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REVIEW OF PROGRAMME PLANNING AND IMPLEMENTATION

(Item 5 (d) of the provisional agenda)

Low Carbon Cities

Note by the Secretariat

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I. BACKGROUND

1. The North-East Asia Low Carbon City Platform (NEA-LCCP) was launched to enhance collaboration and empower local governments on low carbon city development through peer-to-peer support and experience-sharing. Endorsed by the SOM-19 in 2014, the launch of the platform reflects the significant role of cities in supporting national actions on climate change as well as environmental sustainability.

2. The Terms of Reference (TOR) adopted by the SOM-20 in 2015 sets the NEA-LCCP as an open platform for relevant institutions and organizations to mobilize their joint efforts in adopting and advancing low carbon city (LCC) development through communication and cooperation, linking cities with major stakeholders, promoting awareness, and building capacity. The four areas of activities identified in the TOR are: (i) information sharing and communications, (ii) technical assistance, (iii) analytical studies and (iv) capacity building. Subsequently, the Secretariat had a series of consultations with experts to further elaborate on the approaches and activities of the Platform and reviewed the latest LCC development in the subregion.

3. To operationalize NEA-LCCP and benefit from the experiences in LCC policies and plans in North-East Asia, SOM-21 in 2017 approved the plan for two activity components: (a) peer review at the municipal level to support improvement and implementation of low carbon city plans in selected cities; and (b) comparative study at the national level to review government policies on low carbon city development.

4. Subsequently, the Secretariat facilitated the pilot peer review studies and workshops in Wuhan city (2018) and Guangzhou city (2019) in China, as reported respectively to SOM-22 and SOM-23. After SOM-23, the Secretariat held the peer review workshop in Gwangju city, the Republic of Korea, in October 2019. The Secretariat also carried out a comparative study of national policies on low-carbon cities in China, Japan and the Republic of Korea, engaging think tanks and institutes such as the Innovative Green Development Program (iGDP), Institute for Global Environmental Studies (IGES) and the Korea Environment Institute (KEI). The key findings of the study were reported to the SOM-24 in 2020 and the full report is available to download at [Comparative Study on LCC-final 0.pdf \(neaspec.org\)](#).

5. Noting the initial activities on sharing experiences and knowledge among cities and experts through studies and peer reviews, the SOM-23 supported the proposal of expanding the scope of the NEA-LCCP to cities in Mongolia and the Russian Federation. Chinggis and Tsetserleg in Mongolia and Ulan-Ude and Irkutsk in the Russian Federation were nominated by their respective governments for the future work of the LCCP. As a follow-up to the SOM-23, the Secretariat commenced the preliminary discussion with the Baikal Institute for Nature Management Siberian Branch of the Russian Academy of Sciences (BINM SB RAS) on co-

organizing a Low Carbon City Workshop in Ulan-Ude, tentatively in May 2020, but postponed due to the COVID-19 pandemic. In parallel, the Secretariat designed and developed a project titled “*Leveraging Science, Technology and Innovation (STI) for Low Carbon and Resilient Cities*”, funded by the UN regular budget, to develop knowledge sharing and capacity building under NEA-LCCP by connecting the work of ESCAP on STI.

6. STI, as means to achieve Sustainable Development Goals (SDGs), is a key driving force for advancing climate change mitigation, building resilience and accelerating the transformation towards carbon neutrality. Developing low-carbon and resilient cities serves as an important pathway for realizing national and local mitigation targets while assuring growth and improving the quality of life. Various initiatives and studies, including [the NEASPEC studies on low-carbon city policies in China, Japan and the Republic of Korea](#), have shown the wealth of experiences and innovative solutions of local governments in reducing carbon emissions and encompassing programmes and strategies addressing issues such as air pollution, clean and sustainable energy supply, energy-efficient housing, and sustainable transport system. Many of these successful experiences highlight the key role of STI to facilitate and accelerate the advanced technical solutions for building low emission and resilient cities.

II. PROGRESS OF THE NEA-LCCP ACTIVITIES

7. The project “*Leveraging Science, Technology, and Innovation (STI) for Low Carbon and Resilient Cities*” was commenced in June 2021 with the following components.

- a) Needs assessment of Mongolia and the Russian Federation
- b) Identification and selection of suitable cases based on the assessment results and development of training materials
- c) Sharing knowledge; and
- d) Capacity building

Table 1: Overview of the Project “STI for Low Carbon and Resilient Cities”

	Project component	Target	Project partners
1	Needs assessment	Nominated cities and more cities of Mongolia and the Russian Federation	<ul style="list-style-type: none"> • Climate Change Research and Cooperation Centre (CCRCC), Mongolia • Baikal Institute of Nature Management of the Siberian Branch of the Russian Academy of Science (BINM SB RAS)
2	Identification and selection of suitable cases based on the assessment results and development	Nominated cities plus NEA cities/governments	<ul style="list-style-type: none"> • ICLEI East Asia Secretariat • Innovative Green Development Program (iGDP), China

	of training materials		
3	Sharing knowledge	All stakeholders under NEA-LCCP	<ul style="list-style-type: none"> • Incheon Metropolitan Government • Incheon Climate and Environment Research Center • ICLEI East Asia Secretariat • iGDP • Green Climate Fund (GCF)
4	Capacity building	Mongolia	<ul style="list-style-type: none"> • CCRCC • ICLEI East Asia Secretariat • iGDP

Needs assessment

8. The Secretariat conducted scoping analyses and developed guiding questions for carrying out needs assessments at national and sub-national levels in Mongolia and the Russian Federation. In collaboration with the Baikal Institute of Nature Management, the Siberian Branch of the Russian Academy of Science (BINM SB RAS) and the Climate Change Research and Cooperation Centre (CCRCC) of Mongolia, a series of consultations were conducted with national and local stakeholders to assess and identify specific needs for capacity-building. The key takeaways and recommendations of the consultations were fed into the development of training materials tailored to the local needs.

Table 2. Stakeholder consultations in the Russian Federation

Areas	Suggestions from the participated cities: Ulan-Ude, Irkutsk, Chita, and Yakutsk
STI as a means of implementation: potential contributions	<ul style="list-style-type: none"> • Emissions inventories for improved decision making • Online tool for tracking waste, smart route planning tool for behavioral change
STI as a direct technical solution	<ul style="list-style-type: none"> • Cleaner and more eco-friendly infrastructure and energy generation: waste to energy plants, biomass power plants and green infrastructure • Cleaner and more eco-friendly equipment: energy-saving retrofit, solar PV, EVs • Faster, better, and larger data availability and processing: real-time air quality alert
Areas to be interested to learn from other cities' experiences	<ul style="list-style-type: none"> • Clean energy: development of hydrogen energy, use of urban approaches to clean and renewable energy, construction of buildings with a high level of thermal protection and low energy consumption, extensive use of renewable energy sources, and the improvement of logistic transport routes • Sustainable solid waste management

	<ul style="list-style-type: none"> • Innovative urban management • Possibility of large-scale technical and technological applicability as well as the financial support of for the implementation of low carbon cities • Local actions and cooperation to ensure carbon neutrality
Areas for collaboration	<ul style="list-style-type: none"> • Methodological support for the strategy planning for low-carbon development • Studying the technical and technological feasibility of large-scale implementation of innovative solutions to achieve low carbon and other pollutant emissions • Studying public and private mechanisms of financial support for the implementation of innovative solutions • Studying and improving mechanisms of interaction with stakeholders for inclusive and collaborative action on low-carbon development and climate change

Table 3. Stakeholder consultations in Mongolia: Key recommended topics for the training workshop

Participation: Department Against Air Pollution, Environmental Department, Urban Planning Division of the Urban Development Agency, Urban Engineering Facilities Division, Science, Industrial Development and Innovation Department, and Transport Department of the Capital city, Urban Planning and Research Institute, stakeholders from the energy sector
<ul style="list-style-type: none"> • Calculating GHG emissions, challenges in reporting reduced GHG emissions from measures, and using STI to solve these challenges • Air pollution mitigation actions, their correlation to GHG emissions and conversion calculation to CO₂ • Measures and approaches to improve climate resilient cities • Experiences and planning of energy efficiency resulting from decreasing heat loss in urban and regional buildings, housing and apartments • Case studies for the adoption of hydrogen technology in the public transportation system and economic calculations of hydrogen fueled public transportation. Technology for extracting hydrogen from waste, production of energy from hydrogen and using the energy for fuel • Public bike sharing case studies and other green public transportation examples • Solution of waste issue and extracting energy from waste in the city

Identification/selection of suitable cases and development of training materials

9. Key activities of the project include capacity-building on the application of STI to support low carbon and resilient cities utilizing best city practices around the region. In this regard, the Secretariat worked with two partners: ICLEI East Asia Secretariat and Innovative Green Development Program(iGDP), China, to (a) design a capacity-building workshop on STI for low carbon and resilient cities and (b) develop training materials reflecting feedback from stakeholder consultation and training needs assessment to be used at the workshop. A

report analyzing the overall developments and context of STI application for low carbon and resilient cities and containing detailed case studies was developed as a reference material.

Capacity building

10. Training workshop on STI for Low Carbon and Resilient Cities¹ was held on 16-17 December 2021 in a hybrid format (online and onsite participation from Ulaanbaatar, Mongolia) as part of the capacity building component in collaboration with the Climate Change Research and Cooperation Centre of Mongolia, ICLEI East Asia Secretariat and iGDP (see Annex I).

11. Mongolia updated its Nationally Determined Contribution (NDC) to achieve a 22.7% reduction in GHG emissions from its business-as-usual scenarios by 2030 through domestic efforts, and to further reduce GHG emissions by 27.2% with international support. While the Government of Mongolia aims to be more adaptive to new frontier technologies, the country faces various challenges, such as low high-tech penetration, limited support for new technology and lack of responsive STI policy and regulation, as diagnosed in the “Digital Readiness Assessment Mongolia”.

12. The workshop was joined by 80 local trainees representing a wide range of stakeholders from relevant ministries and departments and local districts in major cities in Mongolia, research institutes, universities, private sectors and international organizations and 12 presenters. Introducing a general framework on STI for low carbon and resilient development, the workshop shared relevant good practices in different sectors for advancing sustainable, inclusive and resilient societies through STI application, and raised awareness of technological and governance innovation for cost-effective emission reduction and climate change adaptation. The workshop also responded to the priority needs of local stakeholders including reducing GHG emissions, improving energy efficiency, integrating nature-based solutions (NbS), utilizing ICT and smart technologies and applying innovative urban governance.

Table 4: Sectors and cases presented in the training workshop

Sector	Cases
Innovative tools for urban planning	<ul style="list-style-type: none"> • Data-informed urban planning in Singapore • Energy zero housing complex: reducing building emissions
Sustainable mobility and ICT	<ul style="list-style-type: none"> • Public bike sharing system • Hydrogen-use in transportation • Transport operation and information service (TOPIS)

¹ Training materials are downloadable at [Science, Technology and Innovation \(STI\) for Low Carbon and Resilient Cities: Training Workshop | NEASPEC.ORG](https://www.neaspec.org/en/sti-workshop)

Clean energy solutions to sustainable living environment	<ul style="list-style-type: none"> • Elion “Three-in-One” Photovoltaic Sand-Fixing in Kubuqi Desert • Energy self-sufficiency village-clean energy transition with public engagement
Transformation from coal to green city	<ul style="list-style-type: none"> • From grey to green transition: Essen’s European Green Capital Programme • Transcity: a cross district emission trading scheme
Innovative urban governance	<ul style="list-style-type: none"> • Urban Renewal with Green Basis in Chengdu, China
Innovation on solid waste management	<ul style="list-style-type: none"> • Circular Economy of Bulk Solid Waste Utilization • Waste to Energy Facilities from Landfill site
Enhancing climate resilience in urban systems	<ul style="list-style-type: none"> • Sustainable urban water management strategies: China Sponge City Programme • The Sponge City Pilot programme

13. During the interactive brainstorming session of the capacity-building workshop, the following three mid-to-long term priorities for Mongolia were identified: (a) establishment of innovative urban governance mechanisms, (b) climate-responsive urban planning and (c) enhancement of energy and building efficiency. Participants suggested targeting to remove key barriers to financing, building institutional capacity and supporting the implementation of government policies for accelerating climate action at the city-level in Mongolia.

14. As part of the project, the Secretariat produced a compendium report on “[Leveraging Science, Technology and Innovation for Low Carbon and Resilient Cities](#)” in May 2022. The report highlighted the key role of STI in facilitating the efforts on building low-carbon and resilient cities by sharing case studies.

Knowledge sharing: International Forum on Low Carbon Cities

15. To support knowledge sharing and peer-learning among wider key stakeholders, the Secretariat organized the 1st International Forum on Low Carbon Cities on 23-24 November 2021 in collaboration with Incheon Metropolitan City, Incheon Climate and Environment Research Center, ICLEI East Asia Secretariat, iGDP and Green Climate Fund (GCF) (see Annex II).

16. Joined by about 350 participants including the nominated cities of Mongolia and the Russian Federation and 24 speakers from municipal governments, academia, international organization and civil societies, the Forum presented about 20 best practices in five areas of

(1) climate action planning, (2) energy and building, (3) mobility and infrastructure, (4) green finance and (5) stakeholder engagement in climate action.²

Table 5: Cities of best practices presented in the International Low Carbon City Forum

	China	Japan	Republic of Korea	Europe	International Org/City Networks
Climate action planning	Chongqing, Shenyang	Kobe, Kitakyushu	Incheon	-	-
Energy and Building	Xingye	-	Incheon	-	ADB, C40
Mobility and Infrastructure	Beijing	Toyama	Jeju	Leipzig, Germany	-
Green finance	Huzhou	-	-	-	GCF, Climate Policy Initiative, ADB
Stakeholder engagement in climate action	-	ICLEI Japan	Gwangju, Local Government Association for Climate and Energy Transition	-	CityNet

17. Many participants, including those from the nominated cities of Mongolia and the Russian Federation, suggested organizing the forum regularly and disseminating the good practices shared at the forum to a wider audience beyond North-East Asia. Subsequently, the Secretariat consulted with the partner organizations and decided to hold the second forum on 6-8 December 2022.

III. FUTURE NEA-LCCP ACTIVITIES

18. The activities undertaken by the STI for LCC project found that sharing practical knowledge and experience through in-depth case studies has been well supported by stakeholders as an effective approach to support local needs within a limited time and budget. Many stakeholders recommended to explore policies which embrace co-benefits between

² All materials are available to download at <https://www.unescap.org/events/2021/international-forum-low-carbon-cities>

climate action and economy, and between GHG mitigation and air quality improvement and so on.

19. NEA-LCCP can be strengthened by connecting the experiences and expertise of local governments and providing practical assistance in the relevant fields to cities through the platform. The project and the forum also found that there is a wealth of experiences and information from cities of NEASPEC member countries and the interest of cities in sharing their good practices. Thus, NEA-LCCP can utilize initiatives of cities and institutions for collaboration in knowledge sharing and capacity building. As one of such initiatives, the Secretariat and Incheon city as well as other national and international partners plan to hold the 2nd International Forum on Low Carbon Cities on 6-8 December 2022 in Incheon Metropolitan City, Republic of Korea (see Annex III Concept Note).

20. The Secretariat will continue to collaborate with the partner organizations of the LCC forum as well as other key stakeholder organizations to develop NEA-LCCP activities that mobilize diverse expertise for knowledge sharing and capacity building.

IV. ISSUES FOR CONSIDERATION

21. The Meeting may wish to request member States the following:

- (a) Guide and express their views on the activities in the coming years;
- (b) Propose activities that can be initiated by their cities and institutions;
- (c) Suggest good practices to be presented at the 2nd International LCC Forum and cities to be invited; and
- (d) Support the activities of NEA-LCCP, including through rendering additional resources and proposing potential projects.

22. The Meeting may wish to review and approve the proposed activity plan (Annex IV).

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