

Deliverable Proof – Reports resulting from the finalisation of a project task, work package, project stage, project as a whole – EIT-BP2020

<p>Name of KIC project the report results from that contributed to/ resulted in the deliverable</p>	<p>Healthy, Clean Cities – Deep Demonstration</p>
<p>Name of report</p>	<p>Krakow D1 Urban Transformation Strategy</p>
<p>Summary/brief description of report</p>	<p>Urban Transformation Strategy - Strategic Narrative document providing a joint position on the ambition of Krakow’s Climate action, as well as a snapshot of Krakow’s progress to date and intent moving forward towards a transformative carbon-neutral transition in Krakow.</p>
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Krakow Position Paper

*Towards a Healthy Clean Krakow
- A Joint Position*

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Deep Demonstration - Healthy Clean Cities – Krakow

The City of Krakow

Dark Matter Laboratory

Democratic Society



This document provides evidence for a transformative carbon-neutral transition in Krakow - i.e. an holistic and integrated climate action for the city that, well beyond achievements in climate mitigation, adaptation and resilience, can unlock better and thriving futures for people and the environment.

About this document

This is a Strategic Narrative document providing a joint position on the ambition of Krakow's Climate action, as well as a snapshot of Krakow's progress to date and intent moving forward towards a transformative carbon-neutral transition in Krakow. This statement of intent aims to address some of the existing challenges experienced within linking the city's climate aspirations with other policy priorities; civic engagement; and organizational and governance issues inherent to an ambitious transition agenda. All such barriers need to be and can be overcome to achieve a holistic, joint decarbonisation strategy that both raises awareness, is collaborative, encourages co-creation, and empowers, not only municipal activity, but also that of civic, private and institutional action. It aims to provide a set of arguments and evidence that sustain the framing of Krakow's existing Climate Action, and complement its implementation through recognizing the fundamental role of citizens and civil society engagement in the design and delivery of climate actions in interconnected ways.

Organized into 3 key sections; the documents will frame the challenge at large (Section 1); Analyse the current landscape of climate action and civic engagement (Section 2); and outline the strategic goals and project directions for innovative, systematically tackled, climate action that focuses on system change through experimentation, learning, adapting and scaling. As a preliminary starting point this roadmap is to be developed through collaboration and co-investment pathways - between public, private and civic problem-owners (Section 3). The document and roadmap has been elaborated in the context of the EIT Climate-KIC Healthy, Clean Cities Deep Demonstration portfolio where the City of Krakow stands as one of a cohort of 10 European cities committed to unleashing ambitious climate policies towards zero-emissions goals by 2030.

01

FRAMING

What is the problem?

The Situation

FRAMING

We live in a time of unprecedented, interconnected and complex challenges. Climate change is a symptom of a structural failure across our economies and societies, and a problem deeply entangled with our ways of living, producing and consuming. With each passing day the goal of limiting global temperature rise, as agreed upon in the 2015 Paris Agreement, moves a little further out of reach, and the world's carbon budget shrinks. Though the issue is widely recognized, no one knows the detailed pathways and innovations that are needed to achieve climate neutral and inclusive cities across Europe by 2030 - today less than ever. What we can say however, is that each city's approach will need to be deeply contextual and rooted in local factors such as particularities of policy and technology, emergent opportunities, and the realities and aspirations of people's everyday's lives, in order to begin to decrease the growing gap between the complexity of the systemic transformation required and our institutional capacity and civic legitimacy to frame, understand and act on these issues.

In less than two years, cities will be hosting 80% of Europe's population. These are places where our major shared challenges are deeply felt and where the effects of climate breakdown are most likely to sharpen inequalities as well as social and economic injustice. Yet, their concentration of human, social, cultural and institutional capital also makes them places of opportunity, innovation and mass potential. Cities allow for an environment for strategic innovation approaches that unlock and drive distributed, deeply democratic agency allowing for a shift in the scale, pace and very concept of innovation within environmental sustainability; where new pathways to change can be discovered and where actions can instigate a great transition.

As the second largest city in Poland and home to almost 780 thousand inhabitants, Krakow has the ability and ambition, as well as the responsibility, to mitigate the effects of climate change and to show that it is possible to combine growth, development and an enhanced quality of life with lower CO₂- emissions. As a country, Poland has seen an uninterrupted pace of high growth since 1992 making it the sixth largest economy in the EU - with a total GDP of EUR 524 billion. Yet nationally, their climate mitigation strategy is relatively underdeveloped and the level of wealth and current income of the inhabitants is relatively low. With a

dominance in share of coal as the primary energy supply¹ along with the desire to utilize local resources², Poland is relatively conservative in their approach – resulting in being the only EU country that has not committed to achieving climate neutrality by 2050. Alas, Krakow, due to its rapid growth in addition to its location in the deep valley of the Vistula River³ with average air pollution levels well above the maximum limits recommended by the World Health Organization (WHO) Due to economic conditions, there is a gradual departure from coal, and the fight for good air quality has become one of the national priorities. Krakow is the initiator and leader of efforts to ensure clean air, where coal and wood burning are prohibited from September 2019.⁴ The awareness of the need to adapt to climate change is rapidly growing. Krakow is one of 44 cities that have developed a plan for adaptation to climate change within the framework of a dedicated government program. With a carbon footprint of ~5,100 kton per annum but the potential to reduce total emissions by ~25% in 2030, the municipality of Krakow recognizes that the opportunity of increasing and exploiting the city's climate adaptation potential. However, they are also aware that top-down informational and educational activities, policy updates and sustainable investment may not allow the transition from known solutions to a more systemic, integrated, and ambitious approaches that will be vital for transition. Building on the success of the clean air programme, which has seen the city largely resolve the local burning of coal (albeit it is still a regional issue beyond municipal boundaries) and in compliance with Krakow's Development Strategy (KDS) want to shift the focus solely from air pollution towards a more holistic decarbonization agenda as climate mitigation and to go beyond national goals, showcasing climate intervention as a fundamental means to drive better quality of life for all - specially in a time where disruptive change is being felt within all aspects of our society.

The Covid-19 emergency and its economic and social impact has generated a deep disruptive change - challenging all aspects of life as we know it. The uncertainty of the situation leaves many struggling to make sense of how to respond, and is impacting the policy landscape and climate adaptation action all across Europe. Whilst the debate around the longer-term impact of such sudden behaviour changes is still ongoing it is likely to exacerbate a series of pre-existing dynamics and risks within our cities. From creating economic vulnerability, unequal housing conditions, loneliness and fragility, as well as undermining entire micro-economies built on direct social contacts, there is a strong likelihood of escalating the ramifications for the global economy and governance norms that can fundamentally disrupt the social contract as we know it. Though the systems upon

¹ approx. 75% share in electricity generation

² 600,000 employees, 5% share in GDP

³ <https://phys.org/tags/city/>

⁴ https://klimada.mos.gov.pl/wp-content/uploads/2014/12/ENG_SPA2020_final.pdf

which we depend have proven to be fragile, governments' and citizen's ability to respond to emergency situations with drastic changes to the fabric of everyday life has been unprecedented, and the requirement for more resilient and flexible systems that can withstand crisis is forcing cities, organisations and their leaders to think differently about the future.

With worldwide attention turned to cities' recovery strategy many have emphasised the importance of how economic stimulus should align to the ambitions of the European Green Deal, so that no opportunities are missed in driving the just transition needed across Europe's cities. There is opportunity in recognizing Krakow's potential for economic development through embracing this future growth sector early. This could ensure a transformation to a high value green economy that would not only create inward investment in lead markets (that in turn have cascading effects on all aspects of local city life) but could also reshape the city's image and reputation as a city of innovation with a strong international outlook. Through understanding and responding to not only the discrete risks directly in front of us (e.g. health and economic impact of Covid-19) but also risks that threaten our ability to realize our full potential in the future (e.g. to develop a sustainable future for all), Krakow has the opportunity to navigate broader uncertainty. To find new ways forward that are not limited to tackling cascading effects caused by this unprecedented crisis, but that cross-cutting transformations which tackle all aspects of city life.

In short, the urgency of today's interconnected and complex crisis can no longer be diagnosed in isolation or with point intervention. The city of Krakow recognizes that only system change can push beyond the incremental change of stand-alone projects to fully resolve some of the challenges of today's society. No one knows the detailed pathway and innovations that are needed to achieve climate neutral and inclusive cities by 2030 though the requirement for holistic action that considers different layers from reform in financial structures to shifts in governance and organisation are key. The city of Krakow is therefore, setting out a clear, joint position and strategic intent that can sustain the framing of Krakow's existing Climate Action and complement its implementation through recognizing the fundamental role of citizens and civil society engagement in the design and delivery of climate actions in interconnected ways.

02

CLIMATE ACTION & CIVIC ENGAGEMENT

Where are we now?

Landscape of Action & Policy

INTRODUCTION & HISTORIC POSITION

Krakow is a city deeply rooted in tradition - it is the former capital of Poland, the center of social life and a strong center of culture and art, tourism, free industry and the creative industry. Krakow is also a city with great potential for innovation - the location of the most important Polish universities, research and development centers as well as start-ups. Equally it is a place of social activity, generated by various communities, including its 150-thousand-strong academic community. The past years have been a period of important changes. The intensity of them is related to the need to make up for the delays that arose in Central and Eastern Europe before 1989.

The urban structure of Krakow has been shaped over the centuries concentrically around the center. It includes the historic buildings of the Old Town, tenement houses built at the turn of the 19th and 20th centuries, estates of multi-family buildings built in the 1960s, 1970s and 1980s, and single-family houses constructed mainly in the outskirts. The multi-family buildings implemented in industrialized technology were subject to mass thermal modernization at the turn of the 20th / 21st century, the purpose of which was to remove technological defects.

After the political changes in 1989, there was a rapid development of the car market, largely powered by the import of used cars from Western countries. The number of vehicles increased⁵, the road network in the city improved, and car transport gained a privileged position - with a simultaneous decline in interest in public transport⁶.

One of the most important problems of Krakow is bad air quality, it is caused by its unfavorable location in a river valley. The problem was noticed already in the 70s, when intensive destruction of monuments took place due to acid rain. The use of less sulfurized coal and the replacement of coal with coke and natural gas were undertaken; however, the limited resources of the fuels did not allow for a significant effect. In 1981, thanks to the efforts of the Polish Ecological Club, the

⁵ from 204,000 in 1995 to 663,000 in 2019

⁶ the share of public transport in the division of transport tasks fell from 48% in 1995 to 38% in 2018

aluminum smelter in Skawina, poisoning the area, was closed. The 1990s marked the implementation of the first low emission reduction program in Krakow, thanks to the funds granted by the US Congress. The first measuring station was installed and most⁷ solid fuel boiler houses were closed. In 2013, thanks to the efforts of the Krakow Smog Alert, the Malopolska Sejmik decided to ban the use of solid fuels in Krakow. Although the ban was lifted for formal reasons, in 2016, the Sejmik adopted the anti-smog resolution again, and the ban entered into force on 1 September 2019.

Increased awareness of the threats posed by the climate crisis, the need to protect resources and biodiversity, and progressive digitization have been reflected in the new European Union development strategy "European Green Deal". The adoption of the new strategy is followed by political and budgetary decisions as well as legal regulations which translate into the national level. Consequences are already visible, in the past two years we have observed the quick changes in Poland, shown on Fig. 2A.

New trends and the announcement of allocating 30% of the EU budget to activities related to the European Union's climate goals open up the potential for bold and ambitious actions at the local level, in order to develop large and bold programs and projects.

In previous years, the City took effective interventions in such areas as water and sewage management (the best drinking water in the world!), municipal waste management, building the brand of Krakow as a global tourist destination⁸. (WORLD'S BEST CITIES 2020), the center of cultural life and the center of business services⁹.

⁷ (over 1,000)

⁸ (14 million visitors to Krakow in 2019, 25th place in the TRAVEL + LEISURE ranking)

⁹ (ranked 6th in 2018, 11th in 2019 in the Tholons Services Globalization City Index 2019)

THE PRIMARY CONSEQUENCES AND SHIFTS VISIBLE IN POLAND DUE TO CLIMATE CHANGE IN THE PAST 2 YEARS:

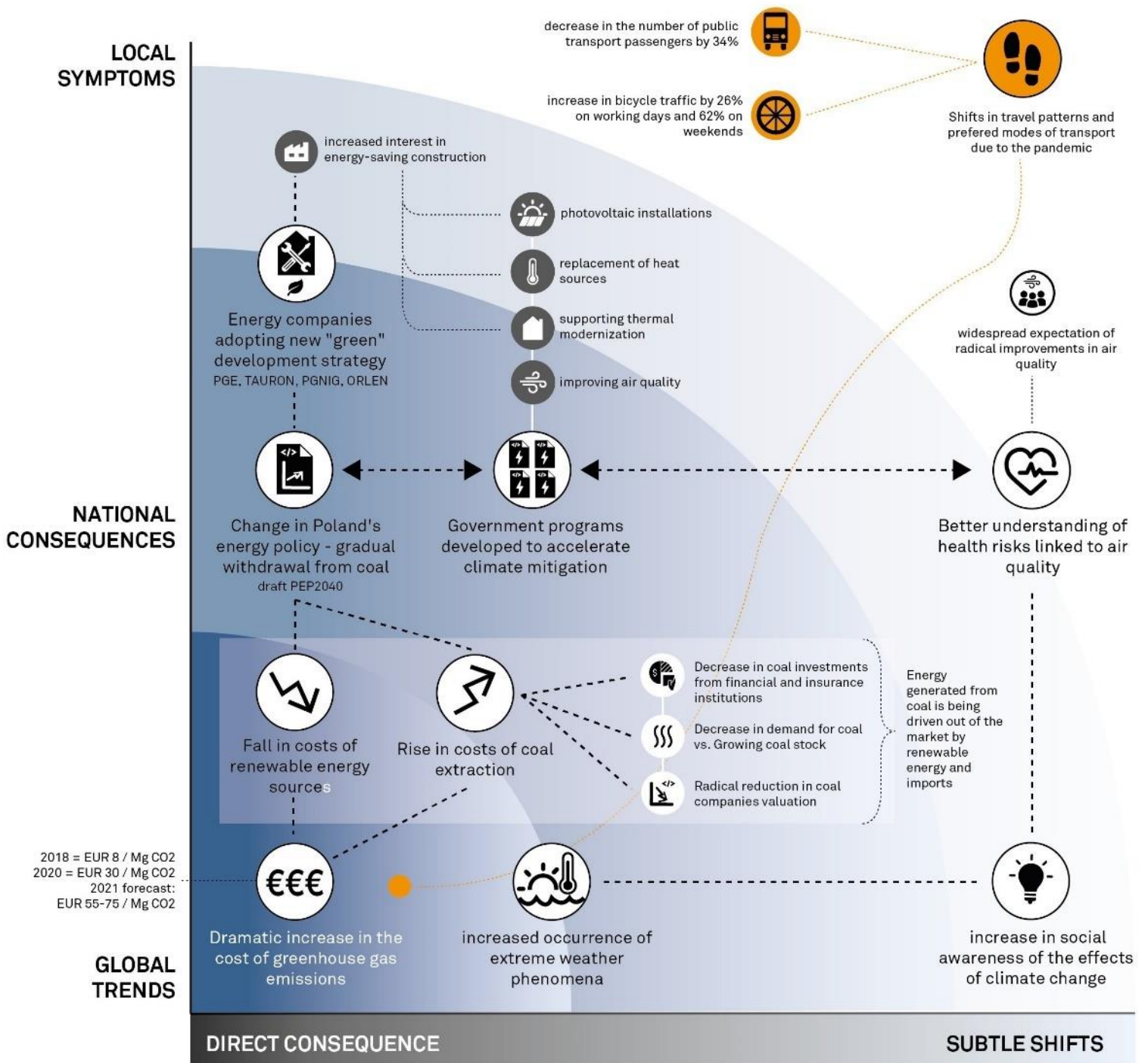


Fig. 2A. National and Local climate change consequences seen in the past 2 years in Poland

The role Krakow played in efforts to improve air quality is unprecedented. The Krakow Smog Alarm was the initiator and driving force. Determination and consistency in the actions of social activists, building a common understanding of the health effects of air pollution, the involvement of municipal and provincial authorities resulted in local success (liquidation of coal furnaces in the city) and the launch of legislative changes and massive financial incentive programs at the national level, with strong government support. We can successfully repeat the path marked by anti-smog measures in the pursuit of climate neutrality at the local and national level.

TODAY

The city policy is defined in the "Krakow Development Strategy. I want to live here. Krakow 2030" which describes the vision, mission and six main strategic goals. The strategy creates the basis for the creation of an integrated city where cultural, economic, social and environmental development will complement each other. The strategy is implemented through sector policies, programs and projects, the most important of which for climate protection are presented on Fig.2B.

Though this is a good start, the scale of the climate crisis we are dealing with means that the goals and actions indicated in PGN are insufficient. The City of Krakow recognise that is necessary to develop a more ambitious path for the city's climate transformation and implementation / operational programs. We can achieve the goal of climate neutrality only by using the economic, organizational and innovative potential of the city's community with the strong involvement of residents, academic institutions and the business community. The role of the City is to inspire change and provide a framework for the transformation process. The ambitions go hand in hand with specific plans and actions initiated in the past two years – an overview of these tangible projects and softer actions can be seen in Fig.2C.

KRAKOWS RECENT STRATEGIES, POLICIES AND PROGRAMMES AIMED AT CLIMATE MITIAGTION:

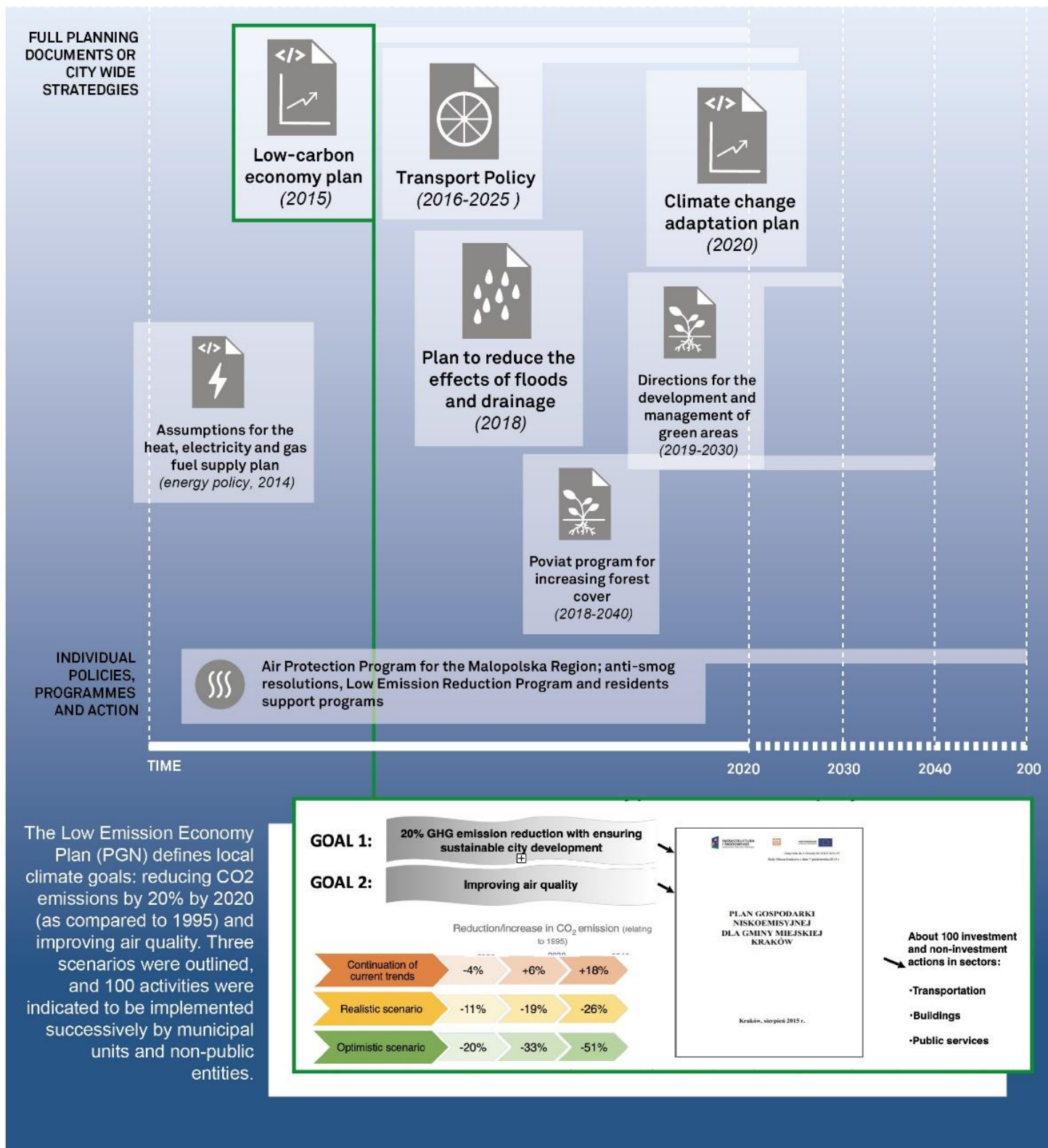
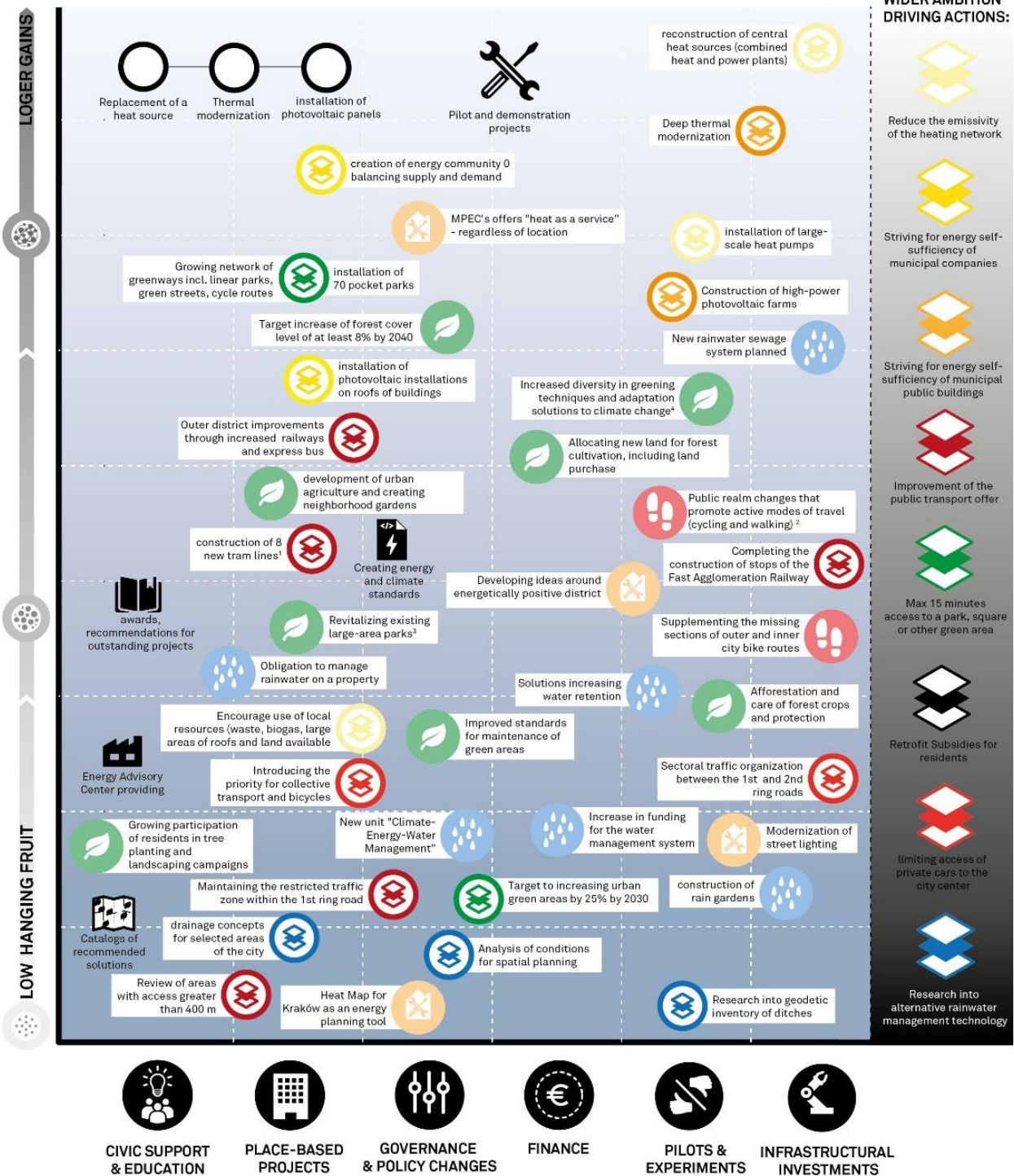


Fig. 2B. Primary Climate mitigation policies, programs and projects in Krakow and the leading goals of the Low Carbon Economy Plan for Krakow

EXISTING PROJECTS / PROGRAMMS / ACTIONS

Since the municipality is directly responsible for only a small (approx. 7%) part of the emissions, activities are accompanied by a soft action that inspires and engages residents, building managers and entrepreneurs:



(1) - Krowodrza Górka - Górka Narodowa, Kurdwanów - Zakopiańska, Krowodrza Górka - Azorów, Mistrzejowice - Mogilska, Azory - Cichy Kaćcik, Nowy Kleparz - Plac Inwalidów, Teligi - Rząka, Mały Płaszów - Złocien
 (2) Widen pavements, green areas safe crossings for pedestrians and calm traffic zones
 (3) Park Reduta, Park Lotników Polskich, Park Bednarski, Park of Anna and Erazm Jerzmanowscy and supplementary pocket parks (22 facilities have been established since 2016)
 (4) Flower meadows, undergrowth beds, irrigation system for young plantings, extensive maintenance of lawns

Fig. 2C. A visualisation of recent plans and actions initiated in the past two years within the domain of Buildings and Energy; Mobility; rainwater management and greenery

The city also recognise that in order to unlock full potential, provision of implementation projects and actions will not be sufficient. Instead there is a requirement to make organisational and governance improvements in order to ensure success. The organizational potential of the city currently consists of:

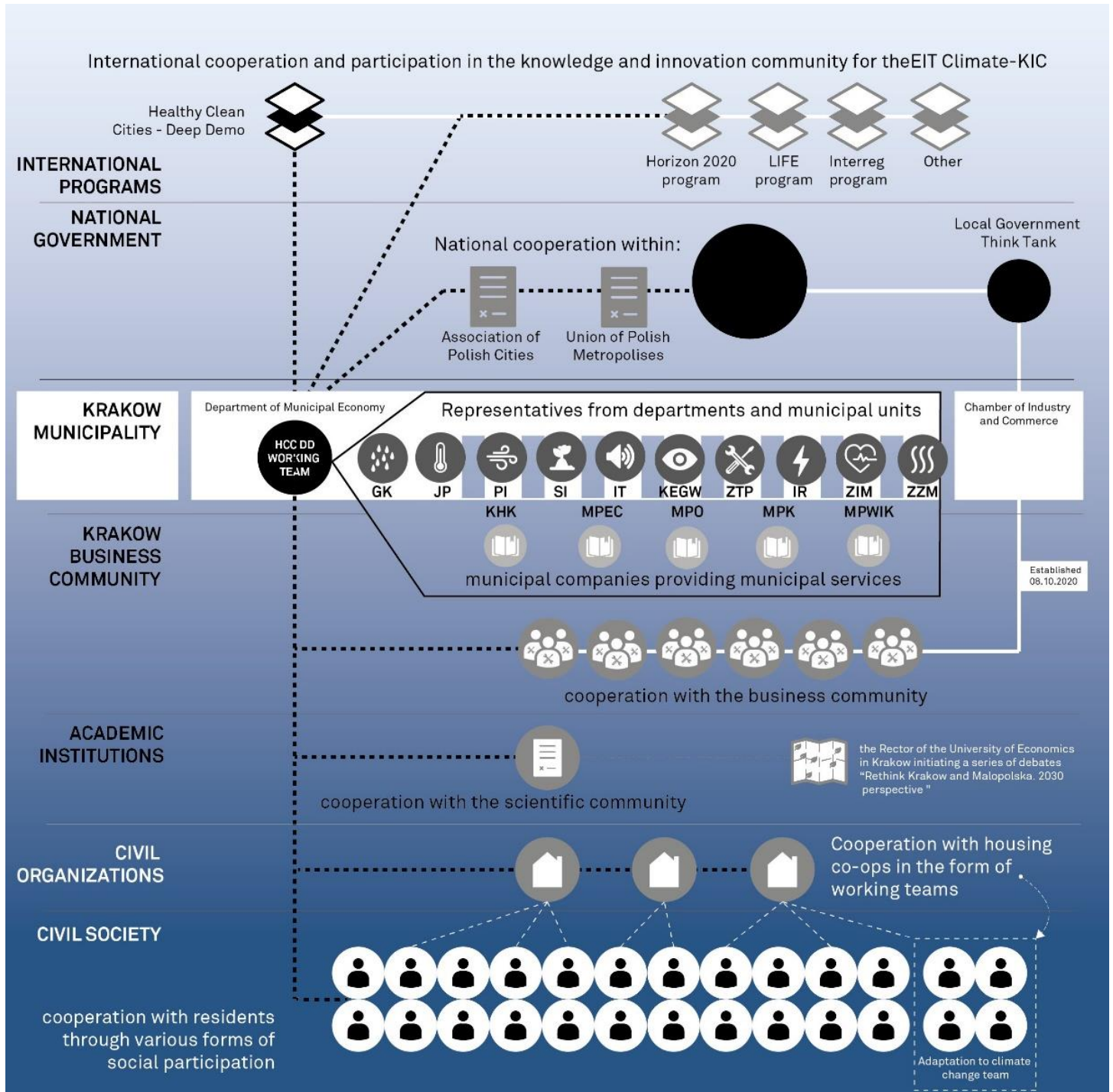


Fig. 2D. The Organisational Potential of the city

And the city is consciously increasing flexibility and building innovation potential through inter organizational activities:

1. Improving the city management system, which integrates strategic and operational management for 16 areas, combining the overall Krakow Development Strategy with politics, budget, Long-term Financial Forecast and monitoring indicators;
2. Reconstruction of the city's IT system in order to enable digital transformation of the office;
3. Implementation of a multi-sectoral project implementation system in accordance with the PRINCE2 methodology;
4. Implementation of the project portfolio management procedure;
5. Creation of specialized unit with appropriate substantive, human and financial resources. Examples include the City Greenery Board (unit budget 2019/2015 = 6x), Climate-Energy-Water Management (unit budget 2019/2018 = 2.6x), Municipal Investments Board, Management Board Public Transport, Department of the City Traffic Engineer;
6. Participation in the competition for the Green Capital of Europe title; the competition is a tool of the European Commission to support cities in green transformation; the idea, commitment and consistency in implementation are assessed; application preparation and external expert assessment help to identify weaknesses; an additional value is the possibility of using good models and practices implemented in other cities.

Tools that strengthen commitment and social activity are also being developed including:

1. Sharing information - public information bulletin; city information portal¹⁰; Municipal Spatial Information System; Municipal Dialogue Center website¹¹; information page on investments of the Municipality of Krakow¹²; a list of administrative decisions on a permit for the implementation of a road investment, on building conditions (WZ), on a construction / demolition permit.
2. Raising competences - strengthening local leaders, information campaigns addressed to residents (MPO, MPWiK), thematic walks

¹⁰ <https://www.krakow.pl/>

¹¹ <https://dialogspoleczny.krakow.pl/>

¹² <https://inwestycje.krakow.pl/>,

3. Involvement:

- a. local initiatives - cooperation of local government units with residents in order to jointly carry out a public task for the local community
- b. public consultations - spatial development plans and drafts of other key resolutions
- c. urban prototyping - a tool used in the decision-making process, e.g. creating a pedestrian and cyclist-friendly public space¹³, limiting car traffic on an important communication artery¹⁴, a model of the Home Army monument located in an exposed place near Wawel (2018), facilitating pedestrian and bicycle traffic¹⁵

4. Co-creation:

- a. designing green areas, the Reduta Park with an area of 7.8 ha, co-created by the residents in the course of consultation workshops conducted by the City Greenery Authority;
 - b. hackathons (Smogathon, Climathon)
 - c. citizens' assembly (Krakow Climate Panel) during which residents are to indicate how to reduce energy consumption and increase the use of renewable energy
5. Building trust: Through transparency – the following are publicly available: city budget, public procurement plan, list of contracts, property declarations of politicians and employees, report on the condition of the municipality, report on the state of the city; implementation of recommendations - the civic budget of the 6th edition in 2019 amounts to 53,647 voters, 949 submitted proposals, 172 tasks selected for implementation, the total value of tasks is PLN 30 million, 0.5% of the city budget, a positive assessment of 79% applicants.

¹³ (Plac Nowy, 2018)

¹⁴ (Dietla Street, 2019)

¹⁵ (Grzegórzecka Street, Wielopole Street, Grunwaldzki Bridge, 2020)

FINANCIAL FORECAST

The basis for financial planning is the Budget of the City of Krakow and the Long-term Financial Forecast of the City of Krakow in the long-term perspective defines the revenue and expenditure forecast for the City in individual years. In 2019, expenditure from the city budget totaled PLN 6,212 million.

The city's budget by domains - measures were implemented under 694 public services (448 within the Krakow City Office and 246 within municipal organizational units) in 16 management areas. The largest expenses in 2019 were related to the following Areas: Education and upbringing PLN 1,742 million (28.04%), Assistance and social integration PLN 1,123 million (18.07%), Transport PLN 1,112 million (17.90%). From the point of view of the climate transformation, the most important expenditure is there in the following domains: Protection and shaping of the environment PLN 230.3 million (3.67%), Entrepreneurship and science PLN 28.3 million (0.46%), Civil society 8.8 million PLN (0.14%).

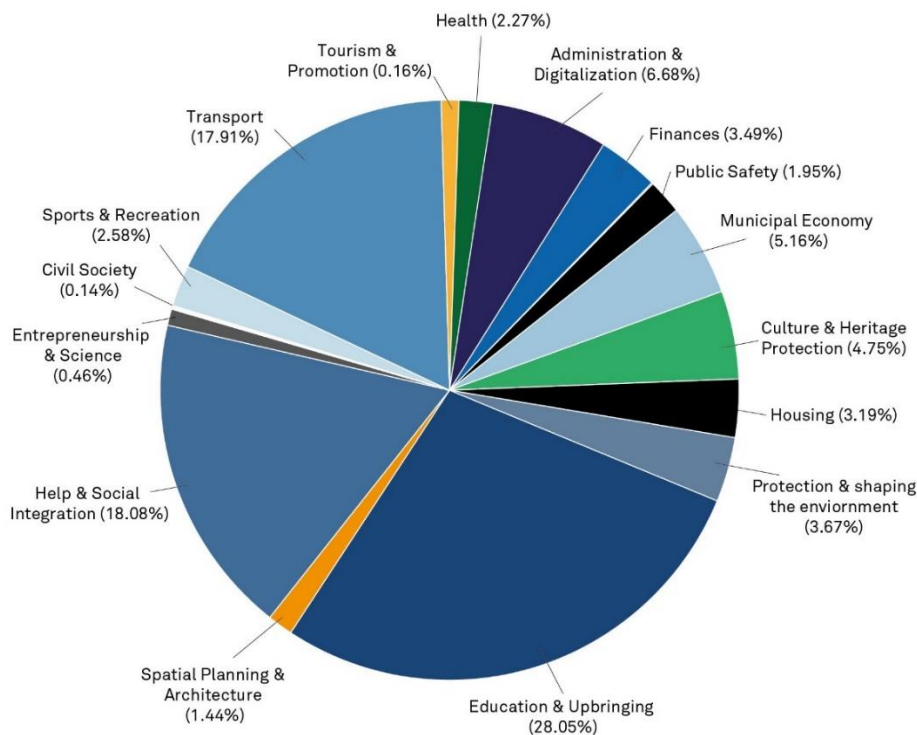


Fig. 2E. 2019 budget expenditures of the City of Krakow according to the management areas

The city budget in the structure of the Krakow Development Strategy - expenditure on the implementation of the strategic goals of KDS 2030 in 2019 amounted to PLN 1,824.9 million, including:

IMPLEMENTATION AND SPENDING ON KDS 2030 - STRATEGIC GOALS (2019)

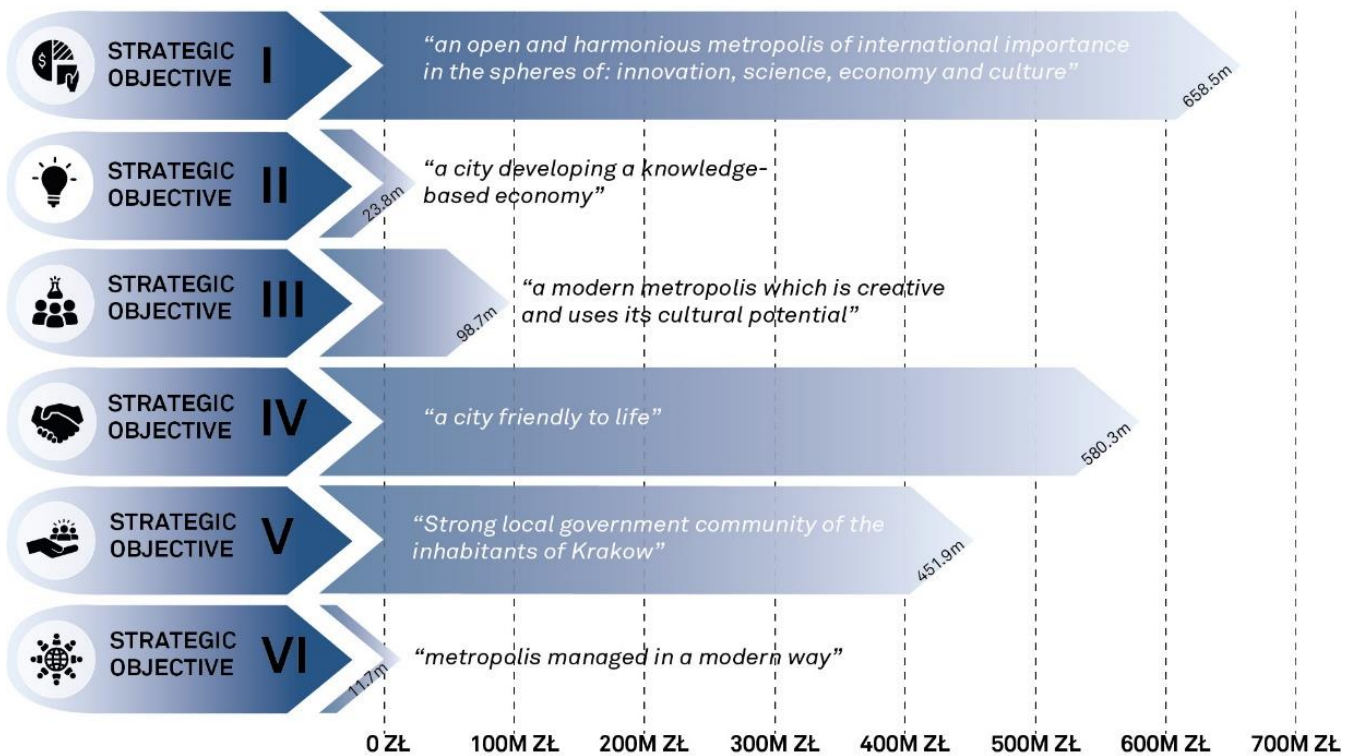


Fig. 2F. The city budget in the structure of the Krakow Development Strategy

In the city's budget for 2019, investments amounted to PLN 1,127 million, and current expenditure PLN 4,889 million, Tasks co-financed from non-returnable foreign funds - 2019 - implemented with a total value of PLN 561 million, including PLN 288.7 million from EU funds. The vast majority (91.4%) were investment tasks, mainly long-term.

SYSTEMIC BARRIERS -

UNDERSTANDING CONTEXT, IDENTIFYING BARRIERS AND SETTING DIRECTIONALITY:



CHALLENGES

What have been the main challenges to Krakow's climate transformation to date?

- As identified by the Municipality of Krakow:
- + Building awareness and strengthening climate mitigation argument
 - + Clear communication between city and civil society
Gaining broad support and social involvement
 - + Developing a coalition of organizations and enterprises to supporting the transformation process
 - + Preparation of a road map showing showcasing trajectory
 - + Operationalization of activities through programs and projects
 - + Ensuring financing from the city budget and external funds
 - + Democratically developing programs and projects aimed at the the private sector
 - + Developing new funding schemes that combine public and private funds.



SUCCESSES

What have been the main success factors idnetified through recent action within Climate mitigation in Krakow?

- As identified by the Municipality of Krakow:
- + Responding to civic expectations and demand through implementation projects
 - + Common understanding of the problem
 - + Social pressure
 - + Strength of top-down leadership and commitment
 - + Municipal Recourses and Capacity
 - + Holistic implementation plans
 - + Common goals between Municipal departments
 - + Cooperation with range of stakeholders
 - + Allocating sufficient funding



GOVERNANCE

Identification of the primary factors required for a successfull, just climate transition:

- As identified by the Municipality of Krakow:
- A joint understanding and trajectory
 - Commitment and involvement from non-public actors (civic actors, private sector, and institutions)
 - Cooperative platforms with clear communication tools
 - A holistic plan of action within private sector
 - Favourable energy policy at the national level



BARRIERS

Identification of the larger barriers to accelerating Krakow's climate transformation?

- As identified by the Municipality of Krakow:
- + Legislative restrictions, (e.g. concerning energy clusters, creating limited communication emission zones)
 - + Limited financial capacity of the public and private sectors
 - + Lack of roadmap showing the transformation path
 - + Low awareness of the effects of the climate change on people, communities and the environment
 - + Superficial support for measures aimed at reducing greenhouse gas emissions
 - + Poor flow of information between the city and its inhabitants and the private sector

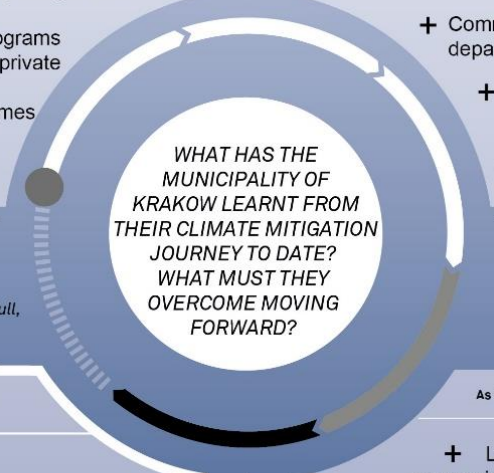


Fig. 2H. Understanding primary barriers of Climate Mitigation Action to date, and the requirements moving forward

Civic Engagement & Co-Creation

Climate change touches people's lives in very concrete ways. Communities in conditions of vulnerability (such as children, the elderly, and low-income workers) are often those who face the highest risks, and if the global emissions course of the last decades keeps ongoing it is likely to disrupt housing conditions, service access, health conditions, exposure to climate hazards and beyond. On the basis of a recent audit¹⁶, it is concluded that decarbonization initiatives will have a positive impact on many city priorities from employment to health. However, in order for these initiatives to be successful, it will require action from individuals, private sector, institutions, academia as well as local authorities – a transformation to carbon-neutral future is primarily a socio-economic process, not solely technological one. It may entail introducing some limitations to people's everyday lives or behaviour change, financial outlays and making trade-offs to reconcile different interests. The municipality of Krakow is in direct control of a fraction of GHG emissions (around 7%) and collaboration with different city stakeholders is crucial to achieve bigger impacts.

The city of Krakow recognizes the fundamental role of citizens and civil society engagement (public participation), private sector and institutional knowledge (institutional collaboration) in the design and delivery of climate actions and are declared to tapping into the existing systems, alongside new experiments in citizen engagement, to move it to the next level, advance and embed in decision-making processes.

In this section, we explore the current landscape of public engagement in Krakow and the aspirations in taking co-creation further in order to work towards a more holistic approach that recognizes a wider variety of roles in our journey towards carbon neutrality.

Some of the co-benefits of engaging citizens in climate action include:

- Community buy-in: increased citizen acceptance of projects.
- Higher Value: Tailored action that has a direct benefit to members of society.
- De-risking the investment: Significant climate investments require insurance that community resources will pay dividends to Krakow and its residents.

¹⁶ Material Economics decarbonization business case for Krakow (add link).

- Improving trust in decision-makers: building legitimacy for certain measures through co-creation causes an increased efficiency in all matters of city life.
- Improved project quality: through ownership and value.
- Joint care for marginalized and vulnerable groups.

THE LANDSCAPE OF PUBLIC ENGAGEMENT IN KRAKOW

Alongside the traditional democratic mechanisms, such as direct democracy (referendum) and representative democracy (democratically elected authorities), the city of Krakow has established a number of participatory tools aimed at enabling citizens getting involved in deciding on their city. The resolution on consultation and cooperation with non-governmental organisations¹⁷ and The Regulation of the Participatory Budget¹⁸ (adopted by the City Council annually) are the key public policies on engaging with citizens. In practice, public engagement in Krakow covers 3 key areas:

- Public consultation,
- Participatory budget
- Collaboration with the civil society organisations¹⁹.

01 Public consultation

The municipality recognizes different ways of holding a consultation and uses a range of different methods depending on circumstances and required input from citizens. Public consultation in certain cases is required by law (investment projects, local urban development plans), but can also be run voluntarily, when the issue is of a great social importance. The outcomes are not legally binding and serve as recommendations for the city authorities. Specific city units have control on how they choose to carry out consultations with some opting for more interactive and engaging forms (participatory planning workshops, study tours), alongside traditional methods (dedicated timeslots when residents can call city officials by phone, open meetings with the city officials and surveys). The Green Department, along with traditional forms of consultation offer place-based workshops and series of educational and co-creation activities to encourage joint care for greenery in Krakow (Ogrody Krakowian²⁰, social gardens²¹, Kraków w zieleni project²²). Public Transport Authority ran the first online participatory planning workshops on renovation of Starowiślna street, which completely revised the initial project. The Entrepreneurship and Innovation Department hold urban planning and outdoors workshops with

¹⁷ Resolution no. CXI/2904/18 adopted on 26 September

2018 https://www.bip.krakow.pl/?dok_id=167&sub_dok_id=167&sub=uchwala&query=id%3D23634%26typ%3Du

¹⁸ The legal basis is the so-called Participatory Budget Act, which is part of the Polish legal order.

¹⁹ This is not an exhaustive list, but a summary of the most frequently used and well-embedded participatory processes.

²⁰ Listing of all Civic Dialogue Committees <https://ngo.krakow.pl/kdo/3700,glowna.html>

²¹ <https://zsm.krakow.pl/dla-krakowian/ogrody/krakowskie-ogrody-spoleczne.html>

²² <https://krakowwzieleni.pl/en/>

residents (adapting the area around the railway flyovers in Grzegórzki, the Socio-Economic Innovation Cluster Zabłocie 20.22).

While being the most common form of public participation, consultations are not always exploited at its full potential, resulting in little public interest in taking part and delivering biased outcomes. Key challenges can be defined as: the prevalence of traditional methods over interactive chosen by most city units which proved to be less effective, while the format of “commenting” usually sparks submitting only negatives remarks; holding consultations at the stage of presenting projects’ drafts, when the possibilities of introducing significant changes and co-creation are limited (no meaningful impact); insufficient communication activities and entry barriers resulting in low turnout at meetings (‘usual suspects’ syndrome); lack of follow-up and clear information on how outcomes are being used (the common perception that consultations are of little importance); using formal language and jargon that cause misunderstandings and discourages people from getting involved.

02 Participatory budget

Launched in 2014, the participatory budget encourages citizens to submit development proposals to be voted on by citizens and funded using public funds, with 32 million PLN (0,5% of the Krakow’s annual budget) allocated for this purpose in 2020. Citizens can submit both district-based and city-wide projects. Local leaders (from activists to informal community leaders to city councillors) provide support in the form of advocating for submitting proposals, encouraging discussions and social brainstorming and helping to draft proposals. In 2020, the role of Local Participation Ambassadors was introduced (as a pilot project) to act as a more formal link between residents and local authorities. Also, a group of officials from different city units is assigned to help citizens with creating their projects, advising on feasibility and budgeting, as well as assessing submitted proposals. The Participatory Budget Council, whose role is to facilitate the programme and review that all projects meet standards prior to entering a public voting phase, consists of NGOs, city councillors and district councillors. Residents can cast 3 votes for district projects, and 3 for city-wide ones in preferential voting, within 2 weeks voting period. It is possible to vote online and in-person at dedicated points, localised across the city.

Participatory budget has gone through a couple of iterations since it was first organized, and the city of Krakow is constantly working on improving the model and testing new solutions to make it better aligned with Krakow conditions and peoples’ expectations. Some of the key challenges include: relatively low interest in voting (turnout in 2020 was 5,96%, similar to previous years²³) which may indicate that citizens are not fully aware of the value this mechanism brings for them; the quality of submitted projects (almost 42% of submitted proposals was rejected at verification stage in 2020, 41% in 2019 and 35% in 2018²⁴); difficulties with the implementation of winning projects in previous years. There are also positive trends emerging like the increase in the number of submitted projects (988 in 2020, while it was 949 in 2019 and 678 in 2018) which shows that residents are becoming more aware of what is happening in their neighborhoods and want to be actively involved in shaping them. Some of districts can be called “participatory budget leaders” for the outstanding number of the proposals submitted in 2020 (Nowa Huta, Prądnik Biały) and high turnout (13,66% in Podgórze, 11,82% in Bronowice). The biggest share of

²³ 2019 – 7%, 2018 – 5,2%

²⁴ It should be noted that the number of applications submitted in 2018 was significantly lower than in subsequent years.

winning projects is related to green developments and environment (34% in 2020, 40% in 2019, 33% in 2018) which indicates that this aspect is particularly important for residents and can be stretched-out to more systemic, climate-focused action. The main objective of developing participatory budget would be mainstreaming this mechanism wide across community groups and exploring it for more conversational and collaborative interaction between the city and residents.

03 Collaboration with civil society organisations

In Krakow, there are nine Civic Dialogue Committees²⁵(Komisje Dialogu Obywatelskiego), each in charge of a different area of activity (e.g. environment, culture, health)²⁶. These committees made up of non-profit organisations and representatives of the city authorities act as advisory teams providing review and comment on draft resolutions and strategies with a focus on social value and cooperate closely with the Krakow Board of Public Benefit (Krakowska Rada Działalności Pożytku Publicznego). The main goal of KRPP is to advise the Krakow mayor on collaboration with the civil society organisations, and it is formed by NGO representatives, city councilors and officials.

Alongside the formally established advisory bodies, the city is supporting local NGO's with targeted grants and subsidies, while more hands-on collaboration is usually project-based or point intervention. A prominent example of such collaboration turned into systemic and integrated process is The Clean Air Forum (a body set up by the City of Krakow to work together to combat smog) that operated as cross-sectoral team to jointly combat smog in the city and was initiated by a bottom-up movement Krakow Smog Alert. The challenge lays in enhancing the relationships between the civil society and local authorities to move them beyond merely consulting or grant-taking. Local initiatives' expertise, including an unprecedented contextual understanding, makes them valuable partners in shaping and influencing future strategies, also climate related. To make this shift possible it would also be essential to overcome mutual reservations that sometimes hinder meaningful collaboration.

²⁵ Decree of the Mayor of the City of Krakow No 1379/2019, dated 10.06.2019

https://www.bip.krakow.pl/?dok_id=111971&_ga=2.191894442.1654693581.1606732314-873898160.1605259183

²⁶ Listing of all Civic Dialogue Committees <https://ngo.krakow.pl/kdo/3700,glowna.html>

PUBLIC ENGAGEMENT IN CLIMATE ACTION

Within the domain of carbon mitigation and climate action, the City of Krakow formally initiated a social dialogue with a range of actors beyond city hall in autumn 2019 when the Climate-KIC HCC DD (Zero-emission Krakow) project was launched. These stakeholders (ranging from citizens, private bodies to institutions) were consulted through workshops on the challenges for Krakow when facing this international crisis. The result was a range of different voices brought to the table which have since been analysed and taken on board by the municipality.

Within the realm of citizen representation, one of the primary representatives included local civil society and academia representatives²⁷ working for climate mitigation. These actors were interested in discussing a series of questions including how the municipality can better work alongside civil society groups; how the municipality can engage with citizens in climate action and the conditions required to make climate action successful. A summary of the key recommendations can be found in FIG.2K

The further engagement has been seen through the implementation of *Tables of the Future (Stoliki Przyszłości)*. This series of micro-events supported by the municipality but facilitated by chosen communities and organizations was aimed at discussing the future of Krakow in the context of selected domains related to climate change. Participants were invited to envision best- and worst-case scenarios for Krakow and develop solutions around themes including *Air pollution and ageing population of Krakow; Climate change and its consequences for Krakow; Food and waste and Living in Krakow - the bigger picture* (FIG.2L). Interesting finding emerging from this exercise is that some of the projections, indicating a lack of a robust climate action, drew a vision of a future Kraków that does not comply with the official city aspirations (Krakow Development Strategy 2030²⁸). The findings also point to the necessity of a city-wide public debate on how to match the idea of a developing and dense city that meet various needs of its residents and provide high quality of living with the environment conservation.²⁹

²⁷ Krakow Earth Strike, Krakow Smog Alert, Aeris Futuro Foundation, Fundacja Sendzimira, Kraków dla Mieszkańców, academics: Jagiellonian University, AGH University of Science and Technology, Cracow University of Technology

²⁸ https://www.bip.krakow.pl/?dok_id=94892

²⁹ Link to the full report: <http://zeroemisjyni.pracowniamiejska.pl/index.php/2020/01/27/stoliki-przyszlosci-raport/> (TBU)

HOW CAN KRAKOW ENGAGE WITH CITIZENS IN CLIMATE ACTION?

A clear commitment to climate action from the public authorities with goals and ambitions defined.

Close collaboration between public bodies and bottom-up climate initiatives so they can reach wider groups, increase public awareness and get commitment to emission reduction.

Large scale educational and interactive activities, using plain and simple language when talking about climate, presenting benefits of climate mitigation and adaptation projects, greater transparency of emission metering.

WHICH AREAS NEED TO BE ADDRESSED TO MAKE CLIMATE ACTION SUCCESSFUL?

Integration and coordination of the numerous climate-related projects implemented by the city to speed up the work, increase compliance with policies and avoid repetition of actions.

Synergic and systemic solutions are needed to tackle a few climate challenges at once.

Areas critical for achieving climate-neutral future of Krakow are: improvements in public transportation, system limitations to private transport, large-scale investments in RES, public and private buildings energy retrofit.

HOW CAN KRAKOW ENGAGE AND WORK TOGETHER WITH CIVIL SOCIETY ORGANISATIONS AND GRASSROOTS MOVEMENTS?

Cross-sectoral collaboration is crucial for successful climate action - administration, academia, NGOs and business representatives should all work together.

Ensuring that the contribution and involvement of civil society groups is valued and plays an important part in the process of operations- and policy-shaping.

Being invited to working sessions in advance and informed of the agendas so that representatives specialised in a given domain can take part.



“Recommendations from local civil society organisations and grassroots movements”

Fig. 2K. Recommendations from local civil society organisations and grassroots movements



Fig. 2L. The tables of the future (Stoliki Przyszłości)

The valuable outcomes of these events reinforce the city's position that it is necessary to develop a more sustainable relationship with citizens, which will allow communication and collaboration to be long-lasting and impactful. On a proposal from Krakow Fridays for Future, the City of Krakow is therefore looking to organize Krakow's first citizens' assembly focused on climate change in 2021. This gathering of citizens will be selected at random and thereby reflect the whole spectrum of Krakow's population. With a focus on deliberating how the city of Krakow and its residents can decrease energy demand and increase the use of renewables, the assembly will develop recommendations binding to the Mayor of Krakow, which will directly impact ambitious climate policies. This undertaking falls under the international trend of organising citizens' assemblies, where governments across Europe recognize them for representativeness achieved through sortition, strong legitimacy for ambitious projects and informed recommendations developed through a series of learning and deliberation sessions. If the citizens assembly is well received as a novel form of public participation, the city authorities are willing to make it an integral component of the landscape of citizens engagement to be organized on regular basis.

STRATEGIES FOR EMBEDDING PUBLIC PARTICIPATION IN THE KRAKOW CLIMATE PLAN

Cities across the globe are approaching citizens engagement in their strivings for carbon mitigation in different ways, whether it be through People's Social Summit in Sydney to Paris Climate Volunteer Plan, to UrbanLab in Gdynia, to Social Superblocks in Barcelona³⁰. Many of the solutions tested by other cities can be implemented in Krakow, as they address challenges common to our city. Yet, every city is unique, thus it is important to design solutions tailored to the individual context and specific city requirements.

The need of implementing large scale and multi-layered public participation methods is pressing. The aspiration of creating the citizens' assembly is the first step, but there is also further opportunity to use Climate-KIC Healthy, Clean Cities Deep Demonstration program and its associated resources, to design and implement climate interventions, based on citizen engagement. Component of these experiments can often relate to simple yet systemic changes, whether it be recognizing the role of education, or deploying pre-existing modes of participation such as the participatory budget.

³⁰ (see appendix for specific examples)

Public participation in Krakow	
<i>From</i>	<i>To</i>
Shallow engagement, with limited power	Deeper engagement, with real impact
Ad hoc engagement	Ongoing, embedded participation
Residents invited to participate	Residents co-design participation process
City as manager	City as platform/enabler

Fig. 2.M - The high-level objectives for the civic participation transformation in Krakow

Some initial ideas on how to act are summarised below:

CITIZEN FOCUSED ACTIONS:

- More educational approach is needed. The engagement events showed that people care for greenery in the city, air quality and are concerned with extreme weather events, but usually do not associate certain problems with climate change. Raising awareness can't only be limited to informational and promotional activities, as they only reach traditionally engaged groups. A dialogue-based approach is needed which entails building partnerships with external actors (educators, academia, NGOs or schoolteachers) who can reach out to different communities directly and translate climate issues to common language. City talks, climate lessons at school, workshops with various communities, to name a few, can provide opportunities for people to get involved in climate action and take ownership. For these initiatives to be impactful, they must be undertaken at scale and on an ongoing basis.
- The Local Ambassadors of Participation and informal community leaders can be engaged in Krakow's climate endeavours - both led by the municipality and bottom-up. Their role can be expanded and institutionally recognized so they can reach out to different communities, having networks in place, knowing their communities' needs and speaking common language. It would be easier for them to contact hard-to-reach groups and bring them on board climate conversations. Formal establishment may take forms of urban labs or neighbourhood-based

collaboration centres (the Socio-Economic Innovation Cluster Zabłocie 20.22³¹ Centrum Obywatelskie C10³², Centra Aktywności Seniora³³)

- Deliberation is a one of the key ingredients in better democracy that is needed to respond to climate change. Deliberative democracy is characterised by careful and open discussion between citizens and local authorities, informed by evidence and learning sessions, and population representativeness achieved through sortition. “Deliberative mini-publics” proved to work well when making decisions on difficult and controversial issues. Krakow climate citizens’ assembly can be the first step for launching a holistic strategy for engaging with citizens in a more deliberative manner, also on a district or neighbourhood levels. Small-scale (like citizens’ panels, citizens’ juries), but frequently held deliberative events, can work both for reaching awareness-raising goals and facilitating decision-making processes.
- Global pandemics unveiled the value and necessity of online collaboration for almost every sector, and it refers very well to civic engagement too. Instead of running multiple websites and tools, scattered across the Internet the way it works now in Krakow, introducing a one-stop-shop online platform may ease the participation processes, remove entry barriers and make the outputs easily trackable and reviewable. Such a platform may encompass multiple different participatory processes: public consultations, surveys and polls, participatory budget, public debates, crowdsourcing, citizens’ assembly – some of them not being in use now due to lack of technical capacity. It can also serve as data storage, with the most important public documents relevant to residents being placed in one, easily accessible and user-friendly digital space, making public information more transparent. Successful workshops on renovation of Starowiślna street, ran online by the Public Transport Authority in 2020, also proved that some of participatory processes can be moved online and bring meaningful results to feed in city plans. With a wide range of video-conferencing tools available on the market, growing number of professionals able to run collaborative processes online and digital platforms (i.e. CitizenLab³⁴, Consul³⁵), online participation can be an

³¹https://www.krakow.pl/aktualnosci/230225,29,komunikat,powstanie_centrum_spolecznych_i_tehnologicznych_innowa_cji.html?_ga=2.44049892.1528558732.1606772877-1702342922.1561643685

³²https://ngo.krakow.pl/237830,artykul,centrum_obywatelskie_centrum_c10.html

³³https://dlaseniora.krakow.pl/238361,artykul,centra_aktywnosci_seniorow.html

³⁴<https://www.citizenlab.co/>

³⁵<https://consulproject.org/en/>

important component of Krakow's participation landscape, complimentary to offline events and methods.

INSTITUTIONAL ACTIONS:

- Using the richness of Krakow's scientific, business and social resources will be crucial for successful climate action. The expertise of researchers, civic organisations and local entrepreneurs, as well as their exceptional understanding of local ground, makes them natural partners to be involved in designing climate solutions and informing policy making. The formal and long-term collaboration will be established through launching an umbrella organization³⁶ formed by residents, companies, civil society organisations, knowledge institutions and public authorities. These actors may form the interdisciplinary task teams to develop innovative actions and solutions to be implemented as pilots or experiments and replicated across the city if successful. The learnings from running Clean Air Forum can serve as basis for such a collaboration, while the starting point may be "Think-tank samorządowy" recently established by the Chamber of Industry and Commerce, whose partner is the City of Krakow.
- Community engagement requires the involvement of people who are dedicated to reaching out and engaging with the public. Using the best practice of running participatory processes by municipality units who lead on this work can be expanded and broadly adopted, bringing public consultation to the next level – more conversational, interactive, diverse, long-term and, ultimately, impactful. City departments who have been introducing more innovative models of civic engagement like Green Dept., Public Transport Authority, or Urban Planning Dept., also deal with climate impacts in their daily work and their further involvement in co-creation with citizens will have an essential role in reducing emissions in the city.
- Participatory budget is well established in the city's participation landscape with different actors involved (both institutional and external) and attracting thousands of citizens. It poses a great opportunity for allocating a share of the city's climate budget to be decided by residents through participatory budget mechanism. Such a way of approaching participatory budget would require a series of "awareness-raising" events, with involvement of community leaders, city councilors and officers at all levels, organizations and grassroots movements. If planned

³⁶ An inspiration to form such an organization is Leuven-based [Leuven2030](#)

and implemented well, this advancement may create a fertile territory for people to discover, debate and develop more strategic ideas for securing better, low-emission future of our city. The solution can be first tested in a selected area to be scaled-up if successful. Climate-focused experiments can be also developed by citizens and institutions within the urban lab framework and financed through micro-grants.

***NOTE:**

This paper is intended to provide a position on the ambition of Krakow's climate action and set a ground for collaborative work across different actors. Specific ideas and solutions for reaching carbon reduction targets will be co-developed with communities in an iterative manner as it is stated above, to ensure that nobody is left behind, and steps undertaken deliver desired results.

03

ROADMAP

Where do we want to go?

HCC Portfolio Direction

CITY AMBITIONS AND CLIMATE OBJECTIVES

Krakow has been a leader in efforts to improve air quality for years. Due to the joint efforts of many communities, we have achieved significant progress on this path. Currently, we are facing another challenge, which is the climate crisis. We want to be a leader in this area as well.

Krakow's goal is the climate neutrality, which is understood as the maximum reduction of the CO₂ emissions in the sectors: building, transport, energy and also balancing the other emissions, that have not been limited yet, by absorption. We want to achieve it this goal as soon as possible in the conditions of the a fair, effective and socially acceptable transformation. We plan to reach a significant 25% reduction of greenhouse gas emissions by 2030.

A climate neutral economy requires integrated actions in many areas, such as: energy efficiency, renewable energy sources, clean and safe mobility, circular economy, infrastructure and integration of systems, bioeconomy and natural absorption of CO₂, capture and storage of CO₂.

We are aware, that the measures taken so far to mitigate the climate changes are far insufficient. We suggest a new approach, based on systemic changes. We are looking for the innovative technical, organisational, financial and social solutions, which will enable the acceleration of the climate transformation. It is a complex and long-term process that requires the involvement and cooperation of the residents, scientific communities, entrepreneurs and local government institutions.

The climate neutrality is not a burden for us, but an opportunity to improve the arrangement of the city and maintain its high attractiveness as a place to live and run a business. It is an ambitious plan but we are determined and we believe in a success.

ECONOMIC CASE

The economic model is an integrated tool supporting the process of planning the climate transformation. It allows us to make strategic decisions based on data, after analysing various options. It is a dynamic tool that can be regularly updated

to estimate the effect for a different action scenarios, reflecting an increasing level of ambitions.

Basic functionalities of the economic model:

- Estimation of the CO₂ emissions in the base year 2018 (Fig. 3B1, Fig. 3B3),
- Estimation of the CO₂ emissions for the continuation of the trend without the additional reduction measures 2030 (Fig. 3B3),
- Calculation of the effect, costs and benefits for the 14 the most crucial emission reduction levers (Fig. 3B2, Fig. 3B3),
- Calculation of the total effect, costs and benefits for a specific scenario (Fig.3B3).

The analysis was made for the scenario of ambitious measures that may reduce the CO₂ emissions by 25% in 2030. In 2018 Krakow’s emissions from main sectors (mobility, heating and electricity) was nearly 5 mln t CO₂. Total cost of energy (66%) and fuels for transport needs (34%) exceeded 1 000 mln EUR.

The analysed scenario has a positive total economic case. The amount of the benefits, including health and environmental, is higher than the required Upfront Investment. The economic model takes into account 13 levers in the main sectors, addressed to three key sectors and one lever responsible for CO₂ absorption (forestation).

Passenger transport	1.1	Reduced passenger transportation need
	1.2	Shift to public and non-motorized transport
	1.3	Increased car pooling
	1.4.1	Electrification of passenger cars
	1.4.2	Electrification of public transport
Freight transport	2.1	Reduced and optimised logistics
	2.2	Electrification of freight transport
Buildings and heating	3.1	Building renovations
	3.2	New buildings highly energy efficient
	3.3	Efficient lightning and appliances
	3.4	Decarbonising heating
Electricity	4.1	CHP fuel shift
	4.2	Shift to renewable electricity
Other	5	Forestation

Fig. 3.A – The decarbonisation levers used in the Economic model..

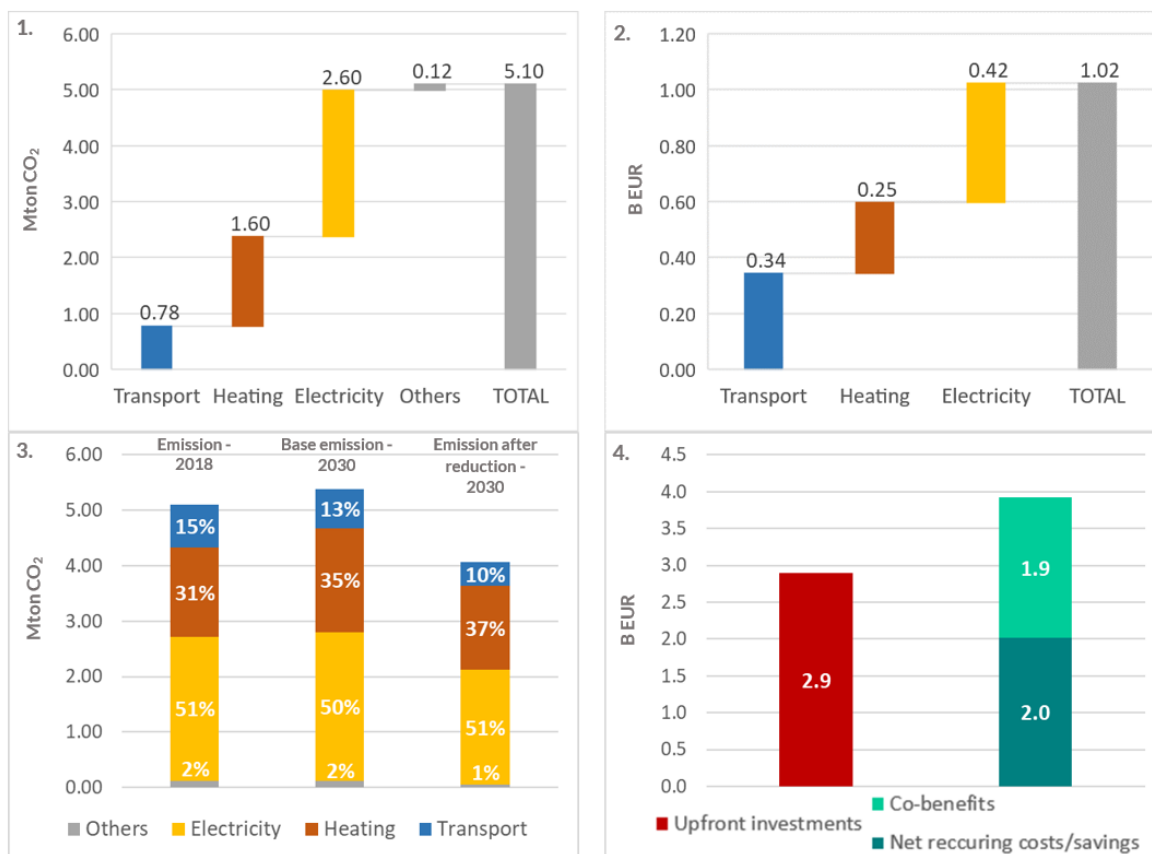


Fig. 3.B – The CO₂ emissions by sector in the base year 2018 (Fig. 3.B.1), the energy costs by sectors (Fig. 3.B.2), different emission reduction scenarios (Fig. 3.B.3), the costs and benefits from the future measures (Fig. 3.B.4)

For 7 out of 14 levers, the costs-benefits balance is positive: reduction of transport needs, transition to public and non-motorized transport, carpooling, electrification of passenger cars and buses, optimisation of freight transport logistic, forestation. Thermorenovation of buildings, decarbonisation of heating and electricity and replacement of lighting and devices for more efficient ones, have a negative balance of costs-benefits, but a very significant impact on the reduction of CO₂ emission.

HCC PORTFOLIO DIRECTION

A transition to a carbon-neutral society can only be tackled in an integrated way - and must recognize the fundamental relationship between environmental and social justice. Climate change and inequalities are two sides of the same coin, Krakow has begun the visioning process aimed at driving strategies and plans towards common objectives of better environmental performance and reduced environmental impact; thereby towards better quality of life for all its citizens.

The following experiments - developed through Krakow's Deep Demonstration journey - focus on unlocking existing potential within Krakow's climate mitigation action in more sectorial cross-cutting ways - generating meaningful impacts across health and wellbeing, inclusion and equality, new sustainable jobs and enterprises, and a fundamental restorative and regenerative relationship with the environment. Given the existing activity in the city, **Mobility** and **Buildings & Energy** – with integrated actions in nature-based solutions (NBS) and Greening - were chosen as the two focus domains for this programme due to their potential to encourage radical shifts within society (be it through cultural & participation; place-based; Governance & Organizational; Planning and regulatory; Financing and Technology and Data experimentation).

In line with the urgency of acknowledging Covid-19 and the opportunity of Covid-related temporary and permanent transport interventions (mobility) and changes in working patterns and how we regard the home (building retrofit), the lead experiments aim to harness and make permanent the mass civic and municipal action (whether it be behavioural changes or implementation of infrastructure), to position Krakow to fully unlock the potential of accelerating a shift beyond its existing mobility and retrofit trajectory.

Both experiments piggy-back off of a series of existing Municipal projects and use the ambition of developing a Climate Quarter (for which the Grzegórzki-Kazimierz region is the central place and the axis of reconstruction) as a testing ground to encourage and experiment with more systemic tools for change. Through exploring and testing these new (often intangible) models within a diverse and active urban area, the experiments aim to build a stronger case for climate action in Krakow as well as capture the value and data that will allow the approach to be replicated and scaled in future. The core premise for each experiment is outlined below, and will be further explored alongside a wider array of civic, institutional, private sector and municipal actors. Overview of Krakow's urban missions & associated emerging strategic experiments is shown on Fig. 3C.

MOBILITY

This lead experiment supports a city-wide shift towards more walking and cycling as forms of active mobility with associated positive health and environmental outcomes. The development of the Climate Quarter (place-based) and improved inter-district cycling routes will serve as testing grounds and allows for both route-based and place-based experiments that can support the transition in parallel.

BUILDINGS & ENERGY

This lead experiment supports the design and establishment of the infrastructure and organisations that will be required to accelerate the rate and depth of building retrofit and distributed renewable energy generation in Krakow in the context of a broader urban renewal. The Climate Quarter will serve as testing grounds for deploying deep retrofit alongside location-based mobility experiments in order to explore synergies of tackling climate mitigation across several domains. The model of ‘retrofit as a service’, is being roll-out in cities all across Europe, however understanding how it works in the context of Krakow will be the key to success.

With a similar fundamental ambition – but through exploring the pathways through different lenses and (in some cases) approaches; The lead experiments will be broadly aimed at:

- positioning existing / planned projects in such a way that the city can ensure multiple impact (across culture, behaviour change & participation, place-based, governance & organization, planning & regulation, finance & accounting and technology & data-driven interventions),
- learn how such policies and projects can be scaled, replicated and enabled, overcoming institutional barriers
- priming the policy and project design / implementation landscape for Covid-recovery funding and other investments enabling further future shifts.
- generating mechanisms for data gathering that provide a dynamic and transparent evidence base on evaluation project success, learning, and establishing co-benefits of such shifts across environmental, social and economic outcomes, supporting future decision making.
- Unlocking funding (within the public and private sector) and participation models that will allow for sustainable, democratic shifts within both domains.

Further actions

Upcoming activities:

- gaining broad social acceptance for the climate transformation,
- involvement of partners from the social, scientific and business environment,
- determination of the priorities in the short- and long-term,
- preparation of an implementation program for the most effective directions of the emission reduction levers.

Further steps:

- increasing the ambitions and climate goals,
- optimisation of the transformation scenario and refinement of the total economy case,
- exploitation of the experience from experiments to accelerate transformation,
- preparation of the solutions for reducing emissions from the value chain (e.g. efficient using of building materials, reducing the quantity of food wastes, changing the diet)

This Position Paper is the first attempt to outline the goals and paths of Krakow's transformation towards climate neutrality. Work on the development of the strategy will be continued as part of the Zero-emission Krakow project (HCC DD). Further analysis, experience from implementation of the experiments will reveal new possibilities to increase ambition and acceleration of achievement the climate goals. Krakow's climate strategy will be developed and improved in the further iterations.

Overview of KRAKOW urban missions & associated emerging strategic experiments

WAVE 01

WAVE 02

CITY MISSIONS

EXPERIMENTS

COMPONENTS

KEY ENABLERS

CITY MISSION 01:
"Green and resilient City"

CITY MISSION 02:
"Safe, low carbon mobility that increase civic participation in city life"

CITY MISSION 03:
"Smart and efficient use of resources"

CITY MISSION 04:
"Thriving local economy and affordability"

CITY MISSION 05:
"Flexible and responsive society"



Mobility

City-wide shift towards more walking and cycling as forms of active mobility with associated positive health and environmental outcomes. The Climate Quarter and improved inter-district cycling routes will serve as testing grounds.



Buildings & Energy

The design and establishment of the structures and organisations that will be required to accelerate the rate and depth of building retrofit and distributed renewable energy generation in Krakow in the context of a broader urban renewal.

1

Changing Narratives through innovation participation

How can we... take innovative participation action to mobilise residents in actively co-creating, help overcome participation inertia, and change the narrative to emphasise the multiple co-benefits of shifting to active modes of travel for all city actors?

2

Ensuring multiple impact and building capabilities using an integrated design approach

How can we... purposefully design sustainable transport projects in the city for multiple impacts? How do we use the varying scales of infrastructural mobility projects being implemented (creation of the Climate Quarter and plans to improve inter-district cycling infrastructure) as testing grounds for approaching projects through multiple levers? How can we integrate Nature-Based Solutions and other climate mitigation / adaptation and quality of life / health measures?

3

Governance innovation to support distributed Action

How can we... overcome siloed working within the municipality in order to achieve cross-departmental support for and investment in (or in sync with) active / sustainable travel, and new ways of working? How can we develop the city's tools to foster distributed action to enable citizens and private sector leaders to drive the shift towards active travel modes, and to develop and drive complementary action in the Climate Quarter?

4

Covid-19 & Climate Mitigation Targets

How can we... Harness the impact of covid-19 and its short term effects (behavioral, regulatory and temporary interventions) to set more ambitious and rigorous targets that accelerate the shift towards active modes of travel and climate mitigation?

5

Innovative and Blended Financing

How can we... create financing models for planned and future infrastructure projects relating to the Transport Development Strategy (starting with the cycling infrastructure) to maximise multiple-value creation, and unlock new sources of blended finance?

6

Enable Scaling & Strengthen Arguments

How can we... enable next generation systems, capacity and capabilities for data gathering on impacts within the Climate Quarter and new cycling routes, in order to develop a solid evidence base that can strengthen future arguments for climate mitigation (for scaling, replicating, political buy-in, further budget etc), and enable value capturing?

7

Build Community Capacity

How can we... take innovative participation action to mobilise residents in actively co-creating a model of Green Neighbourhoods in Krakow (starting with the CO) order to become part of a city wide mission on CO2 reduction?

8

Learning for the Climate Quarter

How can we... explore different approaches to street retrofit in the climate quarter, in particular the inclusion of Nature-Based Solutions, that ensure retrofit interventions are systemically integrated with other solutions in order to ensure maximum benefits and learning returns? How can these be accelerated in the context of green recovery from the Covid-19?

9

Participatory Governance

How can we... design a process that allows for participatory governance, in particular community ownership of local energy and other community assets, that is consistent with the regulatory environment and the funding model?
How can we... design a governance model for the delivery of Green Neighbourhoods that is multi-departmental & joined-up, brings in innovative private sector participation and allows for blending with non-repayable funding sources (including but not limited to municipal funds) (Green Neighbourhoods as a Service)

10

Regulatory Barriers & Gentrification

How can we... explore the regulatory barriers in the building retrofit process to achieve retrofit targets and test how they could be overcome?
How can we... Harness learnings, support existing and explore new policy responses to ensure a 'just transition' focus on deep district retrofit that avoids gentrification impacts within the Climate Quarter as a learning?

11

Financing Green Neighborhoods

How can we... maximise potential sources of private and public funding into the model to pay for Green Neighbourhoods (in and beyond the Climate Quarter)?

12

Blueprints for Transformation

How can we... use the Climate Quarter as a test bed to understand what is required to enable scaling of district retrofit and develop criteria for selecting other pilot areas?
How can we embed a data-driven approach to build evidence for what works and create a holistic data framework to better understand co-benefits?

13

Circular Renovation Wave

How can we... embed circularity and cradle to cradle principles along the whole construction value chain?



CULTURE & PARTICIPATION



PLACE-BASED



GOVERNANCE



POLICY & REGULATION



FINANCE & ACCOUNTING



TECHNOLOGY & DATA



Position Paper - A joint trajectory

This Strategic Narrative document will aim to provide a joint position on the ambition of Krakow's Climate action, as well as a snapshot of Krakow's progress to date with the ambition of aligning municipal, civic, institutional and private sector actors in radical transformative carbon-neutral transition in Krakow.



Citizens Assembly & the establishment of a coalition of citizens within the Climate Quarter

These platforms will aim to improve co-creation and information dissemination between municipal project drivers and civic society in order to empower non-public-sector actors to take ownership and be decision makers within their city.



Diverse Municipal Working Groups

The creation of clearer, more diverse and more inclusive municipal working groups leading each experiment (though still working within the HCC umbrella) will allow the experiment development and deployment to experience a rigorous acceleration and co-creation.



Active participation in EIT Climate-KIC programs such as:

projects under the Horizon 2020 program, the LIFE program, the Interreg program and other projects allow for cross-program learnings and experience.