

Technology Transfer and Innovation: Key Country Priorities for Rio+20

Programme on Innovation, Technology and Intellectual Property

Introduction

Twenty years after the United Nations Conference on Environment and Development in Rio de Janeiro (1992), the international community is taking stock of progress made and setting new goals for the future of sustainable development at the Rio+20 conference.

In this context, technology transfer and innovation have figured prominently in the submissions made by many countries in the preparatory process for Rio+20. Yet they have not received sufficient attention in this process as a whole.

The objective of this information note is to highlight the most salient technology transfer and innovation-related proposals in country submissions to the Rio +20 process. It is a compilation of major priority areas for action put forward in these proposals. Figure 1 presents the terms that are most recurrent in these submissions using a 'tag cloud' where the importance of each term, or 'tag', is shown with font size.

The priority areas identified are: mechanisms, innovation, enabling environments, capacity building and know-how, intellectual property, and financial resources. While undoubtedly there is overlap among these areas, it is useful to examine them separately to present a narrower and more specific focus.

In addition, the 'zero draft' – a text based upon submissions and inputs received by the UN Secretariat to serve as a basis for deliberations in the preparatory process – is presented as negotiators continue discussions on a draft outcome document for the Rio+20 Conference.

Figure 1. Tag cloud of most prevalent words used in submissions; larger size = larger presence



Background

Agenda 21 – the comprehensive plan of action to come out of the first Earth Summit (1992) – was in many ways viewed as ‘techno-centric’ as it considered environmentally sound technology (ESTs) and information among the ‘essential means’ to achieve a sustainable world economy.¹

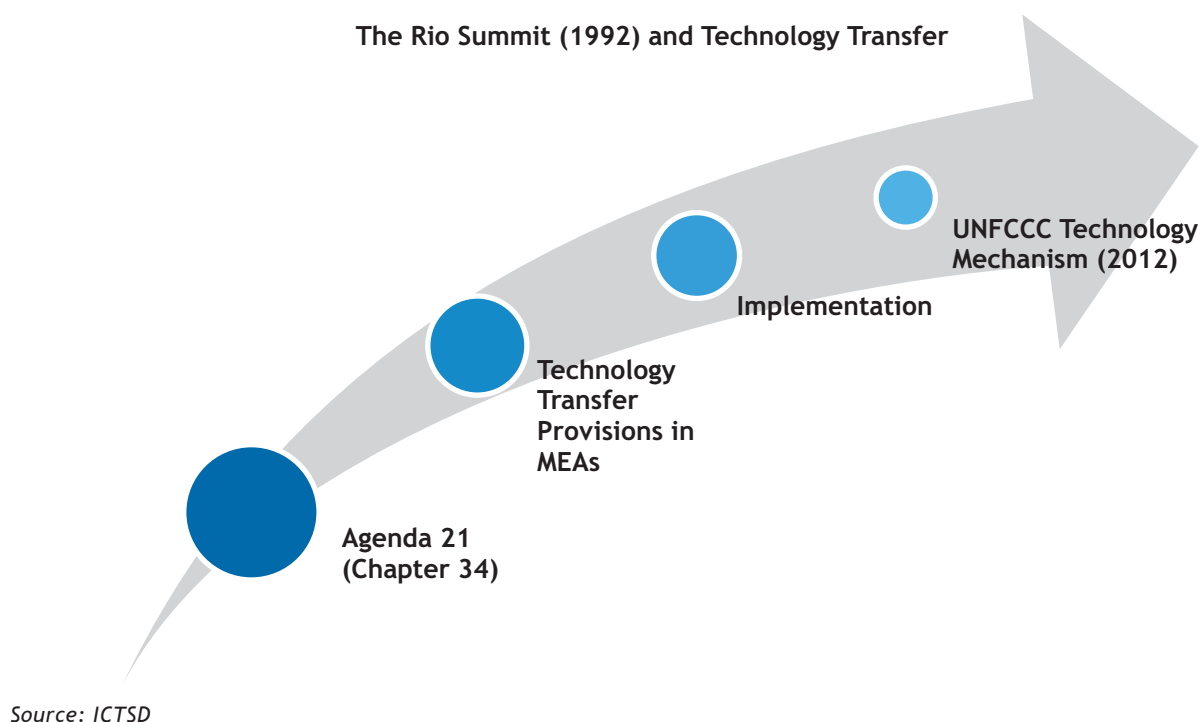
Chapter 34 of Agenda 21 extensively tackled the role of ESTs in addressing the sustainable development challenge and highlighted the need to enhance access to these technologies in particular by developing countries.

In addition to Agenda 21, Principle 9 of the Rio Declaration went on to state that countries “*should cooperate to strengthen endogenous*

capacity-building for sustainable development by improving scientific understanding through exchanges of scientific and technological knowledge, and by enhancing the development, adaptation, diffusion and transfer of technologies, including new and innovative technologies”.

As a result of the momentum provided by the first Rio Summit, most of the Multilateral Environmental Agreements (MEAs) concluded thereafter incorporated provisions on technology transfer. In 2010, Parties to the United Nations Framework Convention on Climate Change (UNFCCC) agreed to the establishment of a Technology Mechanism to be operational by 2012, an important milestone in efforts to operationalise technology transfer provisions in MEAs. Figure 2 provides an overview of this evolution.

Figure 2. Transfer of environmental sound technologies since the Rio Summit (1992)



¹ W.M. Adams, *Green Development*, 2009

Mechanisms

The most salient priority that stands out in Rio+20 country submissions is the need to create some sort of mechanism that translates the priority given to the development and transfer of ESTs into concrete actions and measures. Several countries call for a mechanism that would deal more specifically with ‘research cooperation’ or ‘R&D’ programs, others indicate that such a mechanism should focus on public domain technologies, and some countries suggest the creation of repositories of ‘best practices’. A financing mechanism is also mentioned as a way to more effectively allocate resources for technology transfer to developing countries. Finally, there are requests for a more specific “Technology Transfer Mechanism”, ostensibly modeled after the UNFCCC Technology Mechanism that was agreed upon at the 2010 UNFCCC Cancun conference.

G77 + China

The G77+China group of developing countries calls for decisions to:

1. Establish an International Mechanism to implement concrete actions focused on bridging the technological gap between developed and developing countries and facilitating transfer of technology in sustainable development.

4. We stress the need for effective mechanisms, enhanced means, appropriate enabling environments and the removal of obstacles to the scaling up of the development and transfer of technology to developing countries.

In addition, the group considers technology transfer as an essential factor in its proposal for the launch of a Framework of Action for Implementation of Commitments, which should include the

[p]rovision of a clear registry on financial resources and technology transfer from developed countries available for the implementation of sustainable development commitments, as well as its timelines, functions, recipients, management, and objectives (emphasis added).

Technology transfer and best practices are also included within the specific functions of the proposed Institutional Framework for Sustainable Development, which comprise

[r]eviewing and monitoring the progress in the implementation of the commitments set forth in the Agenda 21, including those related to the provision of financial resources and transfer of technology.

and

[c]reating a compilation of examples of sustainable projects, including future projects that can serve as a platform to share best practices, lessons learnt, and to solicit for support (e.g. financing, technology transfer) from other stakeholders. This can also serve as a support mechanism that allows for better flow of technology, capacity building and finance, which would also allow for easier access of technical assistance.

European Union (EU)

Deliverables

25. Establish a mechanism for international research cooperation on major sustainable development challenges.

The mechanism would aim to provide a robust knowledge base on sustainable development issues, including the basis of measurement. It would provide regular reporting based on the latest knowledge of the scientific community. The mechanism would build on and work in synergy with existing scientific panels and bodies. Work should start by 2013. In the longer term the mechanism could promote research and innovation programmes in different sectors, jointly with the private sector and other actors.

Rationale

27. Unprecedented levels of scientific and technological cooperation are needed to overcome the major global challenges of the 21st century. Much information is available, but it is fragmented, and there is a need for a mechanism to systematically collect and

2 The Climate Technology Mechanism: Issues and Challenges, ICTSD Information Note, 2011. <http://ictsd.org/downloads/2011/04/technologymechanism.pdf>

process existing knowledge into authoritative and comprehensive reports on key sustainable development and green economy issues. This knowledge should be made freely available to the scientific community and policy makers, businesses and the public at large.

46. Promote mechanisms for international dialogue and cooperation on developing and exchanging sustainable energy technologies between countries and between the public and the private sectors.

Rationale

50. Existing mechanisms for technology transfer that could be further developed and improved are for instance the new Technology Mechanism as decided in Cancun and IRENA.

Brazil

One suggested product for the Conference could be the establishment of a mechanism specially designed to disseminate good practices, such as a repository of ideas and tried and tested initiatives. Such a repository, closely linked to an international secretariat and, if possible, actually based on a pre-existing organization, could harmonize and classify information on successful initiatives presented by countries, to facilitate their adoption and use by other countries and by the mechanisms of international cooperation.

India

A mechanism to facilitate research and development in green technologies in public domain is required so that the access would be at affordable prices.

Argentina

In the promotion of sustainable development, Governments, international organizations and

enterprises must collaborate in the development, transfer and dissemination of ecologically sound technology, for example through the provision of the necessary financial support from developed countries and the establishment of new and innovative mechanisms to finance the transfer of such technology to developing countries.

Bolivia

It is essential to create an effective Technology Transfer Mechanism that stems from the demand and needs of the countries of the South for technologies that are socially, culturally, and environmentally appropriate. Said mechanism should not be a “show room” for the sale of technologies by rich countries.

Mexico

The creation of enabling mechanisms for the transfer of technology to enable greater dissemination of those technologies that will truly have a significant effect in the reduction of environmental impact and will be crucial to sustainable development. This must be done without weakening the international intellectual property system.

The establishment of regional centres specializing in the transfer of technology to promote the transition to a green economy, facilitating the match between supply and demand for technologies and the appropriate technological adaptation processes.

Egypt

The Rio+20 Conference should consider establishing an International Mechanism to implement concrete actions focused on bridging the technological gap between developed and developing countries and facilitating transfer of technology in sustainable development.

Innovation

Innovation is highlighted in many submissions, particularly those from developed countries, as having a key role to play in the transition to a green economy and the widespread diffusion of green technologies. Many countries also note however that it is only effective if there are adequate ways to incentivize innovation. The most important way to incentivize innovation is through an adequate enabling environment and investments into research and development for cutting-edge technologies, these countries argue. Countries also highlight the importance of open markets, innovation for sustainability, and responding to needs of developing countries. Australia presents specific suggestions for Rio+20, such as including innovation in the UN work programme on the green economy through the development of a set of innovation principles, as well as promoting innovation networks.

G77+China

Concepts and modalities for assured access to environmentally sound technologies, including state-of-the-art technologies, in particular by developing countries, should continue to be explored, enhanced access to environmentally sound technologies should be promoted, facilitated and financed as appropriate, while providing fair incentives to innovators that promote research and development of new environmentally sound technologies.

US

We recognize that sustainable development offers pathways out of short-term disruptions, such as financial shocks, and long-term challenges, such as climate change. We are also committed to spurring developments in science and innovation through the use of incentive systems; investments in education, the workforce, and basic research; and promoting innovative, open, and competitive markets, supported by strong protection for intellectual property rights and transparent, science-based, regulatory approaches and standards.

Governments should strive to create the enabling environments to allow innovation to flourish and

to spur greater investment in the development and application of ground breaking technologies to solve global challenges.

Japan

In order to achieve a Green Economy, various means and experiences including green innovation should be shared by each country.

Technology is the key to Green Innovation. Such technologies include smart-grid system, heat pumps, solar power generation, geothermal power generation, ecological housing, energy-saving electric appliances, light-emitting diodes (LED) lighting, technologies for appropriate resource management and the 3Rs, global observation and climate change projection, and data integration and analysis. Investment to such innovation should be facilitated in order to promote technological development and dissemination, and legitimate legal instruments including measures to protect intellectual property rights should be prepared.

Realization of a Comfortable Next-generation Environment

It is the very technological innovation through everyday research and development that supports the elements needed to achieve Sustainable Development, such as: renewable energy, energy conservation, buildings smart grids, technological innovation for proper resource recycling, communication technology innovation, zero-emission houses, and sophisticated global earth observation, climate change projection and data integration and analysis. Japan hopes to further develop these cutting-edge Japanese technologies, and share them with the international community to improve the environment for fostering Green Innovation.

In the light of the global resource limitation, green innovation is expected to gain its importance as a significant element to provide technological innovation and job opportunities through creation of new markets. Japan proposes that each country reassure such importance and initiate its efforts depending on its growth stage.

Brazil

The central question Rio+20 will have to answer refers to the type of development we seek. In this light and based on the underlying goal of strengthening the multilateral system, elements capable of bringing countries together must be found. There is no shortage of unifying elements. One with particular potential to marshal efforts and generate consensus is **technological innovation for sustainability**. The issue will require a broad global agreement on the need to generate and disseminate technologies for sustainable development. A global agreement on that would have the power to bring together developed and developing countries, since **technological innovation is able to respond to the growing needs of developing countries** and to the need for changing unsustainable production and consumption patterns.

Australia

Australia considers that **investing in innovation is critical** to respond to the problems of the 21 century such as climate change, population growth, food security and environmental sustainability. It is at the core of economic transformation and is an important enabling factor for sustainable development. While market mechanisms are key drivers of this change, they also need to be supplemented by appropriately targeted transitional and **innovative support** measures. By working together countries can leverage off common interests, specialisation and expertise to help foster and spread innovations aimed at addressing these difficult challenges, while simultaneously making better use of resources, spreading risk, and building local capacity.

Rio+20 outcomes should include:

- **promotion of innovative responses** to address global environmental challenges and

improve social, economic and environmental outcomes;

- **promotion of participation and collaboration in international research and innovation networks** to support sustainable development, with a particular focus on “grass roots” innovation and the opportunities for growth through increased transfer of developed economy best practice to developing economies; and
- **inclusion of innovation as an important component of the UN work program** on the “green economy”, through the development of a set of innovation principles, drawing on the United Nations Environment Programme’s (UNEP) work on the “green economy” and the work of the OECD on eco-innovation and green growth. The innovation principles could:
- **provide an overview of the key drivers of innovation;**
- **help to address barriers to improved collaboration, knowledge transfer and commercialisation; and**
- **identify opportunities for countries to improve their innovative performance.**

African Group

We recognize the key role played by **science, technology and innovation in the implementation of a sustainable development agenda**. We undertake to increase investments in science, technology and innovation in order to ensure that Africa is not left behind in the race for green technologies. We shall promote and strengthen institutions for technology innovation, introduce codes and standards that can foster green developments, build partnerships within and outside the region for technology development, and also encourage industry-academia-government partnerships.

Enabling environments

Creating enabling environments for innovation and technology transfer also figures as a key priority for many countries. Nevertheless, the wording in the submissions on enabling environments tends to be somewhat vague and the elements that would be central for such environments to flourish are often not spelled out in detail. More broadly, some countries suggest that the way to foment an enabling environment is through greater commitments, investments, removal of barriers and by ensuring that international rules are conducive to it.

G77 +China

2. *Create an enabling environment that aims at removing all barriers to technology transfer and technology adaptation, consistent and in harmony with the relevant international obligations.*

US

Governments should strive to create the enabling environments to allow innovation to flourish and to spur greater investment in the development and application of ground breaking technologies to solve global challenges.

We should work to accelerate development and dissemination of clean energy, efficiency, and conservation technologies; and remove market distortions, including phasing out fossil fuel subsidies and barriers to trade in environmentally friendly goods and services; and leverage private finance through public agencies.

CARICOM

Ensuring an enabling environment at the international level must be central to the international discourse on the Green Economy. In this context, clear commitments related to the provision of financing, capacity building and technology transfer must be given and met by developed countries to ensure implementation by developing countries.

Pakistan

10. *Notwithstanding the importance of national actions, we believe that conducive conditions are key to generating economic space for actions at the national level. They also entail evolving and reconfiguring international rules and mechanisms*

11. *In the above context, we propose an agreement on “green policy space” - as a part of green economy articulation - for necessary adjustments in the international economic arrangements and regimes to achieve green economy in the context of sustainable development and poverty eradication. These include:*

[...]

d. Enabling and evolving international financial arrangements to help produce the necessary decline in the global price of these technologies to make them universally affordable in one to two decades as outlined by the IPCC. Such arrangements include globally funded guarantees, or price supports (e.g., through a global “feed in tariffs” program), to subsidize investment in the developing countries and accelerate movement towards green economy.

Egypt

There is a need for access of developing countries to technologies. Effective mechanisms, enhanced means, appropriate enabling environments and the removal of obstacles to the scaling up of the development and transfer of technology to developing countries are all essential in this regard.

The creation of an enabling environment, through ensuring the flow of needed technologies and adequate financial resources to developing countries, and incentivizing their voluntary actions, policies and strategies that aim to enhance shifting to environment friendly growth patterns within their sustainable development strategies is paramount. Developed countries have a leadership role to create and enhance such global enabling environment, so that all countries wishing to do so can shift to green economy/growth on a voluntary basis.

Capacity building, know-how and information

Countries are innately aware that technology transfer must also encompass the know-how necessary to use and domesticate these technologies. Technological cooperation and support is also highlighted as a way to achieve these goals. They also more broadly refer to capacity building as a means of implementing commitments on technology transfer. Yet the majority of submissions leave concrete steps on how to build capacity and transfer know-how unattended. Japan more explicitly suggests the use of regional and sectoral knowledge hubs as a means of sharing experiences and developing networks of support. Other countries highlight the importance of partnerships in technological development, best practices sharing, and plans for implementation.

G77+China

5. *There is a need for access of developing countries to technologies. Developing countries would also need to have access to the know-how and expertise required for the effective utilization of these technologies to achieve sustainable development.*

8. *Bearing in mind that recipient countries require technology and strengthened support to help further develop their scientific, technological, professional and related capacities, taking into account existing technologies and capacities.*

n. *Creating a compilation of examples of sustainable projects, including future projects that can serve as a platform to share best practices, lessons learnt, and to solicit for support (e.g. financing, technology transfer) from other stakeholders. This can also serve as a support mechanism that allows for better flow of technology, capacity building and finance, which would also allow for easier access of technical assistance.*

The Pacific SIDS group

Efforts must be made to contribute to capacity building and to comply with the law of the sea as reflected in UNCLOS and the outcomes of the major summits on sustainable development, taking into account the IOC Guidelines [Intergovernmental Oceanographic Commission Guidelines] for the transfer of marine technology.

China

The Conference should adopt an action-oriented, pragmatic approach, and work out concrete and specific plans of implementation. In particular, it should reaffirm that developed countries should need to materialize financial support, technology transfer, capacity building and other means of implementation, and make real efforts to promote the global sustainable development agenda.

Argentina

Currently, however, there is a need for effective commitments with regard not only to transfers of funds and technology, but also to the dissemination of related technological knowledge and technical, technological and commercial cooperation and information in order to understand, use and develop technology. Only in this way will it be possible to promote the use and subsequent development of technology by developing countries themselves. Furthermore, research, development and capacity-building agreements should be concluded that will facilitate the technological lift-off of developing countries. Developing countries should see themselves not only as a new market outlet for the sale of “ecological” technology, as many industrialized countries would like, but also as “partners” or peers in technological development and innovation.

Japan

- *Technological development through daily re-search and development, sharing past experiences and developing appropriate networks.*
- *to build partnerships between local authorities of developed and developing countries, and promote technology transfer and capacity building appropriately*

To realize a low-carbon society, energy-efficiency, renewable energy and clean energy need to be promoted. Japan considers the measures need to be taken to promote clean energy technology and systems, including i) the reduction of trade and investment barriers against energy efficient products, ii) joint international research and capacity building, iii) the promotion of government private sector cooperation and the supply of efficient and low-carbon energy, and

iv) *adequate incentive for construction, industry and transportation sectors.*

Switzerland

*An international roadmap can help in promoting exchange, cooperation and **capacity building**, facilitating the scaling up and the availability of innovative technologies and resources and open the way for new and innovative partnerships, as private public development partnerships, **triangular and south-south cooperation** and global multi-stakeholder initiatives.*

The role of intellectual property

In their submissions, many developing countries highlight the importance of examining the role of intellectual property, especially patents, as an incentive for innovation and as a factor impacting access to ESTs. Most of these countries underline the need for balanced approaches that respect intellectual property rights while also acknowledging the flexibilities inherent in the IP system. Establishing patent pools, facilitating access to green technologies in the public domain, and fast-tracking green patent applications are some of the proposals made to address this issue. Bolivia argues for the complete removal of IP barriers and affirms that IPRs over forms of life should not be allowed.

G77+China

*6. Consideration must also be given to the **role of patent protection and intellectual property rights** along with an **examination of their impact on the access to and transfer of environmentally sound technology**, in particular to developing countries, as well as to further exploring efficiently the concept of assured access for developing countries to environmentally sound technology in its relation to proprietary rights with a view to developing effective responses to the needs of developing countries in this area.*

Brazil

*Intellectual property plays a significant role in **fostering technological innovation**. Brazil*

*recognizes international protection of intellectual property rights provided for primarily in the Trade Related Aspects of Intellectual Property Rights Agreement of the World Trade Organization. Brazil also recognizes that in some cases intellectual property can **create barriers to the dissemination and transfer of clean or socially relevant technologies**, such as medicines.*

*Proposals like the establishment of “**patent pools**” and funds to finance the transfer of clean technologies and their development in developing countries offer promising opportunities and should be discussed at the Conference. However, these solutions shall not replace the **flexibilities built into the international intellectual property regime**.*

India

Track 10: Research and Development of affordable green technologies at affordable prices

*Most of the green technologies in developed countries are in the private domain and come under **IPR regime which makes the cost prohibitive**. Developing countries need access to cost effective technologies appropriate to their resource endowments and location specific factors, to enable them to accelerate the transition to sustainable development. Any approach to GESDPE should facilitate research and development in green technologies preferably in **public domain so that the access would be at affordable prices**. Centers of Excellence in developing countries as nodal points for technology research and development may be identified and provided financial and technological support.*

Argentina

*In this connection, consideration should be given to the **role of intellectual property rights in the transfer of technology, inasmuch as they have become artificial obstacles to effective transfers**. Argentina believes that a **balanced approach** must be achieved with regard to the protection of intellectual property rights and an effective transfer of technology must take place, which must promote the objective of economic, social and environmental well-being of our societies.*

Canada

Among Canada's newer initiatives are **green patents**, or patent applications related to environmental technologies. **Accelerating such patent applications** can foster investment and expedite commercialization of technologies that could help to resolve or mitigate environmental impacts or to conserve the natural environment and resources. In 2011, the Canadian Intellectual Property Office implemented a new regulation to expedite the examination of green patents, and no fee is required.

Bolivia

In order to promote the exchange of scientific and technical knowledge, it is essential to **remove intellectual property barriers** so that there might exist a true transfer of environmentally friendly technologies from developed countries to developing countries. Intellectual property rights over genes, microorganisms and other forms of life are a threat to food sovereignty, biodiversity, access to medicine and other elements that are essential for the survival of low-income populations. All forms of intellectual property over life should be abolished.

Pakistan

11. In the above context, we propose an agreement on "green policy space" - as a part of green economy articulation - for necessary adjustments in the international economic arrangements and regimes to achieve green economy in the context of sustainable development and poverty eradication. These include:

a. **Reorienting Intellectual property regime towards diffusion of technology as opposed to innovation alone.** Private sector dependent technological diffusion model should be reviewed at appropriate forums with a view to evolving a process for rapid diffusion of technologies, which meets the public purpose of sustainable development and climate change.

LAC Region

iv. **the promotion of a global intellectual property rights regime that facilitates the transfer of such technologies**, in keeping with the commitments undertaken by each country.

Financial resources

The Rio Principles state that developed nations must ensure adequate financing to assist developing countries in achieving their sustainable development goals. Against this background, one of the most pressing questions in these discussions is mobilizing resources to support commitments on technology transfer. For most developing countries, financial resources could come from both public and private sources, while others argue that financing should come from public developed country sources as a way to pay their historical debt to sustainability. The creation of a "Sustainable Development Fund" is proposed as a way to address concerns over financing.

Brazil

Expansion of best practices and dissemination of existing technologies could reduce emission rates, without adversely affecting economic and social development. **The appropriate flow of public funding**, technology transfers, and capacity building initiatives from the developed countries, based on the principle of common but differentiated responsibilities, will be critical elements in this effort. South-South cooperation opportunities should be considered. Finally, it is important to note that **private financial resources** can also contribute to promoting development and to the large-scale implementation of new clean technologies.

Ensuring the optimal use of biodiversity resources requires that developing countries invest in research and training. To this end, international cooperation is essential, with special emphasis on **adequate public and private financial flows**, technology transfers and capacity building from developed countries.

India

Rio+20 should **facilitate grants for research and development and deployment of green technologies** appropriate to the labour and other factor endowments and needs of the developing countries. These technologies should be in **public domain** and be accessible to developing countries at affordable prices including through creation of a **Sustainable Development Fund** for provision of new, additional and scaled up sources of financing

to the developing countries. *GE [green economy] should not exacerbate technological dependence of developing countries on developed countries.*

China

*Developed countries should take the lead in changing their unsustainable ways of production, living and consumption, embark on the path of green development, and set a good example for developing countries. In the meantime, they should make vigorous efforts to help developing countries in their efforts to **develop green economy, including provision of finance, transfer of technology, capacity building, and expansion of market access.** Developing countries should formulate and implement sustainable development strategies suited to their national conditions.*

Argentina

It is therefore imperative that at the upcoming conference the full validity of the 1992 Rio Declaration, Agenda 21 and the Johannesburg Plan of Implementation, and the outcomes of the major summits on sustainable development must be politically reaffirmed. Towards that end, those commitments must be matched by the effective

*transfer of **financial and technical resources**, which improve conditions in the developing countries and assist in eradicating poverty.*

CARICOM

*The provision of **financial and technical support** for enhanced national, regional and SIDS-SIDS cooperation for research and technological development on SIDS appropriate renewable energy and energy efficiency technologies.*

Bolivia

*Under the framework of common but differentiated responsibilities established in the 1992 Rio Declaration, the so-called developed countries must assume and pay their historical ecological debt for having contributed the most to the deterioration of the Earth system. The payment of this ecological debt by developed countries to developing countries and the sectors most affected among their own populations should replace to the greatest possible degree the ecological damage provoked. **Developed countries should transfer financial resources from public sources** and also the effective transfer of socially and ecologically appropriate technologies required by sovereign developing countries.*

Table 1. Technology related proposals in the Zero Draft ³

<p>We realize that to make significant progress towards building green economies will require new investments, new skills formation, technology development, transfer and access, and capacity building in all countries. We acknowledge the particular need to provide support to developing countries in this regard and agree:</p> <ol style="list-style-type: none"> 1. To facilitate international collaborative research on green technologies involving developing countries, ensuring the technologies so developed remain in the public domain and are accessible to developing countries at affordable prices; 2. To encourage creation of Centres of Excellence as nodal points for green technology R&D; 3. To support developing countries' scientists and engineers and scientific and engineering institutions to foster their efforts to develop green local technologies and use traditional knowledge; <p>43. We recognize the importance of measuring global progress. In this regard, we will be guided by a roadmap that contains the following indicative goals and timeline:</p> <ol style="list-style-type: none"> 1. 2012-2015: establishment of indicators and measures to evaluate implementation; establishment of mechanisms for the transfer of technology, sharing of know-how, and enhancement of capacities; <p>118. We reaffirm the commitments related to science and technology contained in the Rio Declaration on Environment and Development, Agenda 21 and in the outcomes of other major United Nations Summits and Conferences.</p> <p>119. We recognize the importance of strengthening the scientific, technological and innovation capacities of countries to promote sustainable development. In this regard, we stress the need for effective mechanisms, enhanced means, appropriate enabling environments, and the removal of obstacles to the scaling up of the development and transfer of technology to developing countries.</p> <p>120. We agree to strengthen international cooperation conducive to investment and technology transfer, development and diffusion.</p>

Zero Draft

The Zero draft - a draft text released in January based upon all preparatory inputs to serve as the basis for an outcome document for the Conference - does contain some elements on technology transfer as seen in Table 1.

However, a higher level of ambition is needed to adequately reflect the importance of technology and innovation in advancing sustainable development goals. There is mention of “mechanisms” but it falls short of concrete follow-up proposals. The role of innovation is barely mentioned and IPRs are not specifically addressed. The reference to establishing indicators and measures to evaluate implementation is a positive step but there must be specific actions to operationalise them.

Importantly, some suggested wording in the zero draft - such as the reference to facilitating international collaborative research or the

creation of centres of excellence - mirrors similar general wording that was already included in Chapter 34 of Agenda 21 and which in many cases did not lead to concrete outcomes in the absence of specific implementation measures. General recommendations in the Rio+20 process should be supplemented by effective and specific follow-up actions (such as the launch of partnerships or taskforces to look into operationalising some of these recommendations or a concrete work programme).

ICTSD has proposed an agreement on the launch of a *Global Green Innovation and Technology Partnership* to galvanize efforts, knowhow and resources to accelerate the diffusion of green technologies at a wide world scale. Such a partnership could encourage green innovation, promote collaboration among private-public stakeholders, facilitate networks of technology centres, and find ways to make more available information about green technologies.⁴

³ See http://www.uncsd2012.org/rio20/content/documents/370The%20Future%20We%20Want%2010Jan%20clean%20_no%20brackets.pdf

⁴ See <http://www.uncsd2012.org/rio20/index.php?page=view&nr=455&type=510&menu=20&template=509&str=ictsd&style=exact&case=&woleword=>

Conclusion

In the past twenty years, the world has progressively relied on technology in its efforts to move towards more sustainable living. At the same time, the contribution of innovation in addressing a wide range of sustainable development challenges has also been increasingly recognized. Developing countries boast greater technological capabilities that can pave the way for more effective South-South cooperation. In addition, the role of IPRs in regulating global flows of knowledge and

technology has grown in importance and been extensively discussed. All these significant developments should be adequately reflected in the outcome of Rio+20 taking into account the vast array of views on these matters as well as existing international rules.

Ultimately, Rio +20 should seize the opportunity to send a strong signal about the importance of innovation and technology transfer in accelerating sustainable development and transitioning to a green economy.

ICTSD has been active in the field of intellectual property since 1997, among other things through its Programme on Innovation, Technology and Intellectual Property. One central objective of the programme has been to facilitate the emergence of a critical mass of well-informed stakeholders in developing countries that includes decision-makers and negotiators, as well as representatives from the private sector and civil society, who will be able to define their own sustainable human development objectives in the field of intellectual property and advance these effectively at the national and international level.

For further information visit: www.ictsd.org

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Founded in 1996, the International Centre for Trade and Sustainable Development (ICTSD) is an independent non-profit and non-governmental organization based in Geneva. By empowering stakeholders in trade policy through information, networking, dialogue, well-targeted research and capacity-building, ICTSD aims to influence the international trade system so that it advances the goal of sustainable development.

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