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PUBLISHER

Ricardo Meléndez-Ortiz

EDITOR-IN-CHIEF

Andrew Crosby

MANAGING EDITOR

Andrew Aziz

ADDITIONAL SUPPORT

Jaslene Pang and Sofia Alicia Baliño

DESIGN

Flarvet

LAYOUT

Oleg Smerdov

To join the BIORES Editorial Advisory Board, write to us at biores@ictsd.ch

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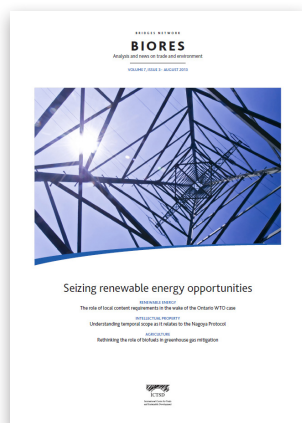
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Supporting renewable energy initiatives



There is little debate over the need to curb the planet's seemingly insatiable thirst for energy. Emissions remain unsustainably high, and media reports of extreme weather events – scorching temperatures, unprecedented floods, and devastating storms – are a constant reminder that the science behind climate change is real and that time is growing short.

The WTO dispute settlement case over the Canadian province of Ontario's Feed in Tariff scheme for wind power projects has triggered much debate and discussion over appropriate approaches to creating a viable renewable energy industry to help address climate change. The costs associated with technology and infrastructure continue to place a hefty price tag on energy created by wind and solar energy technologies, when compared to that generated by hydro or coal power.

This conundrum has presented a Gordian knot for those policymakers keen to make a shift to a more sustainable approach to energy. The Canadian example sought to implement a regime that would bolster local industry and, thus, fast track industrial know-how and competitiveness. But the WTO's Appellate Body has confirmed that global trade rules do not allow for the use of local content requirements in such initiatives. Moreover, as seen in the first article of this issue, not everyone agrees that local content requirements result in the desired outcome.

Sherry Stephenson, senior fellow at ICTSD, offers an in-depth analysis of local content requirements, with a special look at the familiar Canadian wind and Indian solar examples. The author looks carefully at the possible shortcomings of such schemes and suggests possible means for moving forward with a more effective plan.

This issue also features a commentary on the Nagoya Protocol and whether the access and benefit sharing aspects of the deal are meant to be implemented from the time of agreement or the time that the Protocol enters into force. This issue of "temporal scope," the authors argue, is of critical importance as it could result in the exclusion of millions of compounds from the agreement.

The role of biofuels in the fight against climate change has faced considerable scrutiny in recent years. Once touted as a key tool for reducing greenhouse gas emissions, the harvesting and transport of crops for biofuels has been criticised for having adverse climate change and food security outcomes. In this issue, a team of researchers from the FAO offer an assessment of the issue and a possible path forward.

As in every issue, we also offer a roundup of key news, analysis, and resources emerging from the trade and environment nexus. We take great pleasure in hearing from our readers, so please feel free to contact us with your comments, critiques, or suggestions.

The BioRes Team

RENEWABLE ENERGY

Addressing local content requirements: Current challenges and future opportunities

Sherry M. Stephenson

The role of local content requirements have been under the microscope of late. What opportunities and shortcomings are inherent in such schemes, and what alternatives exist for moving forward?

Local content requirements (LCRs) are policy measures that typically require a certain percentage of intermediate goods used in the production processes to be sourced from domestic manufacturers.⁴ Local content requirements in renewable energy policy serve as either a precondition to receive government support or an eligibility requirement for government procurement in renewable energy projects.⁵ LCRs are usually coupled with other policy measures to encourage green growth.

The great majority of LCRs are aimed at sectors other than renewable energy. Collectively, LCRs in the renewable energy space probably impact over USD 100 billion of trade annually, but the available data do not permit an estimate of trade impacted by LCRs.

Moerenhout and Kuntze (2013) find that LCRs in green industrial policies are generally promulgated for four reasons. First, LCRs augment public support for renewable energy projects. Second, proponents point to the classic case for protecting infant industries, especially in developing countries, until they can compete on the international market. Third, the creation of "green" jobs, especially in developed countries, is put forward as a justification for the use of LCRs. Proponents also point to the potential environmental benefits of greater competition between renewable energy firms over the medium-term. On this first point, renewable energy generally costs more than coal-fired power. Thus, one way to enlist public support for the extra cost is to tie renewable energy projects to domestic innovation and job creation through LCRs.

Local content requirements can also present an attractive solution to allow infant industries to become internationally competitive in their renewable technology and manufacturing capability. In addition LCRs may counteract government subsidies in other countries. According to this line of argument, LCRs provide incentives for local firms to produce and eventually innovate in the most promising green energy sectors and to lower their production costs over time.

By requiring firms to use a certain percentage of local inputs, demand for domestic cleaner industries will increase, spurring green job creation in the short-term. In the long term, there are economic benefits to be gained from "learning by doing" and from increasing the supply of renewable energy. Countries implement LCRs with the two-pronged goal of achieving a robust renewable energy industry that will be competitive in international markets, and securing associated local job creation.

Arguments against LCRs

Opponents to local content requirements in renewable energy policies point to the economic costs – inefficient allocation of resources, higher retail power prices, negligible employment gains and a negative impact on trade – and question the environmental gains in the medium-term.

Critics hold that LCRs lead to an inefficient allocation of resources by distorting the operation of comparative advantage. Enterprises inefficiently invest their resources in local inputs to artificially improve the competitiveness of local products, making foreign products less attractive to potential buyers.

While proponents argue that LCRs are a short-term policy, put in place to protect infant industries and businesses, opponents point out that once LCRs become a mainstay, withdrawal of government support will often be met with fierce resistance. It is also possible that the relevant manufacturing sectors will never attain the level of efficiency necessary to operate without government support, and instead require continuous government support.

In the short term, since firms are required to purchase local inputs that are likely to be more costly than foreign ones, their manufacturing costs are increased. Producers pass the higher manufacturing costs on in the form of increased power prices to domestic consumers. LCR proponents contend that in the medium and long-term, greater competition and innovation will eventually lower manufacturing costs, and hence consumer power prices, but this seems far from certain.

It is also worth noting that creating additional jobs through LCRs is not a certainty. LCRs increase the cost of renewable energy production through higher input prices. As such, less renewable energy is produced, resulting in zero job creation and possibly job losses in the green industrial sector. It is also possible that there is job creation but lower returns to other factors. Since LCRs require firms to source components locally, employment will increase in the component industry. The net effect for job creation of higher input prices and hence less renewable energy production combined with greater demand for component manufacturing is difficult to pinpoint.

Countering the output effect is the substitution effect, which assumes that labour can serve as a substitute for the local material. If the percentage of local content required is very high, then renewable energy production will be reduced, accompanied with net job losses. However if the amount of local content required is not very high, then firms might increase their employment to offset higher prices for local material.

Negative impact on trade

The effect of LCRs on trade is to discourage foreign imports and to stifle competition between domestic and foreign firms. The impact on trade of LCRs depends on the percentage of local content required and the efficiency of existing firms. In an economy with inefficient firms, a high degree of required local content thwarts competition.

In addition, LCRs might hamper innovation and quality in the renewable energy sector. With a restrictive LCR in place, investors might be deterred from investing in the renewable energy sector owing to higher input prices. Meanwhile, the higher the LCR, the more the renewable energy sector will be protected from foreign competition, resulting in lower quality and higher prices. Over time, this may impact the quality of foreign direct investment (FDI) attracted to the sector and encourage rent seeking, and less efficient FDI.

The effectiveness of LCRs

Kuntze and Moerenhout outline five agreed-upon preconditions for LCRs in renewable energy production to have a beneficial impact for the domestic economy: stability and large market size, a small degree of restrictiveness, cooperation between government and firms, accompanying subsidies, and technology and knowledge transfers.

LCRs in renewable energy must be introduced in a stable and sizable market that has potential for growth. Ultimately, investors are concerned with whether the higher costs incurred to produce local material will be more than compensated for through stable demand and industry growth. The larger the market, the more chance there is that welfare gains can be reached through LCRs. In addition, a large and stable market encourages transfers of knowledge and technology through learning by doing.

Second, the impact of LCRs depends largely on the percentage of local products required. To add value to the host economy, the LCR should be phased-in gradually, and the percentage of local content required should be tailored to the size of the green industrial sector and the opportunity cost of capital.

22GW

India's targeted solar grid capacity by 2022.

Third, in setting the LCR rate, governments have much to gain from cooperating with local businesses. Cooperation between governments and businesses increases information on both sides. Fourth, the subsidy to which the LCRs are to be coupled must be sufficient to maintain market attractiveness. Finally, LCRs will be more valuable if there is a high learning-by-doing potential, or if they do not overemphasize manufacturing portions of the value chain, but also target training-by-doing to establish high-skilled workers.

Despite these five identified preconditions, there remain questions about the terms of the best subsidy – type, targeted value chain, duration, and size. An additional precondition is a clear timeframe for the term of the LCR, beyond which it would not be renewed.

Wind energy in Ontario

In 2009, the Canadian province of Ontario passed the Green Energy and Green Economy Act, aiming to expand the renewable energy sector and create green jobs.

As part of the Act, Ontario introduced a feed-in-tariff (FIT) program to encourage investment in renewable energy, coupled with an LCR. Under the LCR, firms are required to use a certain percentage of locally manufactured material for wind and solar projects in order to receive government support.

The LCR was not phased in gradually. As a result, retail electricity prices increased by more than 17 percent in 2010 and are expected to continue to increase. The higher cost of renewable energy production from wind turbines will in all likelihood be passed on to consumers through higher electricity prices. While Ontario's government has stated that the Green Energy Act has led to the creation of 20,000 jobs, it is not clear that the FIT scheme pays enough attention to investment in training to increase workers' skills or sets renewable energy targets, which would serve to encourage new investors based on perceived guaranteed demand. In this case LCRs have increased the cost of producing renewable energy in Ontario.

Solar energy in India

In 2010 India launched the Jawaharlal Nehru National Solar Mission (JNNSM), which aims to increase solar power by installing 20GW of grid capacity by 2022 in three phases. As part of the Indian government's policy in the area of solar energy, an LCR was introduced in 2010. In response to the LCR, the majority of solar developers in India have turned to cheaper imported thin film technology, which also have better international financing options for such solar energy projects.

The LCR has slightly increased the cost of photovoltaic systems. In response to the measure, domestic manufacturers have scaled back the operations of their solar plants, operating below capacity or closing down altogether. In addition, the shift to thin film deployment has undermined anticipated economic and job growth from the JNNSM.

Thin film modules have a lower efficiency, which translates to added costs for the developer. As such, the overall cost might be higher once efficiency differences are taken into account. It has been suggested that an additional reason for the thin film preference of Indian solar developers is that the hot climate provides ideal conditions to maximise thin film efficiency.

Although global prices for crystalline silicon modules and cells continue to fall, owing to improved technology, Indian manufacturing competitiveness for crystalline silicon technology has not kept pace. The LCR is likely to discourage innovation in the solar energy industry and impede manufacturing competitiveness. The LCR might boomerang India's solar manufacturing and electricity goals.

As well, LCRs in India's solar technology area have resulted in higher costs for renewable energy products, in this case photovoltaic modules and cells, which have been passed on to the consumer.

Options and alternatives

Although LCRs are prohibited under the WTO, countries have nonetheless turned to LCRs as part of their renewable energy policies. There are, however, alternatives that could be considered as options to the recourse to LCRs. As technological innovation for renewable energy is costly, considerable government support may be required for these efforts. To sustain a permanent shift towards green industry and renewable energy, positive and well-directed incentives are needed. Addressing conditions that are hindering the development of competitiveness in renewable energy manufacturing and services should be a high priority for governments, together with providing a better enabling environment for firms to operate.

To achieve economies of scale, governments should prioritise infrastructure investment. Developing countries often lack the financial capacity to subsidise renewable energy or the political capacity to impose carbon taxes – arguably the best policies to foster renewable energy. Therefore, they resort to LCRs. To address this constraint, government-sponsored financing should be promoted (i.e., loan guarantees for developers of green energy). The advent of new technology and the rapid increase in production capacity in renewable energy resources have made them more competitive against conventional technology in energy. Policies such as FITs and other incentive mechanisms to stimulate investments in renewable energy may be continued and enhanced as long as they are also required to ensure a healthy growth of renewable deployment that will further provide attractive returns to investors.

Focusing on innovation in green energy requires adapted training programmes for domestic workers. These should be integrated with green industry needs, and periods of on-site training should be incorporated into the university curriculum or training programmes. Targeting all portions of the energy value chain rather than imposing an LCR aimed at domestic manufacturers should prove to be a better and less distorting way of expanding output in the green energy sector and would have the added benefit of creating associated green jobs.

Additionally, since many LCRs have nothing to do with renewable energy, countries that are rightly concerned with the use of this policy tool might focus their WTO disputes on LCRs outside the renewable energy space.

Addressing LCRs within a SETA

A Sustainable Energy Trade Agreement (SETA) presents an attractive solution to coordinate national policies with the aim of lowering the cost of renewable energy policies. Negotiating a SETA could provide a way to address renewable energy concerns in a trade-friendly manner. To avoid the cost of permanent protection, countries might agree within a SETA a non-renewable time limit for their existing LCRs and agree on a “peace clause.”

Governments might also consider agreement on a moratorium or standstill on the adoption of future LCRs within a SETA. To backstop such commitments, concerned countries might call upon the WTO Secretariat to launch a surveillance programme of LCRs in the renewable energy space. The programme would report on instances of adoption of LCRs and, where possible, assess their effectiveness.

Under a SETA, countries might agree to instead include their partners in a “regional content requirement” (RCR) for scheduled projects during the agreed phase-out period in the renewable space. This effective “cumulation” of the LCR within the region constituted by the members to the SETA would effectively dilute the restrictive impact of the measure. Finally, countries might agree within a SETA to cap their LCR percentages at a level appropriate for the sector in question. This limit might be best negotiated in the context of a SETA, against other trade-offs in the environmental area. The SETA would provide a vehicle to specifically address the cost-benefit analysis of the recourse to LCRs.



Sherry M. Stephenson
Senior Fellow, International
Centre for Trade and Sustainable
Development (ICTSD)

This article has been adapted from a longer study, which can be accessed at <http://bit.ly/14dtpen>.

INTELLECTUAL PROPERTY

Access or utilisation: Who will pull the ABS trigger?

Johanna von Braun, Alice Bisiaux, and François Meienberg

When should access and benefit sharing rules established under the Nagoya Protocol be effective from? Subtle differences in time could have significant implications.

The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity (Nagoya Protocol) was adopted on 29 October 2010, in Nagoya, Japan, as the culmination of years of negotiation on how to implement the third objective of the CBD. Its objective is the fair and equitable sharing of the benefits arising from the utilization of genetic resources (GRs), including by appropriate access to GRs, transfer of relevant technologies, and funding, thereby contributing to the conservation and sustainable use of biodiversity.

The Protocol is unclear whether user obligations to share benefits are henceforth triggered by the utilisation of genetic resources (GRs) and associated traditional knowledge (TK), or only take place in cases where the respective GRs or TK were accessed after the coming into force of the Nagoya Protocol. This question of “temporal scope” is of critical importance. If laws implementing the Nagoya Protocol will not apply to the utilisation of GRs and TK accessed before its entry into force, even when their use is newly initiated or on-going, activities relating to the utilisation of millions of compounds found in botanical gardens or gene banks will be left outside its scope. This approach would undermine one of the main objectives of the Convention on Biological Diversity (CBD) and the Protocol's principles in relation to the fair and equitable sharing of benefits, as well as the spirit in which it was adopted in 2010.

The original Draft Regulation on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization in the Union presented by the European Commission (EC) in October 2012 only included access-based trigger points for user compliance. The Draft Regulation was considered by the Committee on the Environment, Public Health and Food Safety (ENVI) of the European Commission on 4 July 2013. In this vote, the ENVI adopted a number of amendments, including the modification of the scope of the regulation to include all new and on-going utilisations of GRs and TK, even when they have been accessed before the entrance into force of the regulation. However, the ENVI did not obtain the mandate to enter into negotiations with the European Council and Commission on the amended text, which will therefore be subject to a second reading in plenary at the European Parliament in early September 2013. This second reading will open the door to further amendments, including a possible return to the access-only trigger of access and benefit sharing (ABS) obligations. With this opinion piece, the authors urge European Parliamentarians to truly understand the possible ramification of failing to include a utilisation approach into a future European ABS regime. Not only would such a lacunae undermine the essential trust necessary between user and provider countries to make ABS work in practice, but also lead to the failure to implement the Nagoya Protocol's basic principles, or to achieve the legal certainty aspired to by many users within the Union.

Understanding temporal scope

The question whether the Nagoya Protocol would apply to GRs and associated TK that were accessed before its entry into force was one of the most contentious issues in the final negotiations leading to its adoption. Most developing countries supported such an approach, opposed by developed countries that cited the principle of non-retroactivity

of international law. As no compromise language was reached, the Protocol remains silent on this issue, leaving it up to member states to clarify this ambiguity through their implementing legislation.

Article 3 of the Nagoya Protocol on its scope states that *"This Protocol shall apply to GRs within the scope of Article 15 of the Convention and to the benefits arising from the utilization of such resources."* Furthermore, Article 5(1) on benefit sharing refers to utilisation more generally, and can be interpreted as placing the trigger for sharing benefits on utilisation, not on access. The same is true for references to utilisation contained in Article 5(2), which relates to GRs that are held by indigenous and local communities, as well as in Article 5(5), which relates to TK. According to this reading, a new use approach would constitute a non-retroactive application of the Protocol, regardless of when physical access took place.

A number of legal experts support this view. Gurdial Singh Nijar, a senior practicing lawyer and member of the Malaysian ABS negotiation team, argues that the Protocol would apply to instances when GRs were accessed before its entry into force, but are subject to on-going or new use. Gurdial underlines that this application would not violate the non-retroactivity principle enshrined in the Vienna Convention on Treaties. Veit Koester, a Danish lawyer who headed the Ecological Division of the National Forest and Nature Agency for two decades, writes that new uses of GRs accessed before the Protocol's entrance into force would be covered by its provisions, especially if such resources were accessed after the CBD was adopted. Finally, a number of users also argue for such an interpretation. For instance, the Union for Ethical Biotrade (UEBT) recommends that its private sector members consider *"new benefits arising from prior or ongoing uses [...] as new situations for benefit-sharing requirements - but access requirements would not apply retroactively."*

Similarly, the International Plant Exchange Network (IPEN), which was initialised by the Association of Botanical Gardens, is governed by the *"IPEN Code of Conduct for botanic gardens and similar collections."* Art. 3(2)(4) of the Code obligates IPEN members to only transfer plant material for commercial use if the potential user has received the prior informed consent (PIC) of the country of origin, no matter when the material was originally accessed.

The same is valid for the International Treaty on Plant Genetic Resources for Food and Agriculture. The Standard Material Transfer Agreement regulating ABS is used for all accessions to resources included in the multilateral system of the Treaty, no matter when the resource was accessed in the country of origin.

Examples of national ABS systems

According to the Vienna Convention on the Law of Treaties, one may look to the preparatory work leading up to the adoption of a treaty in order to interpret an ambiguity in that treaty. Thus, to help clarify the definition of the temporal scope of the Nagoya Protocol, one may examine national ABS systems currently in place, since Parties recognised the significance of this national experience in terms of the reference they set for the negotiation.

Since the CBD entered into force in 1993, a significant number of countries have adopted ABS laws. A majority of these instruments have been adopted by provider countries, and in most cases, it is the use of GRs that triggers the application of the benefit sharing provisions. The laws can be classified as follows:

- a) The definition of access not only includes the physical access to GRs, but also their utilisation, independently from where and when the physical access took place (e.g. Proclamation No. 482/2006 of Ethiopia on Access to Genetic Resources and Community Knowledge, and Community Rights Proclamation; Decision 391 of the Andean Community that defines the Common Regime on Access to Genetic Resources; or the Access and Benefit Sharing Policy of Bhutan).

Abbreviations

ABS

Access and Benefit Sharing

CBD

Convention on Biological Diversity

ENVI

Committee on the Environment, Public Health and Food Safety of the European Commission

GRs

Genetic Resources

MAT

Mutually Agreed Terms

PIC

Prior Informed Consent

TK

Traditional Knowledge

b) The legal framework is targeted toward the utilisation of GRs, rather than ABS (e.g., [Biological Diversity Act of India](#); or the South African national bioprospecting framework).

c) The utilisation trigger is recognised through benefit sharing clauses (e.g., Medida Provisoria No. 2.186-16 of Brazil).

d) Specific wording within legislation makes reference to access and/or utilisation preceding the entrance into force of the national ABS framework (e.g. the temporary provisions of Decision 391 of the Andean Community; the transitional provisions of the South African national bioprospecting framework; or article 51 of the [Executive Decree No. 25 of Panama](#)).

Examples of a utilisation approach can also be found in provider countries, such as [Section 60 of the Nature Diversity Act \(2009\) of Norway](#), which stands out as linking its compliance regime to both, import (access) and utilisation. The above examples show that utilisation as a trigger-point to ABS obligations is common, above all in provider countries, and especially in the most recent legislations that were developed as parallel negotiations of the Nagoya Protocol drew further attention to the matter.

The draft EC ABS regulation

The Draft EC ABS Regulation presented in 2012 took a different approach. It limits the users' obligations to uses of resources that have been accessed in provider countries after the Nagoya Protocol has been ratified by both the EU and the country of origin. If the EU ABS regime ends up focusing on access as the key trigger for user obligations, this would raise a number of concerns, as all access to GRs and TK prior to the entry into force of the Nagoya Protocol for the Union would be deemed legal irrespective of:

- a) Article 15 of the CBD, which requires the fair and equitable sharing of benefits arising from the utilisation of GRs;
- b) The objective of the Nagoya Protocol, as well as its Articles 5(1), 5(2) and 5(5) calling for fair and equitable sharing of benefits arising from the utilisation of GRs and TK; and
- c) The existing regulatory frameworks of many provider countries that require PIC and mutually agreed terms (MAT) for the utilisation of their GRs and associated TK, regardless of when such GRs and associated TK were accessed.

The 2012 wording of the Draft Regulation also raised concerns regarding the obligations of EU members towards GRs and TK accessed in countries that are not Parties to the Nagoya Protocol, but who may be Parties to the CBD, or have stand-alone ABS regulations.

The Draft EC Regulation was amended by the ENVI on 4 July 2013 to include new uses of GRs and TK within its scope, even if they have been accessed before the entrance into force of the Protocol in the Union. If, at the second reading of the Draft Regulation, the European Parliament reverts back to the access-only trigger of ABS obligations, the established regime would inevitably undermine the trust that is needed by provider and user countries for the proper functioning of a global ABS regime, as well as increase legal uncertainty for EU users.

Implications of the access trigger approach

Achieving compliance and greater legal certainty in relation to accessing and utilising GRs and TK and sharing the benefits from such utilisation has been one of the strongest engines behind the negotiations leading up to the adoption of the Nagoya Protocol. Such legal certainty has been repeatedly called for by users and private sector stakeholders who wish to avoid long mediation processes and public relation scandals.

However, a focus on access triggers as originally pushed for by the EC would be inconsistent with an overwhelming body of ABS laws of provider countries, thereby increasing legal uncertainty. Under such an approach, the utilisation of a GR or associated TK for research

and development (R&D) purposes by a company registered in the EU may be legal within the Union, but illegal in the country of origin where such utilisation may have required a permit and an ABS agreement to be in place.

An example of how criminal charges based on national legal frameworks may be taken forward against a foreign company is the Monsanto Indian Melon Case that is currently unfolding. In this case, the actions of Monsanto in using Indian melon varieties to engage in R&D with a commercial intent, including the application for a patent based on Indian melon varieties, was found to violate the Indian Biological Diversity Act, irrespective of whether Monsanto accessed the Indian melon varieties *ex-situ*.

Another scenario where a utilisation approach could provide greater clarity is in relation to the status of material that may have entered user countries through different channels, such as through commodity trade. In these cases, the material is exported without the assumption that it will be used for R&D purposes down the supply chain, with no ABS contract negotiated at the moment of access. A regulatory framework that is also triggered by certain forms of utilisation, regardless of when and under what condition the original access took place, will be able to capture such uses of GR and subsequently better reflect the reality of supply chains of genetic material with functional value for R&D. Nestlé's [recent attempt](#) to patent the anti-inflammatory use of Rooibos based on plant genetic material that was accessed at a trade fair outside South Africa (its country of origin) provides an example that highlights the unpredictable nature of movement of GRs.

One of the main incentives for user countries to adopt the Nagoya Protocol was the hope that it would facilitate access to GRs in the Global South where most of the world's biodiversity is found. Facilitated access, however, comes in exchange for a robust compliance regime in user countries that will ensure the appropriate use of any material accessed. Provider countries are likely to make access increasingly difficult if user countries' compliance regimes fail to provide them with the confidence that the illegitimate use of GRs cannot be prevented once the material leaves the country of origin. If the final EU ABS regime follows an access-only trigger of ABS obligation, provider countries will be forced to control everything at the moment when GRs are taken out of the country, for whatever purpose including commodity trade. Bureaucracy surrounding access contracts, research permits and material transfer agreements will subsequently increase, contrary to the aspirations of the negotiators of the Nagoya Protocol.

An access approach may also lead to unfair competition among European users. One could imagine a scenario, for example, where one competitor enjoys access to a certain GR through a (private) collection that may be exempt from ABS regulations of the user country as the original material was accessed before the Nagoya Protocol was ratified. Others may not enjoy such access and be obliged to turn to the country of origin in order to access the GR in question to engage in R&D. In such cases, competing users would be subject to different conditions for utilising the same GR and associated TK. A utilisation trigger would solve this dilemma as both users, whether or not they accessed the material *in-situ* or *ex-situ*, would have to comply with the country of origin's ABS legislation.

Conclusion

It is essential not to place the principal regulatory burden in relation to ABS on the moment of physical access to GRs and TK only, but also to include obligations on the moment of utilising such GRs and TK for the purpose of R&D. Doing so will likely lead to a fairer and more equitable benefit-sharing regime, prevent a misalignment of trigger points and thus lead to greater policy coherence between user and provider countries' ABS regimes, reflect the complex nature of today's supply chains, and provide an incentive to provider countries to ensure a facilitated access to their GRs and TK.

This article has been adapted from a longer opinion piece titled "Access vs. Utilisation – What Triggers User Obligations? A Comment on the Draft Proposal of the European Commission on the Implementation of the Nagoya Protocol on Access and Benefit Sharing," which can be accessed at <http://bit.ly/13RA2wP>.

Johanna von Braun
Policy Advisor, Natural Justice

Alice Bisiaux
Associate, Natural Justice

François Meienberg
Head of Agriculture, Biodiversity
and IP Programme, Berne
Declaration

AGRICULTURE

How uncoordinated biofuel policy fuels resource use and GHG emissions

Seth Meyer, Josef Schmidhuber, and Jesús Barreiro-Hurlé

Current policies governing the relatively new phenomenon of intra-industry trade of biofuels are driving up prices and increasing GHG emissions.

The year 2010 introduced a new phenomenon into the global biofuels economy: the bilateral trade of bioethanol between Brazil and the United States of America; the most important producers, consumers, and traders of ethanol. Brazilian ethanol is produced primarily from sugarcane, while the US produces ethanol primarily from maize, but the resulting products are physically indistinguishable. Such ethanol intra-industry trade remained small in volume until the end of 2010 and went unnoticed in the global context. However, 2011 saw large increases in ethanol intra-industry trade between the two countries. Here we pose the question regarding its underlying causes and the associated economic and environmental costs, and we assert that under current policies, intra-industry trade is likely to increase to unsustainable levels, increasing costs to consumers and greenhouse gas emissions.

Intra-industry trade in food and agriculture

Trade literature offers some explanations for the less common exchange of undifferentiated products. In this section we examine these reasons and provide evidence that eliminates them as drivers for US–Brazil trade in ethanol since 2010.

Aggregation or classification issues in trade data – In some instances, trade flow classifications may not be fine enough to differentiate between different products. Denatured and un-denatured alcohol (ethanol) are measured at the HS-4 level (HS 2207), which may include other non-fuel alcohol products.

Seasonality – Annual trade statistics may mask the common phenomenon that countries sometimes exchange large quantities of an otherwise homogenous product to accommodate off-season consumer needs and match deficits through an intra-year exchange of goods. Observed ethanol trade flows in recent quarters, however, suggests that intra-industry trade flows were rising and falling simultaneously or pro-cyclically, rather than intermittent or counter-cyclically, particularly if Brazilian exports to the US via Caribbean countries are included. Data for 2012 shows a different pattern but this is related to supply constraints in the US due to the drought.

Border trade – This phenomenon relates to large countries sharing a long physical border, or lacking efficient internal transport channels between supply and demand regions, that may find it profitable to exchange homogenous products across borders rather than within their own borders due to lower transportation costs. The costs of shipment of ethanol between the two countries is greater than the shipment costs between ethanol production and consumption centres within the United States, although potentially high internal ethanol shipping costs in Brazil should be examined.

Discounting these reasons for ethanol intra-industry trade, we pursue the idea that ethanol intra-industry trade is due to policy induced attributes of ethanol, which differ in US and Brazilian policy.

A policy-induced phenomenon of process differentiation

The stated objectives of US biofuel policy have been wide-ranging. While numerous reasons are stated for the expansion of biofuel policy, the primary instrument that

is currently applied in the US (mandated usage) contains elements of environmental legislation and aims at fostering environmentally friendly, carbon-saving production processes. Essentially all biofuel classifications are determined by feedstocks and production process rather than the final product.

This policy differentiation creates the potential for differential wholesale pricing of biofuels based on their classification and creates the opportunity for arbitrage with countries which may have different classification schemes or no classification schemes at all. In this process, transportation fuel is wasted in the name of resource-saving policies and transportation costs increase final costs to consumers, thereby suppressing renewable fuel demand. Given the complexity of the policy framework, a review of existing biofuel policy and how it supports ethanol intra-industry trade is in order.

Potential for US-Brazil intra-industry trade

The Renewable Fuel Standard 2 (RFS2) established in the US Energy Independence and Security act of 2007, further segmented biofuels and mandated volumes were greatly expanded. The four classes of mandates are not individual compartmentalized mandates but quantitative minimums nested within the overall renewable fuel mandate. Over production in each category can be used to meet the larger, less restrictive mandate. This creates a hierarchy among the fuels based on the mandate classification while the physical product, in this case ethanol, is indistinguishable (Thompson *et al.*, 2009).

As different biofuels are indistinguishable for consumers, they cannot be priced differently at retail, and thus the additional benefits are translated into price incentives via an electronic tracking system of traceable mandate obligations. The electronic classification instrument used for tracking mandate compliance, the Renewable Identification Number (RIN), is what differentiates the renewable fuels in the wholesale market. The RIN must accompany the fuel, and can only be separated from the fuel when blended.

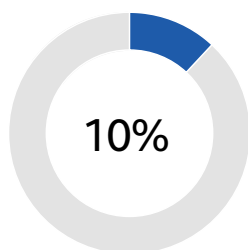
Potential for rapid growth in biofuels trade

The US Environmental Protection Agency (EPA) was forced to reduce the 2010-2013 cellulosic biofuel mandate significantly while *choosing* to leave the total and advanced mandate in place. In reality, a shortfall in cellulosic ethanol coupled with the EPA decision to maintain the other mandates means that the size of the implied undefined advanced gap has grown and even created the need for undefined advanced fuels, such as sugarcane based ethanol, in 2011. This prompted US ethanol imports from Brazil, and plentiful supplies of maize starch ethanol in the US prompted increased ethanol exports, much of this to Brazil where domestic production of sugarcane ethanol lagged behind domestic demand.

Ethanol demand and the blend wall

While the US could be driven to import as much as 15 billion gallons of ethanol from Brazil, the ability of the US market to absorb such large volumes of ethanol on top of a presumed 15 billion gallons of maize ethanol is uncertain. Until recently, ethanol blending rates in the US for conventional vehicles were capped at 10 percent blends (E10). With motor fuel demand of around 140 billion gallons annually and ethanol disappearance in the US of around 14 billion gallons in 2011 with minimal sales of E85, the 10 percent blend market is approaching saturation (Thompson *et al.*, 2012). There are also a limited number of dispensing options on consumer pumps. These obstacles have worked to constrain E-15 dispensing and use, limiting the outward movement of the blend wall (Wisner, 2012). Further declines in motor fuel use through increased Corporate Average Fuel Economy (CAFE) standards, only exacerbate the problem by shrinking the fuel market and increasing the needed blending rates, as the mandates are in fixed volumes.

The presence of the blend wall will also shape the competition to fill the implied advanced gap. Imported ethanol will need to be absorbed into the motorfuel supply, driving up compliance costs and pushing down the value of ethanol in the retail market. This will push excess US ethanol production out into the export market as opposed to being consumed domestically. The blend wall may also allow for excess biodiesel to compete



The 10 percent ethanol fuel blend in the US is reaching saturation.

more effectively with imported sugar-cane ethanol in filling the undefined advanced gap or overcoming the blendwall as the constraints on the consumption chain in the diesel market are less binding. Biodiesel prices and their associated RIN price may then play a role in the speed and extent of intra-industry trade in ethanol between the United States and Brazil.

Brazil policy and response

The 1973 oil embargo and the associated jump in oil prices came at a time when Brazil was importing over 80 percent of its domestic fuel consumption and low international sugar prices were putting significant economic pressure on producers. Ethanol was promoted through heavy market intervention. Minimum blends were established for ethanol-gasoline blending; the ongoing market intervention spurred the sale of neat vehicles throughout the 1980s, which run on pure ethanol. Increasing sugar prices, lower petroleum prices and an increase in the fixed sales price of ethanol significantly stressed the industry; By the end of the 1990s, ethanol prices had been liberalised along with gasoline and sugar markets, although ethanol still maintained a tax advantage.

In 2004, the sale of flex fuel vehicles (FFVs) took off in Brazil as the government provided the same tax breaks for the purchase of FFVs as it did for neat vehicles. Currently, ethanol entering the motor fuel market in Brazil is consumed in two ways: first as pure ethanol (E100) by the ageing fleet of neat fuel vehicles, whose sales numbers have plummeted; second, blended with gasoline in the FFV fleet that dominates current vehicle sales. The blending rate minimums support ethanol consumption but do not discriminate between feedstock and process in blending. The blending minimums then provide a mechanism to drive intra-industry trade.

Intersection with Europe's policies

The discussion thus far has been limited to the main elements of US and Brazilian policies. However, recent developments in EU policies and transportation fuel market factors also have the potential to boost ethanol demand in the future, increasing biofuel trade flows between the EU, US and Brazil.

The EU policy framework to promote renewable energy sources for transportation dates from 2003 and to the Directive 2003/30/EC, which foresaw a non-binding target of 5.75 percent market penetration for renewable transportation energy by 2010. The renewable energy in transport targets (RED) were extended to 2020, increased to 10 percent and made binding as part of the climate change and energy package of 2009.

The climate change package also established minimum targets for GHG emission reductions, and included sustainability criteria which would require verification schemes for the achievement of the GHG reduction targets.

The need to take GHG-saving requirements into account opens two possible cases: one in which potential savings include the effects of indirect land-use change (ILUC) and the other where savings are defined through their direct impacts only. Including ILUC would essentially eliminate all traditional biodiesel feedstocks under the climate change package of the RED. Other things being equal, such a scenario suggests the EU would have to undergo a massive shift from biodiesel to ethanol and, the EU would have to source its needs from feedstocks that provide enough GHG-saving potential. In practice, only cane-based ethanol would qualify and only Brazil has the potential to supply these extra quantities. Such increases in the EU would require an increase in blend rates for ethanol that the EU car fleet is not prepared for technically. As such, a massive increase in imports of cane-based ethanol by the EU may also increase the need for Brazil to cover its own mandatory blending requirements, spurring Brazil's own import needs. These, in turn, could only be covered by US maize ethanol exports to Brazil.

Domestic biofuel trade

Independent policies between government entities which may result in little net gain in biofuel use are not restricted to national governments. Under California Executive Order

S-1-07, the California Air Resources Board (CARB) has implemented the Low Carbon Fuel Standard (LCFS) which rates individual fuels based on their GHG reduction score and sets a target for the reduction of GHG emissions.¹⁹ The policy requires the fuel to be consumed within California, but the RINs associated with the fuel can still be used to comply with the nation-wide RFS2.

Policy-driven intra-industry trade effects and solutions

While the intersection of Brazilian and US biofuel policy provides the necessary condition for intra-industry trade of physically identical but policy differentiated biofuels, other factors will determine if and to what extent this will happen.

Sugarcane and maize yields play a critical role in determining the ratio of intra-industry trade but their yields are likely to have opposing effects on the volume of ethanol trade. Low maize yields in the US are likely to lead to a binding total mandate in the US and reduce "excess" supplies of maize starch ethanol which could be shipped to Brazil in exchange for mandate-driven imports. This describes the market situation with the onset of drought in the United States in the summer of 2012.

Relative demand and supply elasticities in the two markets (as influenced by policies and the blend wall which will make such demand highly non-linear) and the market context (oil and feedstock prices) will ultimately determine the volume of ethanol exchanged. The size of the advanced mandate market in the US is set to expand rapidly in the next decade, making intra-industry trade much more likely and at substantially larger volumes.

Consumer costs and GHG emissions

While an important motivation of biofuel policies is to reduce GHG emissions associated with the use of motor fuel, there is potentially significant efficiency loss in meeting that objective. The transport of ethanol between Brazil and the US generates additional GHG emissions, and those flows identified as policy driven intra-industry trade work against this stated biofuel policy objective. Ultimately the cost of transportation, both the US imports from Brazil and any fuel returned to Brazil, must be borne by motorfuel consumers in both countries. A system of tradable obligations for both the United States and Brazil (and, according to the same arguments, the EU) could avoid the transportation costs and reduce GHG emissions beyond those generated by the uncoordinated policies of each country.

In order to avoid double counting in Brazil, obligations toward its blending minimum would be converted to a RIN system. In this system, the Brazilian sugarcane ethanol, which had RINs sent to the US for its mandate compliance could not be counted toward Brazilian blending minimums, is now based on holding sufficient RIN volumes to equal 20 percent of the volume of fuel sold.

Conclusions

Current uncoordinated policies in the United States, Brazil, and the European Union encourage intra-industry trade of physically homogeneous biofuels which is in contradiction with policy objectives of reducing greenhouse gas emissions. The intra-industry trade we have seen to date remains the "tip of the iceberg" as policy mandated quantities expand. Existing policies may appear unsustainable, through high costs or politically sensitive volumes of imports. We suggest that if blending or consumption mandates for biofuels are going to be an enduring part of energy policies there is an opportunity for a more efficient system that respects differing national objectives in biofuel use through a "book and claim" system, whereby RINs can be separated and used for compliance or sold to other blenders across countries to meet their obligation in lieu of their own physical blending.

This article has been adapted from a longer study, which can be accessed at <http://bit.ly/12VsObT>.

Seth Meyer

Economist, Global Perspectives Studies Team (ESA), Food and Agriculture Organization of the United Nations (FAO)

Josef Schmidhuber

Deputy Director, Statistics Division (ESS), Food and Agriculture Organization of the United Nations (FAO)

Jesús Barreiro-Hurlé

Economist, Monitoring African Food and Agricultural Policies (MAFAP) team (ESA), Food and Agriculture Organization of the United Nations (FAO)

CLIMATE CHANGE

European parliament approves carbon permit “backloading” plan

Europe is pinning its hopes on a backloading plan it hopes will rescue its troubled carbon market.

European Parliament has signed off on a proposal that would allow for delaying the auctions of millions of carbon permits, in an effort aimed at propping up prices in the EU's struggling carbon market. The measure passed in a narrow vote of 344 to 311 on 3 July, reversing the results of an earlier decision blocking the plan.

Climate observers had been closely watching the result of this week's vote, and what the outcome would mean for carbon permit prices, which have dropped from €30 per tonne in 2008 to an average of around €5 per tonne – well below what analysts say is necessary to foster low-carbon investment and energy generation.

The low prices have, in turn, sparked questions over whether the EU's Emissions Trading System (ETS) – which relies on these permits – will be able to survive in the long-term, and whether the bloc will be able to meet its climate goals, such as reducing emissions by 20 percent from 1990 levels by 2020.

The backloading debate is not over, however. Under the 28-country bloc's co-decision rules, the European Council must still sign off on the plan before the Commission can act. Countries like Poland, which has a large coal sector, are expected to oppose the move.

“We now have a mandate, as Parliament endorsed our proposals,” said Matthias Groote, a German member of the S&D group who serves as the legislation's rapporteur in Parliament. “We will start negotiations with EU ministers as soon as possible and seek a common solution that will allow the ETS to fulfil its purpose,” he continued, stressing that the emissions scheme should not be a “victim” of short-term concerns.

Second time around

Wednesday's decision marked the second time that the backloading proposal was in front of the full Parliament, after EU lawmakers rejected an earlier version of the plan in April. The original proposal then went under several revisions by the Parliament's environment committee in the hopes that such changes would help the legislation succeed in a second vote - despite criticism from some that the changes had rendered the measure “toothless.” However, many of the compromise amendments that were deemed necessary for the backloading legislation to pass through Parliament were defeated in the vote, much to the surprise of analysts and pundits alike.

Under the current legislation, 900 million allowances would be withheld from the 2013-2015 period. While the environment committee had approved a compromise amendment last month that would reintroduce those permits just a year after the last one had been retained, MEPs rejected the change – ostensibly reverting to the original plan of bringing the allowances back in the 2019-2020 period.

Other compromise amendments, such as those ensuring that two-thirds of the revenue from the delayed auctions would go toward funding the development of low-carbon technologies, were also defeated.

An amendment that was retained, however, was the guarantee that backloading - if implemented - would only be a one-time event.

Just "buying time"?

Both proponents and detractors alike had been ratcheting up pressure in the weeks leading up to the vote. EU energy and environment ministers from 12 member states – the UK, Germany, France, Italy, the Netherlands, Denmark, Portugal, Finland, Slovenia, Slovakia, and Estonia – had all signed a letter urging Parliament to pass the measure.

Detractors have argued that backloading is only a temporary solution to a much deeper problem, and could increase energy prices and dampen confidence in the system. Both sides, however, have said that the EU ETS will have to undergo major changes, beyond just delaying permit auctions, if it is to survive in the long-term.

"Backloading is only an instrument to buy the necessary time to maintain the Emissions Trading Scheme, as we need structural reform," Groote told EurActiv newspaper ahead of the vote. He added that, should prices fall much lower, then even delaying permit auctions would have little impact.

The EU scheme is currently the largest in the world, and also includes neighbouring states Iceland, Liechtenstein, and Norway. Nearly 8 billion carbon allowances were traded in 2011 alone, according to European Commission figures – amounting to US\$147.9 billion in value.

Australian Carbon Tax Shift

The fate of the EU ETS is also being watched closely by other countries, most notably Australia. Prime Minister Kevin Rudd recently announced plans to move his country's controversial carbon tax to an emissions trading scheme (ETS) a year early, in an effort to answer complaints over increased costs of living and lost competitiveness.

Australia's scheme is eventually set to be linked to Europe's, which many Australian businesses say would ease their load by allowing them to buy lower-priced permits from overseas. Whether the planned shift to a floating price system in 2014 instead of the original 2015 will also lead to Canberra bringing forward its linkage with Brussels' programme is currently unclear.

The shift from a fixed-price to floating-price system comes as the country prepares to hold its federal elections later this year. Rudd only returned to office last month, having displaced fellow Labor politician and then-Prime Minister Julia Gillard in a surprise party leadership vote. Gillard had previously ousted him in a similar fashion in 2010.

Bringing the ETS start date forward will require new legislation; the Rudd government, however, has indicated that this will likely occur after the impending federal election, should the Labor Party remain in power. Elections must be held sometime between August and November, with Rudd to set the date.

The Australian carbon tax only just began its second year, having entered into force in July 2012. It targets nearly 400 of the country's biggest polluters, and was instated with the goal of cutting 160 million tonnes of carbon emissions by 2020.

Since its inception, the tax has been criticised by its opponents as having increased energy and living costs for consumers, and made it difficult for businesses to remain competitive under the financial burden.

Moving to an ETS early, Rudd says, could save average Australian families A\$380 per year, and will also reduce pressure on businesses. However, Rudd stressed that the move to "terminate" the tax is not a sign of Canberra backing down on its commitment to tackling climate change.

CLIMATE CHANGE

Obama plan aims to cap carbon emissions, boost renewables

Washington is giving signs that it may take a more active role in combating climate change.

The US will work to rein in carbon emissions from power plants and boost its capacity to produce renewable energy, President Barack Obama said in a speech in Washington on 25 June. The much-anticipated announcement came following his promise in February to make tackling climate change a top priority during his second term.

The Obama Administration's climate action plan outlines a series of measures – some new, others that involve existing programmes – that touch upon an array of other issues as well, such as the possible liberalisation of environmental goods and services at the WTO.

The policies are primarily executive actions – in other words, those that the President can implement without requiring the approval of Congress. Passing climate change laws through the highly-polarised legislative branch has been notoriously difficult, with earlier attempts at pushing through legislation on market-based climate strategies ultimately failing. Given that context, the Obama plan notably does not include any mention of a carbon tax, or a cap-and-trade scheme.

In his State of the Union address earlier this year, the US President had pledged that he would take executive action if necessary to address the growing threat of climate change, if it appeared that Congress was not moving quickly enough on developing a bi-partisan, market-based solution.

"I still want to see that happen," Obama said. "I'm willing to work with anyone to make that happen. But this is a challenge that does not pause for partisan gridlock. It demands our attention now."

Reducing emissions, increasing renewable energy

One of the most high-profile measures outlined in the Obama plan – and likely to be the most controversial domestically – is the planned imposition of federal carbon limits on new and existing power plants, which are the largest concentrated source of emissions in the US. While limits are already in place for arsenic, mercury, and lead, none have been imposed on carbon until now.

Such carbon pollution standards would be developed by the US Environmental Protection Agency (EPA). However, some political analysts have been quick to point out that the planned regulations could face legal challenges, which many expect considering the opposition of some Republicans to such a move.

Another pledge in Obama's plan is the goal to double renewable electricity generation by 2020, from wind, solar, and geothermal sources. Energy sourced from renewables has already doubled since the president first took office in 2009.

"Countries like China and Germany are going all in in the race for clean energy," he said. "I believe Americans build things better than anybody else. I want America to win that race, but we can't win it if we're not in it."

To achieve this goal, Obama has outlined measures aimed at accelerating the pace of issuing permits for renewable energy projects on public lands. Other steps would involve

upgrading the US electric grid and increasing funding for clean energy technology across all government agencies by 30 percent.

The plan also includes a series of measures aimed at increasing energy efficiency, reducing other greenhouse gas emissions – such as hydrofluorocarbons (HFCs) and methane – and preparing for the impacts of climate change.

Trade

The plan also announces the US' intention to – together with its trading partners – kick off WTO talks focused on liberalising trade in environmental goods. Such discussions would aim to build upon the agreement announced by the 21 Asia-Pacific Economic Cooperation (APEC) countries last year to lower tariffs on over 50 environmental goods – including climate-friendly products, such as solar panels and wind turbines – to five percent or less by 2015.

The current APEC agreement is non-binding, given the nature of the regional grouping; in addition, critics have noted that tariffs on many of these goods are already low. The APEC announcement, however, has prompted many pundits to suggest that the move could reinvigorate existing WTO talks in this area, which have repeatedly stalled since the launch of the overall Doha negotiations.

However, early discussions at the WTO on the APEC agreement have already shown a divide between members, as some opposed having the Asia-Pacific agreement influence current WTO discussions or be multilateralised at the global trade body.

Current participants of the APEC agreement would aim to expand the deal's scope by adding products of interest, the Obama Administration said on Tuesday. They would also work to bring in new participants, with the goal of "securing participation of countries which account for 90 percent of global trade in environmental goods."

Given that the US is also one of a subset of WTO members currently preparing to negotiate a plurilateral agreement on trade in services, the Obama plan also pledges to include environmental services in these talks.

Response

The announcement was welcomed by many environmental groups and international policymakers, though several were quick to say that such efforts should only be a first step in a much larger climate change agenda.

"It appears that the President will finally begin to make good on his climate promises, but to truly meet his obligation to future generations, this must be the foundation - not the final act - of his climate legacy," Greenpeace USA Executive Director Phil Radford said.

EU Commissioner for Climate Action Connie Hedegaard similarly called the plan a "most welcomed step forward."

Manufacturers, however, have been among those to criticise the plan, on the grounds that provisions such as power plant carbon limits and the phase-out of fossil fuel subsidies could damage efforts to create US jobs - another one of Obama's policy priorities.

"Ultimately, this plan will make the United States less energy secure, less affordable and unable to meet our future energy needs," National Association of Manufacturers (NAM) President and CEO Jay Timmons said, while agreeing that climate change is an international issue.

Obama, however, has stressed that US industry is adaptable, and that a low-carbon, clean energy economy can actually be a source of growth.

Special meeting report

DIFFICULT BONN CLIMATE TALKS PRODUCE MIXED OUTCOME

This year's mid-year UNFCCC meeting gave signals that while some countries are eager to move forward on a post-Kyoto plan, others do not want to rush the process.

The midyear United Nations Framework Convention on Climate Change (UNFCCC) talks in Bonn wrapped up on 14 June, with many delegates declaring a general sense of satisfaction with the outcome. The somewhat positive result came as a surprise to many, following a protracted block from Russia, Ukraine, and Belarus that many analysts said threatened to stymie progress.

Sources say that underlying the blockage was Moscow's objection to the way the UNFCCC's Eighteenth Conference of the Parties (COP 18) in Doha, Qatar had ended last December. According to reports, the chair of the COP gavelled the deal despite objections from Russia.

The talks are the final round of midyear negotiations to lay the groundwork for the COP 19, slated to take place in Warsaw, Poland this November. The end-of-year meeting will host the 39th sessions of the Subsidiary Body for Implementation (SBI) and Subsidiary Body for Scientific and Technological Advice (SBSTA), and the second to third session of the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP 2-3).

The next few months will see preparations for the Warsaw Conference, a major stepping stone on the path toward the signing of a new global climate pact in 2015. Due to enter into force by 2020, the agreement would bind all countries to measurable targets for curbing greenhouse gas emissions. It is hoped that this agreement would allow countries to avoid the most calamitous warming-induced climate effects - including droughts, floods, storms, and sea-level rise - by limiting global warming. In addition, countries need to agree on measures for adapting to the near-term, unavoidable impacts of climate change.

"Concrete progress" despite SBI impasse

Several Parties in Bonn voiced their dissatisfaction with Russia's insistence on introducing a new item on legal and procedural issues related to decision-making under the Kyoto Protocol.

The SBI was charged with three tasks in Bonn: kick-starting a discussion on a global mechanism to compensate countries for climate change-related loss and damage; drafting the 2014-2015 budget for the UNFCCC secretariat; and reviewing whether the UN's target of limiting the global temperature rises to 2°C should be lowered to a safer level of 1.5°C. However, no work was completed as Russia and other parties were unable to come to an agreement.

Although backed by Ukraine and Belarus, many attending the talks reportedly accused Russia of failing to place a priority on the urgent need to address climate change. European Union climate envoy Jurgen Lefevere described the blockage as a "regrettable setback," with the SBI throwing in the towel on Tuesday.

Despite deep concerns about SBI's impasse, most parties agreed that the issues raised by Russia, Belarus, and Ukraine are valid. Nonetheless, it was difficult to resolve the dispute in Bonn and some parties wanted to avoid setting a "dangerous precedent," Earth Negotiations Bulletin reported.

On the other hand, delegates in the other two working groups - the SBSTA and the ADP 2 - remained in high spirits, with a UNFCCC statement declaring that the Bonn meeting produced "concrete progress."

The Bonn talks saw the SBSTA making progress on a number of agenda items, and the ADP continuing a conversation structured around outlining the contours of a possible agreement and enhancing ambition for the pre-2020 period. SBSTA also agreed to recommend a draft decision on modalities for national forest monitoring systems for adoption by COP 19.

"We are encouraged by the progress that has been reached here," UNFCCC head Christiana Figueres told journalists.

SBI Chair praises parties, despite challenges

Thanking delegates for their "constructive, positive, and forward looking statements," SBI Chair Tomasz Chruszczow noted at the end that although consensus could not be reached on the SBI agenda, the conference has shown that parties will come to Warsaw with "a new spirit of compromise, trust, openness, and understanding."

Quoting Desmond Tutu, Chruszczow said: "Differences are not intended to separate, to alienate. We are different precisely in order to realise our need of one another."

Delegates are holding the same hopes for the upcoming Warsaw Conference, which has a role to play in achieving a strong package of implementation measures to lead to a clear pathway for a legally-binding agreement and progress to raise pre-2020 ambition.

According to reports, finance ministers are set to be invited to COP 19. Sources say the move could be critical given that negotiations on climate financing often require high-level commitments that environment and energy officials attending international climate negotiations cannot provide.

Artur Runge-Metzger, head of the EU delegation, was optimistic that the presence of finance ministers could motivate countries looking to receive finance to solidify details on what they would spend it on.

"It is good for finance ministers to come a little closer to the process and see what the spending is for," Metzger explained. "There might be some disconnect in some parts of the world in that respect."

The gathering of finance ministers could also be the solution to the disagreement over whether the Fast Start Finance commitment of US\$30 billion between 2010-2012 was met by donor nations. The EU, Japan, and the US all claim to have met their commitments, but critics say much of the pledged money has not yet appeared.

"COP19 cannot have the same outcome on finance as last year's Doha negotiations," said Brandon Wu, climate finance policy analyst with Action Aid, a UK-based development NGO. "If developed countries take these steps in Warsaw, it would send a real signal that they are taking their obligations seriously and are genuinely interested in making progress in these negotiations."

The newsroom

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US revises "dolphin-safe" tuna label standards

The US has enacted new reforms to its dolphin-safe labelling programme, in an effort to comply with an adverse WTO ruling issued last year. However, Mexico – which had been the complainant in the high-profile dispute regarding tuna imports – has already come out against the reforms, saying that the changes do not go far enough toward meeting Washington's WTO obligations.

Under the changes, captains and other approved observers will be required to certify "that no dolphins were killed or seriously injured during fishing operations occurring outside the eastern tropical Pacific Ocean." This, Washington says, would make the labelling program "even-handed" compared to before.

Under WTO rules, Mexico can request that the original dispute panel issue a decision on the US' compliance in the case. Should the judges find that the US did indeed fail to implement the ruling, countermeasures can then be authorised by the arbitrators.

Japan opposes fishing subsidies ban in TPP talks

Japan says it will oppose a US-proposed ban on fishing subsidies in the Trans-Pacific Partnership free trade negotiations once it enters the negotiations in earnest.

A newcomer to the talks, Tokyo added that if the subsidy ban is finalised, the Japanese government will call to limit the scope of the ban to subsidies that would lead to overfishing. The Japanese fishing industry depends heavily on subsidies.

The ban is supported by several TPP countries, including the United States, Australia, and New Zealand, which say the move will help protect the environment and fishing resources.

Japan officially became the 12th member of the TPP negotiations on 23 July, during official negotiations in Kota Kinabalu, Malaysia. The member countries are aiming to reach an agreement on the TPP framework by the end of the year.

Monsanto backs away from EU GM crop push

Agricultural biotechnology giant Monsanto will scrap all pending approval requests to grow new types of genetically modified (GM) crops in the European Union in the coming months, company officials said on 17 July.

In an interview with Reuters, Monsanto's President and Managing Director for Europe, Jose Manuel Madero, cited this as a strategic business move, saying it will allow the company to focus more on conventional seeds such as maize, soybeans, and sugar beets in Europe, as well as securing EU approvals to import its genetically modified crop varieties widely grown in the United States and South America.

"Conventional seeds is the area where we are focusing at this time in Europe, and we are funding the business in a way that we haven't done for more than 15 years," Madero told Reuters.

The decision covers five EU approval requests to grow genetically modified maize, one soybean and one sugar beet. However, the company said that it would not withdraw its application to renew the approval for its insect-resistant MON810 maize – the only GM crop currently cultivated commercially in parts of Europe.

Biotech products were thought by some experts to be gaining foothold in Europe since European officials approved a shift away from a zero tolerance policy.

More recently, some British ministers have been championing for the GM industry, citing food security concerns.

However, much of Europe still remains hostile toward the idea of GM food. Only three crop varieties have ever been given a green light for cultivation. Strong public opposition and scientific studies showing that MON810 seed could harm biodiversity have also driven several European countries to impose national bans on Monsanto's MON810 maize, even though it has been approved for cultivation throughout the EU.

Monsanto said that it will decide the exact withdrawal date of each application after carrying out a careful analysis on a case-by-case basis, taking its obligations to business partners into consideration.

EU mulls cap on food-based biofuel production

The European Parliament's environment committee has approved draft legal measures that would cap the share of food-based biofuel used in vehicles at 5.5 percent, ahead of a plenary vote in September.

The committee's 11 July vote is the latest attempt to ensure that support for biofuels does not indirectly enhance greenhouse gas emissions, through deforestation resulting from the extension of farmland.

First generation biofuels – sugar, cereals, or oilseeds – were originally set to be limited at five percent of total energy consumption by 2020, under plans first tabled by the European Commission.

As well as raising this ceiling to 5.5 percent, the draft measures approved by the environment committee would also require "advanced" biofuels - from sources such as seaweed or certain waste products - to account for no less than two percent of consumption by the same date.

The report prompted mixed reactions from industry representatives, green groups, and development agencies.

WTO submission pushes for IP, green technologies

WTO should examine how intellectual property (IP) protections affect the development and use of green technologies, a recent submission tabled by Ecuador suggested. Sources say that the suggestion to the WTO's Council on Trade-Related Aspects of Intellectual Property Rights (TRIPS) sparked intense discussions at the WTO's 11 June meeting.

The submission (IP/C/W/585) highlights the importance of technology and its transfer for climate change adaptation and mitigation.

The proposals include amending the WTO's IP rules to reduce the length of time patents can be applied to green technologies in developing countries. Ecuador also suggested that members consider issuing a declaration on the subject at December's ministerial conference in Bali.

Some developing countries expressed support for the paper, trade sources said. However, several developed countries argued that IP protection encourages both the development of environmentally sound technologies at accessible prices, and technology transfer.

Aviation body backs emissions proposal

The International Air Transport Association (IATA) has agreed to push for a global market-based scheme to reduce emissions from the aviation industry, representatives announced. The proposed plan requires airlines to offset any increase in emissions after 2020 by purchasing carbon permits from other carbon-cutting projects.

The proposal comes ahead of this fall's meeting of the International Civil Aviation Organization (ICAO), where the UN body is set to discuss possible global plans to lower aviation emissions.

While the EU has suspended the controversial inclusion of aviation in its EU Emissions Trading System (ETS) for one year, the 27-country bloc has warned that it will reinstate it if ICAO does not show progress toward such a global solution in that time.

Some environmental groups, however, have been critical of the IATA proposal, saying that rather than providing for a reduction in emissions, it would allow airlines to buy cheap carbon offsets and thus sustain their massive ecological footprints.

Report warns of potential "climate bomb" release

Some of the world's largest refrigerant producers may soon be releasing a "climate bomb" of hydrofluorocarbons (HFCs) into the atmosphere, according to a recent report by the non-profit Environmental Investigation Agency (EIA).

The companies, based in China and India, have argued that a ban on trading climate credits for burning HFC-23 no longer makes it financially sound to destroy the gas; therefore, they will be releasing it into the atmosphere.

HFCs were initially considered a suitable alternative to chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs), substances that were phased out under the Montreal Protocol.

However, the rapid growth of HFC use in cooling devices has since posed its own challenges. HFCs have been found to be 3.83 times more potent than carbon dioxide.

The news came just weeks following a meeting between US President Barack Obama and Chinese President Xi Jinping, where they agreed to work together to phase out the production and consumption of HFCs.

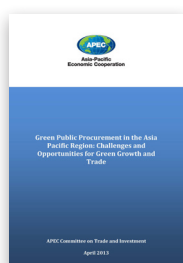
Publications and resources



The Transatlantic Free Trade Agreement: What's at Stake for Communities and the Environment – Sierra Club – June 2013

This discussion paper focuses on three regulatory arenas that may be impacted by the Transatlantic Trade and Investment Partnership (TTIP) negotiations: environmental protection, food safety, and industrial chemical regulations. The TTIP is a trade pact between the United States and the European Union focusing on removing non-tariff barriers. The paper also analyses the impacts of investor protections and investor-state dispute settlement in the TTIP.

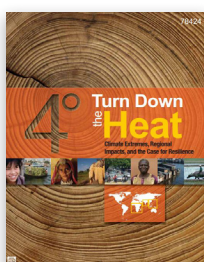
The report can be found at <http://bit.ly/17kn0wF>.



Green Public Procurement in the Asia Pacific Region: Challenges and Opportunities for Green Growth and Trade – APEC – June 2013

This report reviews and analyses the progress of Green Public Procurement (GPP) policies, challenges and opportunities in APEC economies. The information considered in this study was gathered through questionnaires and bibliography review. The report also incorporates an overview of best practices on GPP, selected according to the key aspects involved in the development of a GPP policy. Finally, existing practices on training in APEC economies are described and recommendations for designing courses and seminars are formulated.

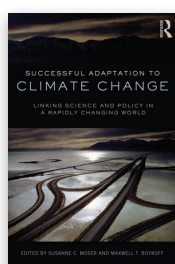
The report can be found at <http://bit.ly/11PQf6k>.



Turn Down the Heat: Climate Extremes, Regional Impacts, and the Case for Resilience – World Bank – June 2013

This report focuses on the risk of climate change to development in Sub-Saharan Africa, South East Asia and South Asia. Building on last year's report, the paper examines the likely impacts of global warming on agricultural production, water resources, and coastal vulnerability for affected populations. The authors claim that many significant impacts are already felt in some regions and the future is expected to hold further severe negative implications for the poorest.

The report can be found at <http://bit.ly/111rF7c>.



Successful Adaptation to Climate Change: Linking Science and Policy in a Rapidly Changing World – Routledge – June 2013

This report deals with issues that arise in adaptation to climate change. According to the authors, adaptation is increasingly recognised as an important climate risk management strategy, but it is not clear what kind of adaptation is considered successful. The authors attempt to address this question in the report in a way that they hope would be useful to students, academics and practitioners.

The book can be found at <http://bit.ly/111slJU>.



Integrating REDD+ into a Green Economy Transition: Opportunities and Challenges – UNEP and UN-REDD – June 2013

In this study, the authors argue that the full potential of REDD+ is rarely elaborated, despite the increasing support for the concept of a green economy. Targeting policymakers, civil-society organisations, and academia who deal with REDD+ and green economy, the paper brings together existing literature on conceptual issues in order to highlight the potential challenges and opportunities of including REDD+ in the transition to a green economy.

The report can be found at <http://bit.ly/10p03GK>.



Providing Agri-environmental Public Goods through Collective Action – OECD – June 2013

This book provides data and analysis on the environmental performance of agriculture in OECD countries since 1990, covering soil, water, air and biodiversity, and looking at recent policy developments in all 34 countries.

According to the authors, absolute levels of pollution still persist in exerting significant pressure on the environment, and more effort is required from farmers, policy makers, and the agro-food chain to address water pollution and the decline in farmland breeding bird populations in these regions.

The book can be found at <http://bit.ly/16E1Ng7>.



Green Growth in Kitakyushu, Japan – OECD – May 2013

This report looks at green growth trends, challenges and opportunities in the City of Kitakyushu, Japan. It analyses socio-economic trends and the environmental performance of Kitakyushu, and reviews urban policies for land use, transport, buildings, waste, energy, water, and industries that contribute to economic growth, and reduce pressure on the environment. It also assesses Kitakyushu's potential to bolster a regional green innovation system, and examines horizontal and vertical co-ordination mechanisms that strengthen cross-sectorial and multilevel governance for green growth.

The report can be found at <http://bit.ly/1cu0tOe>.



A Changing Environment for Human Security: Transformative Approaches to Research, Policy and Action – Routledge – June 2013

This book explores ways of understanding the relationship between environmental change and human security. The book includes analyses, case studies, and reflections on contemporary environmental and social challenges, with a strong emphasis on those related to climate change. The authors hope to show that in a changing environment, human security is not only a possibility, but a choice.

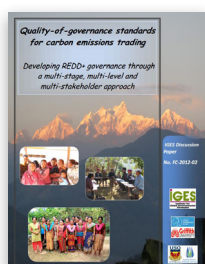
The book can be found at <http://bit.ly/17HhUOL>.



Green Economy and Trade Trends, Challenges and Opportunities – UNEP – May 2013

A key component of the Green Economy and Trade Opportunities Project, the report assesses the trends, opportunities and challenges for more sustainable trade practices, and focuses on six economic sectors: agriculture, fisheries, forests, manufacturing, renewable energy, and tourism. The report aims to identify a range of international trade opportunities in various key economic sectors associated with the transition to a green economy, and policies that may act as facilitators and overcome hindrances to seizing trade opportunities arising from the transition to a green economy.

The report can be found at <http://bit.ly/15f7Vvw>.



Quality-Of-Governance Standards For Carbon Emissions Trading – Institute for Global Environmental Strategies – July 2013

This discussion paper presents the Action Research Project to Develop a National Quality-of-governance Standard for REDD+ and the Forest Sector in Nepal, launched by IGES, Griffith University and the University of Southern Queensland. The discussion paper chooses to focus on Nepal because it is considered a pioneer in community-based forest management. According to the authors, the process of developing a voluntary national standard in Nepal through online surveys, key informant interviews, a multi-stakeholder forum, and field consultation, has provided an innovative and field-tested approach to standards development.

The report can be found at <http://bit.ly/11daYnq>.

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International Centre for Trade and Sustainable Development

Chemin de Balexert 7-9
1219 Geneva, Switzerland
+41-22-917-8492
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