

# CASE STUDY

Prague (Czech Republic) - Kyoto (Japan)

IURC - Asia & Australasia



DECEMBER 23- 2023

Thematic Network(s): Ecological Transition and Green New Deal  
Thematic Cluster(s): Circular Economy - Waste Management  
Cross-cutting challenge(s): Energy Transition and Climate Change  
Topic keywords: Carbon Neutral, Circular Economy, Waste Management

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# City of Prague - City of Kyoto

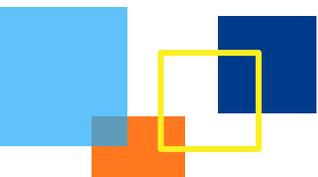
## IURC - CASE STUDY

*Prague and Kyoto mutually aligned their efforts in pursuit of a shared sustainability agenda, encompassing goals related to decarbonization, energy, climate adaptation, and the circular economy.*

## EXECUTIVE SUMMARY

City of Prague and City of Kyoto is now on a way towards carbon neutrality by 2050. Both cities set the greenhouse gas emission reduction targets by 2030, 45% (Prague) and 46% (Kyoto) respectively. The Prague Climate Action Plan 2030 identified four basic areas of action, namely sustainable energy, sustainable mobility, circular economy, and adaptation to climate change. Kyoto City is the first subnational government in Japan that declared to aim to reach net-zero carbon emissions by 2050 in 2019. Kyoto city developed the Program of Global Warming Countermeasure 2021-2030, and under the plan, the city takes actions for transformation of four areas, namely lifestyle, energy, business and mobility, promote carbon sink measures including forest sink and adaptation measures.

Through collaborative learning facilitated by IURC, both cities have mutually inspired and influenced each other in their efforts to combat climate change. They share a common emphasis on circular economy and waste management, acknowledging the interconnectedness of these topics with climate action. Furthermore, they recognize the importance of nature-based solutions in enhancing resilience and managing disaster risks. Additionally, both cities are interested in how to develop partnership and collaborative actions with local stakeholders, including citizens, university, and others. Among others, Prague found that the experience of Kyoto of more than 50 percent waste volume reduction through strong promotion of waste reduction at source and reuse is useful. Kyoto found that citizen's engagement, operation of awareness raising/environmental education programme, and energy certification system for hotels shows good lessons for them to take up in future actions.

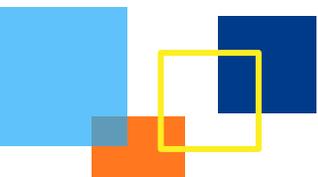


# MAIN CHALLENGE AND SOLUTION

Prague is located in the heart of Europe and the capital of the Czech Republic. With an area of 827km<sup>2</sup> and a population of more than 1.3 million inhabitants, Prague has a rich and fascinating history that dates back over a thousand years, with events that have not only shaped its culture but also had a significant impact on Europe. In recent years, the city has also been focusing on sustainability initiatives, which include renewable energy sources, eco-friendly housing, and efficient public transportation. The City of Kyoto, located in the Kansai region of Japan, is renowned for its rich history, breathtaking cultural heritage, and steadfast commitment to sustainable development. With a population of over 1.4 million people, it's one of Japan's most iconic cities. Kyoto's history dates back over a thousand years. The city has made substantial strides in environmental conservation, emphasizing decarbonization and climate adaptation, as the birthplace of the Kyoto Protocol. Both cities share the goal of decarbonization with the mid-term reduction targets of 40 percent (Prague) and 46 percent (Kyoto) reduction. Both cities put significant efforts to pursue the targets that needs the change in socio-economic systems and people's lifestyles. Circular Economy including sustainable waste management is also a common priority area, which is closely interlinked with zero-carbon pathways. A series of online exchange help both cities understand the outline of policies each other, and the study tour inspire the participants through practical solutions and approach to tackle with sustainable challenges of both cities.

## Challenge and Solution (1): Awareness Raising, environmental education, and citizens' engagement

**Metro Farm** is an innovative project that focuses on urban and suburban community gardening and farming in Prague. Activities mainly revolve around the care of plants, vegetables, and animals, but it is much more than a community garden. It's a space that fosters sustainable lifestyle, community, and learning. Compositing of organic wastes are practiced at the Farm. It fosters a sense of camaraderie among its members and ties of families. This approach allows city dwellers to develop a closer relationship with nature and understand the importance of sustainable practices. Metro Farm operates on a community basis led by a non-governmental organization. **The Prague Ecology Centre** is an ecological and educational centre. It situated within a complex of historically protected buildings and a natural area covering 10 hectares, including fields, places where visitors can interact with animals, cafeteria, and others The center hosts year-round events centered around themes of creativity, nature, and sustainability. The Centre is operated by a non-governmental organization.



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**“Prague’s Ecology Centre and the Metro Farm have similarities with Our Ecology Centre in terms of environmental education. There may be opportunities to exchange information and insights regarding operation of the centres among the organisations in charge of operation.**

**(Kyoto official participated in the Study Tour)**

**The Miyako Ecology Centre** was opened in 2002 as a base facility for environmental learning and for expanding the circle of environmental conservation activities. In commemoration of the 3<sup>rd</sup> Conference of Parties of the UNFCCC. It has exhibits where visitors can learn about the ecological wisdom unique to Kyoto as well as global environmental issues in a hands-on way, and carries out various activities with the aim of becoming a 'place to nurture' people involved in environmental conservation activities, a 'place to support and collaborate' in such activities, and a 'place to disseminate' the results of environmental conservation activities. **The Sustaina Kyoto** is an environmental education facility which is attached to the Kyoto City Southern Clean Center, a refuse-derived fuel plant of Kyoto City. Visitors can see how the process of incinerate wastes, waste power generation, biogasification facility and other powerful large-scale facilities up close, and learn about cutting-edge environmental technology using them as living learning materials. Environmental education programmes have also been thoughtfully designed and is made available to citizens, encompassing a wide range of environmental and sustainability topics, including waste management, climate change, and biodiversity. A variety of programmes are offered to engage individuals of all ages, from children and students to adults and business professionals, as well as students on school study trips, fostering an environment where learning is both enjoyable and driven by curiosity and interest. The operation cost is covered by the revenue from the waste collection bags.

**“The educational dimension of the waste incineration process is an excellent experience, with visitor tours thoughtfully designed to accommodate various age groups simultaneously.”**

**(Prague official participated in the Study Tour)**



## Challenge and Solution 2: Circular economy and sustainable waste management

The Prague's Climate Plan also see reduction of waste generation volume is one of the core priority areas. Mixed municipal solid waste is considered one of the biggest challenges to promote reuse and recycle of wastes, in addition to waste minimization. Kyoto succeeded in significant reduction of waste volume collected by the municipality from 820,000tons (2007) to 380,000tons (2022). In the fiscal year 2021, Kyoto City achieved the lowest waste generation per person per day among Japan's ordinance-designated cities, with household waste accounting for 399g per person per day and a total of 758g per person per day when including household and business waste. This achievement can be attributed in part to the reduction of business waste resulting from the impact of the COVID-19 pandemic. It also reflects the dedicated efforts of both residents and businesses who have consistently worked to reduce waste since the peak period. One of the success factors is that Kyoto emphasizes 2R (Reduce (waste prevention) and Reuse (use repeatedly) more than 3R (reduce, reuse, recycling), a traditional concept of waste management prevailed in Japan. This 2R concept is also contributing to transition of people's lifestyles to be more carbon neutral. The Prague delegates found that waste collection and sorting systems in Kyoto is an excellent example to learn more.

Kyoto City is partnering with private companies to promote sustainable lifestyle and waste minimization among citizens, such as "Totoya", known the first zero-waste supermarket in Japan that sell products by weight.



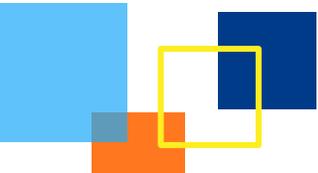
"Human Forum's Warehouse", a private company that promote reuse and remake of cloths collected with collection boxes placed in the city area.

## Kyoto City has been notably effective in fostering a sense of civic responsibility when it comes to waste reduction and household waste sorting.

(Prague official participated in the Study Tour)

As an initiative involving citizens in resource recycling, Cirkulární dílna HYB4, a community association in Prague offers circular workshops to repair or upcycle refused/disused furniture, appliances, etc. targeted at from children to the adults. The workshops are held several times a week. The community space is run in cooperation with Charles University and the City of Prague.

Meanwhile, in order to realise a decarbonised society and a prosperous society where future generations can dream by 2050, Kyoto City has launched the 'Kyoto-based decarbonised lifestyle promotion team - 2050 Kyoto Creation Meeting', consisting of citizens, businesses and academics, to develop a decarbonised lifestyle vision and targets and actions by 2030. With the aim of creating options in society to promote behavioural change among citizens, the team is working on the creation and demonstration of projects such as the 'RELEASE ⇄ CATCH' used-clothes collection and circulation project, together with businesses taking advanced initiatives and citizens, mainly the young people who will lead Kyoto in the future.





### Challenge 3. Zero Carbon District Development – Creating leading model areas

The Energy Plus Project in Prague refers to initiatives focusing on the development and promotion of Energy-Plus house that is a building that produces more energy from renewable energy sources than it imports from external sources. This is achieved through a mix of energy-efficient design and construction, and the use of renewable energy technologies. The University Centre for Energy Efficient Buildings (UCEEB) of the Czech Technical University (CTU) is one of the leading institutions involved in these projects. They have been working on the concept of Energy-Plus houses through practical projects and workshops. The Kyoto delegation heard about an Energy Plus district development project in DOLNÍ POČERNICE under planning at UCEEB in collaboration with Prague City and business sector.

Kyoto is now implementing a project to create a decarbonisation leading area, utilising the land of former high school and the adjacent land of the water supply and sewerage bureau. Approximate 400 units of ZEH with PVs on the roofs of houses and storage batteries to zero-carbon residential areas will be built in the leading area. Since projects both in Prague and Kyoto take similar approach, Kyoto is interested in further exchange.

**“The Plan of the Energy-Plus District Development Project in Prague shares common elements with Kyoto's initiative to create a decarbonization leading area in the Fushimi area, and there is potential for future collaboration.”**

(Kyoto official participated in the Study Tour)



# RESULTS AND IMPACT

## KEY FIGURES

**N°**

Projects Prague and Kyoto shared through the IURC

20

Kyoto: 9 projects

Prague: 10 projects

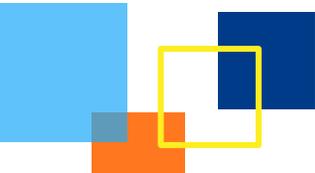
**N°**

Participants joined bilateral exchange of Prague and Kyoto

58

Kyoto 32 persons

Prague: 26 persons



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## LESSONS LEARNED

The exchange under the IURC are opening a completely new chapter of cooperation of two cities beyond traditional scope of cooperation.

(Mr. Štěpán Kyjovský - Director of the Environmental Department. City of Prague)

One of the common challenges for both Kyoto and Prague is how to encourage citizens' lifestyle to more decarbonised oriented one.

(Kyoto City)

Both Prague and Kyoto are taking steps towards a decarbonised and circular economy, while respecting the environment. It is hoped that the EU project will provide an opportunity to inspire each other.

(Ms. Jana Komrsková, Prague city Deputy Mayor for the environment and climate)

The City of Prague and the City of Kyoto have deepened exchanges in culture and the arts as sister cities. Through IURC, two cities expanded its cooperation to the environment sector and further strengthened our ties

(Ms. Sayako Matsumoto, Director of the Global Environment Policy Office, Kyoto City)

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# THE IURC PROGRAMME

The International Urban and Regional Cooperation (IURC) programme enables cities in different global regions to link up and share solutions to common problems. It is part of a long-term strategy by the European Union to foster sustainable urban development in cooperation with the public and private sectors, as well as representatives of research and innovation, community groups and citizens. Through engaging in IURC, cities will have the chance to share and exchange knowledge with their international counterparts, building a greener, more prosperous future.

The IURC programme is an opportunity for local governments to learn from each other, set ambitious targets, forge lasting partnerships, test new solutions, and boost their city's international profile. Its activities will support the achievement of policy objectives as well as major international agreements on urban development and climate change, such as the EU Urban Agenda, the UN Sustainable Development Goals, and the Paris Agreement.

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**Acknowledgments: City of Prague, City of Kyoto**