces to overcome obstacles and push for structural changes as well as the opportunity to exchange good practices.

3

Involve pupils and increase their awareness.

Young people are the generation of tomorrow. They will have to live with the consequences of climate change for much longer. Hence, it is important to sensitise them to the issue at an early stage and to tap their creativity to work on solutions.

86%
of school
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after the project ends.

Action areas and outlook

- We need to reach net zero emissions rather sooner than later: national actors need to scale up activities and projects initiated in BEACON by establishing support structures.** Municipalities and schools should get the strategic and technical knowledge they need to design, develop, and finance their projects, for example through institutionalised advisory facilities. An important aspect is also to help build project development skills in municipal administrations. To establish such structures, possible institutional forms need to be investigated in each country, funding for the institutional set-up provided, capacities built, and funding sources identified, which would then be channelled via the institution to the local municipalities and schools.
 - Municipalities need capacities to set climate targets, develop ambitious strategies, and monitor their implementation in line with national targets and strategies.** Frameworks need to be created to provide incentives as well as financing for creating dedicated positions such as climate (and energy) managers or teams in the local administration to mainstream climate action throughout all sectors. The German National Climate Initiative provides interesting experience and knowledge to set up such frameworks. Initiatives such as the Czech Association of Energy Managers or national city associations that have built and shared expertise over decades are a promising starting point.
 - Platforms for effective collaboration between relevant national ministries and across governance levels need to be provided.** In most countries, thorough work on national regulatory frameworks is still needed to provide clear, long-term, adequate rules and incentives for climate action – particularly but not exclusively in the field of renewable energy generation.
- Understanding the obstacles local authorities face in the area of climate action is key to reflect local needs in national strategies and funding schemes and to maximise their effectiveness. Institutionalised communication channels on climate change mitigation could address the current lack of consistency – and partly ambition – across governance levels. Using such channels to identify leading practices and enable climate champions to showcase their achievements also inspires peers to emulate successful approaches and lays the foundation for multiplying impact. Enhanced collaboration across governance levels is thus paramount to turn climate goals into tangible greenhouse gas emissions reductions.
- Make smart use of cohesion policy funds and green recovery funding.** Ramped up EU funding provides extended opportunities for financing the transformation towards carbon neutrality. Capacity building on how local actors can access available funding needs to be provided. Facilitating diverse financing sources should be part of this exercise. Enabling access to financing is closely linked to the needed institutionalised support structures, dedicated positions in the administration, and vertical dialogue described in the previous three bullets.
 - Shape skilled professionals.** Competent staff in municipalities and schools is still too rare to reach the level of ambition and volume of climate projects needed to meet the Paris Agreement goals. In a world that will look different in only a few decades, if not years, it is paramount to teach relevant knowledge on climate change and climate change mitigation to pupils and young professionals now.



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