United Nations ESCAP
Economic and Social Commission for Asia and the Pacific

Economic and Social Commission for Asia and the Pacific
Asian and Pacific Centre for Transfer of Technology

Governing Council

Fifteenth session
Kuala Lumpur, 6 and 7 November 2019

Report of the Governing Council of the Asian and Pacific Centre for Transfer of Technology on its fifteenth session

I. Matters calling for action by the Commission or brought to its attention

1. The following decisions adopted by the Governing Council of the Asian and Pacific Centre for Transfer of Technology are brought to the attention of the Economic and Social Commission for Asia and the Pacific (ESCAP):

Decision 1

The Governing Council takes note, with appreciation, of the report on the activities of the Asian and Pacific Centre for Transfer of Technology during the period December 2018 to October 2019. In the report, the Centre is requested to continue providing demand-driven capacity-building support on national innovation systems and technology policy (including intellectual property rights and access to finance) as well as on the identification, transfer, adaptation and adoption of technologies, with a special focus on renewable energy, new and emerging technologies, agriculture and water, and climate change mitigation and adaptation technologies.

Decision 2

The Council notes the status of the active discussions between the secretariat and the host Government to identify the best resource mobilization strategy for the sustainable and efficient operation of the Centre. The Council urges the secretariat and the host Government to amicably resolve issues related to institutional funding, including funding required for internationally recruited staff of the Centre. It also requests the secretariat to report the results of the discussion to the Council at its sixteenth session.

Decision 3

Given the Council's findings that its regional activities are demand-driven and highly useful to the needs of its members, it requests the secretariat to circulate invitations to all Council members when organizing the regional capacity-building events to seek self-funded participation. It recommends that its members secure funds to send their representatives to the Centre's regional events and update their focal point lists for smooth communications.

Decision 4

The Council invites its non-contributing members to consider providing voluntary financial contributions to the Centre to strengthen its financial base.

Decision 5

The Council invites its members to consider providing voluntary financial contributions to the Centre at the level recommended in the report of the independent external evaluator, prepared in 2018. It recommends voluntary contributions of $7,000 from the least developed countries and $30,000 from developing countries.

Decision 6

The Council invites members to consider financing new technical cooperation projects or to develop new joint projects based on the expressed demands for technical cooperation activities.

Decision 7

The Council invites member States to consider contributing national experts to work at the Centre on a non-reimbursable-loan basis. Such arrangements will enable the experts to benefit from the work experience at the Centre, while easing the current human resource constraints faced by the Centre.

Decision 8

The Council adopts the programme of work of the Centre for 2020 as presented in annex III to the present document.

Decision 9

The Council requests the Centre to incorporate the concrete proposals for cooperation with the Centre presented by the members as well as other organizations into the present report.

Decision 10

The Council takes note of the main conclusions of the discussions of the International Conference on Emerging Technologies for Achieving Sustainable Development Goals contained in the Chair's summary in annex II, in which the secretariat is requested to take into account the recommendations of the Conference when designing future activities and to annex the Chair's summary of the Conference to the present report.

Decision 11

The Council notes that the organization of the International Conference to coincide with the session of the Council is highly useful, as the recommendations that emerged from the Conference could be considered when discussing the Centre's programme of work. The Conference will also increase the visibility of the Centre. The Council recommends the Centre to continue this good practice of organizing the Conference to coincide with future Council sessions.

Decision 12

The Council welcomes with appreciation the offer made by the Government of China to host its sixteenth session around November 2020. As this offer is in conflict with the secretariat's recommendation to hold the session in Bangkok on the occasion of the next session of the Committee on Information and Communications Technology, Science, Technology and Innovation, the Council requests the secretariat to consult with its senior management and to inform the Council of the final decision at the earliest possible date.

Decision 13

The Council requests interested members to send nominations for Council membership with the requested supporting documents to the secretariat and to copy the Head of the Centre, by 22 April 2020. In this connection, the Council requests the secretariat to circulate the nomination form well in advance.

II.   Proceedings

A.   Report on the activities of the Centre during the period December 2018 to October 2019
(Agenda item 2)

2.   The Council had before it the report on the activities of the Centre during the period December 2018 to October 2019 (ESCAP/APCTT/GC/2019/1).

3.   Several representatives expressed interest in creating a joint portal of technology databases of the members which would consolidate their technology demands and offers. A regional pilot project could be considered, as such a portal would increase the visibility of national technology databases and facilitate cross-border technology transfers.

4.   Several representatives welcomed the Centre's ongoing development of a publication on innovation and intellectual property management and offered to peer review the completed draft.

5.   Several representatives suggested that the Centre design a medium-term strategy to achieve its goals, upon the completion of the ongoing system-wide reforms.

B.   Report on the administrative and financial status of the Centre, including resource mobilization for upcoming projects and/or activities
(Agenda item 3)

6.   The Council had before it the report on the administrative and financial status of the Centre (ESCAP/APCTT/GC/2019/2).

7.   The Council took note of the report.

8.   The Council noted with appreciation that the Government of India had been actively hosting and supporting the Centre since 1977, both financially and intellectually. It further expressed appreciation to the Government for increasing its annual budgetary contributions from $200,000 to $400,000

per year, and to other members that provided annual voluntary contributions to the Centre so that it could continue its useful activities.

9.   The Council noted that the Centre's current human resource capacity was suboptimal for increasing capacity-building and addressing other expressed needs of member States to achieve the Sustainable Development Goals.

10.   The representative of India said that since the announcement of the increase in institutional support funds to $400,000, several review meetings had been held by the Government of India and ESCAP to identify the best resource mobilization strategy for the sustainable and efficient operation of the Centre. Extensive internal stakeholder consultations had also been held on expanding the activities of the Centre and deepening engagement with existing partners. In addition, the Minister of Commerce and Industry of India had discussed the sustainability of the Centre with the Executive Secretary of ESCAP on the sidelines of the Asia-Pacific Trade Facilitation Forum, held in New Delhi in September 2019. Those stakeholder meetings reflected the Government's firm commitment to furthering the interests of the organization and advancing its mission and effectiveness.

C.   Proposed future projects and programme of work for 2020
(Agenda item 4)

11.   The Council had before it the draft programme of work of the Centre for 2020 (ESCAP/APCTT/GC/2019/3).

12.   Representatives highlighted their science-, technology- and innovation-related priorities and suggested that the Centre consider implementing their suggested activities, subject to their conformity with the mandate of the Centre and the availability of budgetary resources.

13.   Several representatives requested the Centre to enhance capacity-building activities for technology transfer professionals.

14.   The representative of China proposed that the Centre collaborate with the Advanced Institute of Engineering Science for Intelligent Manufacturing, Guangzhou University, to jointly implement the project to establish an Asia-Pacific regional innovation knowledge network for fourth industrial revolution technologies with the active involvement of other members. The representative added that the project would also be linked with the Asia-Pacific Consortium of Subhealth Intervention Technology established at Hunan Agricultural University, in Changsha, China. The representative expressed appreciation for the Centre's longstanding cooperation with her country and its provinces and regions and welcomed further collaboration in areas of mutual interest.

15.   The representative of India suggested that the Centre take up activities including the following: benchmarking of the development of vaccines, biosimilars and clean fuels with best practices from other ESCAP member States; assessment of demand for multirole transport aircraft and regional transport aircraft in ESCAP member States; developing a database of available technologies with ESCAP member States in the area of cyber physical systems and evolving mechanisms for their deployment to facilitate migration to fourth industrial revolution technologies; preparation of a white paper on developing capabilities in ESCAP member States to manufacture high-performance supercomputers; and studies on developing affordable medical devices and diagnostic kits and next generation batteries for electric mobility.

16.   The representative of Indonesia proposed a technology transfer matchmaking workshop with the following focus areas: information and communications technology; maritime; health and medicine; food and agriculture; and transportation. The representative also proposed a technology transfer capacity-building activity with a specific focus on intellectual property management, technology valuation and licensing management. Both activities could be held around October 2020.

17.   The representative of the Islamic Republic of Iran proposed organizing a workshop on alternative sources of energy such as biofuels and solar cell and wind energy, and an expert group meeting on energy efficiency and its implications for the Asia-Pacific region. The representative also emphasized the importance of facilitating the transfer of technology in the fields of biotechnology, clean/renewable energy resources, medical engineering and water technology. The representative added that the Islamic Republic of Iran had more than 40 collaborative projects with European countries under way and invited cooperation from Council members.

18.   The representative of Japan provided information about the country's efforts towards supporting a "society 5.0" regime through the five-year science and technology plan starting in 2020. He emphasized the need for member countries to prepare and strengthen their society 5.0 capacity in the future. He also referred to his Government's ambitious moonshot programme aimed at finding solutions for various difficult challenges such as the declining birth rate, aging population, large-scale natural disasters and global warming, among many others. The representative also emphasized that his Government would promote international research and development cooperation to solve those issues. He welcomed the proposal from China on the establishment of an Asia-Pacific regional innovation knowledge network and suggested that, given the limitations of programme budget and human resources, the network focus on selected priority areas within the fourth industrial revolution ecosystem to maximize gains.

19.   The representative of Malaysia suggested that the Centre's work in 2020 be focused on the following key areas: technology commercialization; climate change mitigation and adaptation technologies; hydrogen technology; renewable energy technology, such as solar, biomass and biogas; and biodegradation technology, such as biodegradable plastic.

20.   The representative of Pakistan expressed the need for regional cooperation in two priority areas: information communication technology applications in water resource management and strengthening national capacities to reduce drought impacts and improve food security. The representative also emphasized the importance of training and certifying technology transfer professionals to create a pool of experts available to service small and medium-sized enterprises. He added that a training programme had been successfully implemented and several technology transfer professionals had been certified in his country.

21.   The representative of the Philippines suggested that the Centre provide capacity-building support on the following issues: the use of space technology in agriculture and governance; import substitution related to medical implants suitable for Asia-Pacific countries; and the sharing of technology transfer models or templates for licensing arrangements/contract that could be used in drafting guidelines to existing and newly signed laws related to technology transfer and commercialization. The representative proposed that the Centre jointly organize a regional workshop for technology transfer officials on

developing technology licensing agreements, to be held in the Philippines in 2020.

22.   The representative of the Republic of Korea suggested that the Centre conduct a comparative study between the Republic of Korea and other member countries on the theme of emerging technologies of mutual interest. His Government was interested in focusing on artificial-intelligence-based technologies. The Asian innovation scoreboard could be used as core information for Asian countries to build their index systems and would contribute to offering customized support to countries in developing their innovation policies with a view to fostering the promotion of innovation capacity in the Asia-Pacific region.

23.   The representative of Sri Lanka expressed the need for mutual learning of best practices in the following areas: well-established standard prototyping and testing facilities and technology incubation centres; collaborative research; technology transfer; and research and development activities to achieve the Sustainable Development Goals. He emphasized the need to address challenges related to unemployment, the empowerment of women, agriculture and the efficient use of fertilizers, and grassroots innovation. The representative also expressed the need for regional cooperation to explore ocean thermal energy potential.

24.   The representative of Thailand proposed two capacity-building activities, to be held back-to-back, on the improvement/construction of the online database of the Association of Southeast Asian Nations Network of Excellence Centre of Biomass Conversion Technology and on technology transfer and commercialization, respectively. The tentative dates proposed for the workshops were 12–14 and 15–17 June 2020. The representative further suggested that the Centre work on the promotion of technologies related to the environment, biotechnology, drug development, medical devices, and assistive technology for elderly people.

25.   The representative of Uzbekistan said that her Government's current science, technology and innovation priority areas were artificial intelligence, nanotechnology and measures to improve the country's ranking in the Global Innovation Index. The representative invited the Centre to organize a regional capacity–building activity on topics related to science, technology and innovation on the occasion of the country's international week of innovative ideas in 2020, subject to further consultation with her Government.

D.   Main conclusions of the discussions of the International Conference on Emerging Technologies for Achieving Sustainable Development Goals, 5 November 2019
(Agenda item 5)

26.   In his summary, the Chair presented the main conclusions of the discussions of the International Conference on Emerging Technologies for Achieving Sustainable Development Goals (see annex II).

E.   Dates of and venue for the sixteenth session of the Governing Council
(Agenda item 6)

27.   The Council considered possible dates of and venues for its sixteenth session.

F.   Other matters
(Agenda item 7)

28.   The secretariat provided information to the Council with regard to the forthcoming elections, to be held during the seventy-sixth session of the Commission in May 2020.

29.   A cooperation agreement between the Government of Uzbekistan and ESCAP was signed in the presence of the Council members.

G.   Adoption of the report of the Governing Council on its fifteenth session
(Agenda item 8)

30.   The Council adopted the present report on 7 November 2019.

III.   Organization

A.   Opening, duration and organization of the session

31.   The Council held its fifteenth session in Kuala Lumpur on 6 and 7 November 2019. The Head of the Centre and the Director of the Strategy and Programme Management Division of ESCAP delivered opening addresses. A welcome address was delivered by Mr. Teoh Phi Li, Undersecretary, International Division, Ministry of Energy, Science, Technology, Environment and Climate Change, Malaysia.

32.   The Head of the Centre highlighted the fact that technology was a game-changer for sustainable development when successfully transferred and transformed into innovation. The work of the Centre was to promote regional cooperation, strengthen national innovation systems and facilitate an enabling environment for the development and transfer of technology. That work had never been more important than it was now. She welcomed the representatives of Japan and Uzbekistan, who were attending the session as observers.

33.   The Director of the Strategy and Programme Management Division of ESCAP noted that the Asia-Pacific region was a land of contrasts and striking diversity with regard to science, technology and innovation expertise, intellectual property and utilization. Though concerning, that diversity offered immense opportunities in the region for disseminating and sharing knowledge, experience and best practices in the areas of science, technology and innovation, through multilateral platforms such as the Centre which, he recalled, was a subsidiary body of the Commission. He underscored the need to strengthen global partnerships to leave no one behind while collectively striving to implement the 2030 Agenda. He reminded the members of their collective responsibility to ensure that the benefits of innovation and technology were shared and delivered to those who needed them the most.

34.   The Undersecretary of the International Division, Ministry of Energy, Science, Technology, Environment and Climate Change, Malaysia, highlighted the critical importance of sectors like energy, science and technology, the environment and climate change. He commended the Centre's capacity-building support in science, technology and innovation policymaking, national innovation systems, and technology transfer and commercialization. He expressed appreciation to the Centre for its continued collaboration with his Ministry.

B. Attendance

35.   The session was attended by representatives of the following members of the Council: Bangladesh; China; India; Indonesia; Iran (Islamic Republic of); Malaysia; Pakistan; Philippines; Republic of Korea; Sri Lanka; and Thailand. Representatives of Japan and Uzbekistan attended as observers.

C. Election of officers

36.   The Council elected the following officers:

Chair: Mr. Teoh Phi Li (Malaysia)

Vice-Chair: Mr. Ashwani Gupta (India)

D. Agenda

37.   The Council adopted the following agenda:

1.   Opening of the session:

   (a)   Opening statements;

   (b)   Election of officers;

   (c)   Adoption of the agenda.

2.   Report on the activities of the Centre during the period December 2018 to October 2019.

3.   Report on the administrative and financial status of the Centre, including resource mobilization for upcoming projects and/or activities.

4.   Proposed future projects and programme of work for 2020.

5.   Main conclusions of the discussions of the International Conference on Emerging Technologies for Achieving Sustainable Development Goals, 5 November 2019.

6.   Dates of and venue for the sixteenth session of the Governing Council.

7.   Other matters.

8.   Adoption of the report of the Governing Council on its fifteenth session.

Annex I

List of documents

Symbol	Title	Agenda item
General series		
ESCAP/APCTT/GC/2019/1	Report on the activities of the Asian and Pacific Centre for Transfer of Technology during the period December 2018 to October 2019	2
ESCAP/APCTT/GC/2019/2	Report on the administrative and financial status of the Asian and Pacific Centre for Transfer of Technology	3
ESCAP/APCTT/GC/2019/3	Draft programme of work of the Asian and Pacific Centre for Transfer of Technology for 2020	4
ESCAP/APCTT/GC/2019/4	Report of the Governing Council of the Asian and Pacific Centre for Transfer of Technology on its fifteenth session	
Limited series		
ESCAP/APCTT/GC/2019/L.1	Annotated provisional agenda	1 (c)
Information available online		
www.apctt.org	Information for participants	
www.apctt.org	Tentative programme	

Annex II

Chair's summary[*]

Main conclusions and recommendations of the International Conference on Emerging Technologies for Achieving Sustainable Development Goals

A.   General recommendations

1.   The International Conference brought together 116 participants from the Centre's Governing Council member States, including government officials, science, technology and innovation professionals, international experts, and representatives from the private sector.

2.   The main discussions during the international conference were: innovation policy to advance implementation of 2030 Agenda for Sustainable Development; strategies to promote the development, transfer and commercialization of emerging technologies such as the Internet of things, artificial intelligence, big data analytics, additive manufacturing, nanotechnology, renewable energy; and potential areas for regional cooperation.

3.   In order to make progress towards implementing the 2030 Agenda for Sustainable Development and achieving the associated sustainable development goals, member States require holistic development strategies, integrated science, technology and innovation policies, and innovative technological solutions.

4.   The importance of accelerating disruptive transformation was stressed. The Japanese Government's initiative Society 5.0, which is a data-driven human-centric society, is a good example for a balanced approach in leveraging innovations while carefully reviewing their overall effects, promoting informed decisions. The global pilot programme on science, technology and innovation for Sustainable Development Goal road maps provides another important opportunity to accelerate transformation.

5.   The Conference also deliberated on drivers of growth and what effects national policy can have on economic growth both in short and long term. The innovation models and policies of the China, Finland, the Islamic Republic of Iran, the Republic of Korea and Viet Nam were reviewed and their policy ecosystem implications were compared to that of United States and Europe.

6.   Applications of emerging technologies bring significant opportunities as well as challenges. While such technologies offer productivity enhancement, there would be temporary challenges to the employment, shortage of human resources with required new skills and ethical issues related to the application of new technologies.

7.   There is a need to shift the focus of national policies from a conventional manufacturing-oriented economy to a more inclusive, integrated and knowledge-based economy. For such a radical shift, countries need to embrace innovation at all levels. The policies should facilitate creation of

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[*]   The present annex is being issued without formal editing.

disruptive innovations that can rapidly accelerate economic growth while maximizing social, environmental and sustainability-related gains.

8.   Emerging technologies such as big data and the Internet of things and their applications have strong potentials to advance achievement of Sustainable Development Goals. The application of the Internet of things in smart farming is demonstrating benefits such as water conservation. Precision agriculture, automation of processes and informed decision-making has the potential to transform the scale, effectiveness and resilience of farming systems.

9.   Member States are facing challenges related to the formulation of policies, regulations and benchmarks for emerging technologies and in particular, their transfer and commercialization. They also face significant human resource constraints for qualified technology transfer professionals to support the process. The training programmes developed and implemented by Malaysia for certification of technology transfer professionals could be a model for consideration by other countries in the Asia-Pacific region.

10.   Knowledge-sharing among countries on emerging technologies is critical for the region to achieve Sustainable Development Goals. There is a need to strengthen networks and platforms for bringing together countries to share experiences, best practices and strategies on the development, transfer and adoption of emerging technologies. The regional knowledge networks such as the Asia-Pacific regional innovation knowledge network for fourth industrial revolution technologies proposed by China could pave the way for future regional cooperation among countries in this important area.

11.   Grassroots innovations are considered to play an important role in supporting inclusive and sustainable development. Malaysia has launched high impact initiatives and programmes to promote and mainstream grassroots innovations through entrepreneurship development, business incubation and startup creation.

12.   In recent years, nanotechnology has grown rapidly with innovative applications in sectors such as food and agriculture, electronic devices and systems, energy and environment, and wellness, medical and health. Appropriate policy and incentives would be required to promote innovation of nanotechnology products. At the same time, safety concerns of nanotechnology need to be addressed through wider public consultation and standards development.

13.   Thailand has embarked on a bioeconomy-circular-economy-green-economy model through an integrated approach comprising digitization, decarbonization, decentralization, deregulation and electrification. Smart grids and blockchain platforms are considered key components of new energy business models. In addition, sustainable waste management technologies are being promoted for supporting circular economy.

14.   India has successfully piloted different mechanisms for transfer of innovative technologies to achieve Sustainable Development Goals. Examples of key enabling mechanisms are: licensing, pilot demonstration, industry-academia collaboration, niche product development in project mode, fiscal measures, technology hubs, incubators and research parks.

15.   The member countries highlighted their priority focus areas and presented proposals for cooperation in areas of emerging technologies at the national and regional levels.

B. **Specific recommendations for the Asian and Pacific Centre for Transfer of Technology**

16. The Centre may facilitate institutional cooperation networks to promote emerging technologies such as fourth industrial revolution technologies and other disruptive technologies.

17. The Centre may provide assistance to build capacity of member country stakeholders including technology transfer officials. Joint organization of regional expert group meetings, workshops and international conferences with member States and facilitating cooperation among member States are considered essential.

18. The Centre may provide research and analysis as well as evidence-based policymaking support to member States for promoting emerging technology innovations, technology transfer and commercialization for inclusive and sustainable development.

19. The Centre may provide capacity-building in areas of development, transfer, utilization and management of innovative technologies.

20. Leveraging the potential of emerging technologies requires active participation of private sector. The Centre may facilitate public-private partnerships in specific thematic areas depending on the needs of member countries.

Annex III

Programme of work of the Asian and Pacific Centre for Transfer of Technology for 2020[*]

I.   Introduction

1.   The programme of work for the Asian and Pacific Centre for Transfer of Technology is aligned with the work programme of ESCAP subprogramme 2, Trade, Investment and Innovation Division of ESCAP. The following projects and programme of work are proposed for implementation in 2020.

A.   Assist the member States through strengthening their capabilities to develop national innovations, technology transfer and commercialization *(ongoing)*

2.   The capacity-building activities will be funded by the annual contributions received from the Centre's Governing Council member States including the host country during the year 2020.

3.   The objectives will be to increase the capacity of science, technology and innovation policymakers and key stakeholders in ESCAP member States on the following areas: improving access to knowledge and information on new technological innovations; enhancing skill and capability in science, technology and innovation policymaking; development of strategies for technology transfer and commercialization; promoting the adoption and use of new and emerging technologies; encouraging technology-based entrepreneurship; and promoting regional cooperation.

4.   The funds will support production of the Centre's regular web-based publication, the Asia-Pacific Tech Monitor.

B.   Project on South-South cooperation for science, technology and innovation policies in the Asia-Pacific region *(ongoing)*

5.   The project is funded by the United Nations Development Account (10th tranche) being jointly implemented by Trade Investment and Innovation Division and the Centre during the period 2016–2020.

6.   The project aims to develop the capacity and capability of policymakers to effectively develop and implement policies and strategies to create an enabling environment for investment, social enterprise and responsible business and provide a framework for monitoring and measuring the effectiveness of policy interventions to catalyse innovation for sustainable development.

7.   Under this project, the Centre is developing a publication on intellectual property management and technology licensing which will be published in 2020. The target users of the publication are policymakers, managers of technology licensing/transfer offices, and the private sector enterprises.

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C. **Project on evidence-based innovation policy for effective implementation of 2030 Agenda for Sustainable Development in the Asia-Pacific region** *(ongoing)*

8. The project is funded by the United Nations Development Account (11th tranche). This project is jointly implemented by Trade Investment and Innovation Division and the Centre during the period 2018 to 2021.

9. The main objective of the project is to strengthen the capacity of developing countries, in particular the least developed countries in South Asia, South-East Asia and the Pacific small island developing States, to formulate evidence-based, integrated and inclusive innovation and technology policies. Through such policies the countries should be able to use science, technology and innovations as effective means of implementation for the achievement of the Sustainable Development Goals.

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