



Getting the “Bads” Out of Goods:

Evolution from voluntary to regulated approaches in reducing the undesirable impacts of global trade

Duncan Brack and Michael Wolosin

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This report was released by Forest Trends' Forest Policy, Trade, and Finance program, which since 2000, has sought to create markets for legal forest products while supporting parallel transformations away from timber and other commodities sourced illegally and unsustainably from forest areas.

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Fern is a non-governmental organization (NGO) and a Dutch Stichting created in 1995 to make the EU work for forests and people. Our work centers on forests and forest peoples' rights and the issues that affect them such as EU consumption, trade, investment and climate change. All of our work is done in close collaboration with social and environmental organizations and movements across the world.

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Executive Summary

This paper provides an overview and analysis of the means by which a number of “global public bads” associated with international trade have been addressed and to draw lessons from these experiences for how to tackle the problem of deforestation driven by the international demand for agricultural commodities.

Over the past seventy years the rapid expansion of international trade and the growth of international supply chains, with various stages of production processes located in different countries, has at the same time facilitated the growth of trade in “undesirable products” associated with “global public bads:” trade in goods which are produced illegally or unsustainably (defined as production which does not respect environmental or social aims or norms).

Means of controlling this cross-border movement include voluntary efforts by multinational corporations to scrutinize and eliminate undesirable products or behavior from their supply chains, governments banning the import or end use of illegal or unsustainable products to national markets or to sectors of them (such as government purchasing), and governments placing legal requirements on companies to scrutinize or eliminate the “bads” from their supply chains. The control of trade in this way offers a powerful instrument through which countries or international organizations can exert influence on other countries to take action against the illegality or unsustainability associated with the products in question.

Effective action of this kind requires: (a) a clear definition of “undesirable” (illegal, unsustainable, etc.); and (b) practical means of distinguishing desirable products from their undesirable equivalents, either at the border or at the point at which they enter the supply chain. International agreement makes both these requirements easier to meet. In the absence of a multilateral agreement, trade measures based on legality – as in the control of trade in illegal timber – have the advantage of placing control of the definition in the hands of the producer country; a sustainability definition may in effect be imposed, or be felt to be imposed, from the outside. If laws are inadequate, however, enforcing the legality of production may not achieve sustainability.

Four categories of activity can be identified in action to address “global public bads” in a general model of policy change:

- Awareness-raising of the problem, often by NGOs or scientists;
- Voluntary action by companies to exclude the undesirable products from corporate supply chains, or by governments to provide encouragement or assistance to producer countries;
- Government regulation to exclude undesirable products from supply chains, through trade or market controls and/or obligations on companies; and/or
- International coordination through bilateral or, ideally, multilateral agreements.

Four case studies examine the extent to which these types of action have been followed and proved effective.

Illegal Logging and the Trade in Illegal Timber

Efforts to address illegal logging and the trade in illegally logged timber have closely followed the general model outlined above, though international coordination is not yet well developed. NGOs were amongst the first to raise concern over the issue, in the mid-1990s, and while some companies responded, this was mostly confined to efforts to increase the share of certified products in their supply chains and had only a marginal impact on the market. It was only when governments (of both consumer and producer countries) took up the issue, aware in particular of the ways in which illegal logging was counteracting development assistance efforts, that change began to happen. The steps taken to exclude illegal (and sometimes unsustainable) timber from consumer markets and improvements in governance and law enforcement efforts in producer countries, have had an impact, though the absence of effective international agreement has limited this mainly to markets in Europe and the US. The control of trade has proved effective in encouraging producer-country governments to take action (for example through reaching bilateral agreements with the EU), but the absence, to date, of effective action by emerging economies such as China and the economic incentives to convert forests to agriculture, have limited their impact.

Conflict Diamonds

This is the clearest example, out of the cases examined in this paper, of a process stimulated by NGOs, who produced the first reports, in the late 1990s, on conflict diamonds. Building on the experience of UN sanctions applied against individual countries, the Kimberley Process, supported by diamond-producing countries in Africa concerned over the impact on their exports, and by the US and UK, then developed so rapidly that there was no time and no need for individual governments to take action or for NGOs to argue for voluntary action by industry, or for progressive companies to take up the call – and in any case, there were few progressive companies. While the Kimberley Process has had some positive impacts, it has not succeeded in developing sufficiently rigorous means of controlling the supply chain and has also failed to prevent the trade in diamonds from fueling violence and human rights violations when undertaken by governments – though this was not its original remit.

Ozone-Depleting Substances and the Montreal Protocol

The Montreal Protocol is the best example, in this paper, of the general model of policy change. Initial concern over ozone depletion was first raised by scientists and then taken up strongly by NGOs. This led in turn to some companies, mainly those making consumer products, taking voluntary action to end their use of CFCs, even while most of the chemicals companies who produced them remained vigorously opposed. National legislation followed in a few countries. Finally, international agreement was reached, first on a framework convention with no firm obligations, and then on the Montreal Protocol embodying control schedules requiring all parties to regulate their markets to achieve phase-out. The Protocol has proved to be probably the most effective environmental treaty yet agreed, and thanks to its design has continued to innovate and adapt to changing circumstances. It failed, however, to predict the emergence of illegal trade; enforcement action taken by national governments, led by the US, resulted eventually in the amendment of the Protocol to establish a licensing scheme for international trade.

Modern Slavery in Supply Chains

This topic displays the familiar pattern of early awareness-raising and campaigning activities and pressure on governments and companies by NGOs (and also by religious groups and trade unions), followed by responses from some companies and the very recent emergence of action by a few governments, mainly to impose transparency requirements on corporate supply chains. These activities have their roots in a long-running debate over the responsibilities of businesses as regards human rights and environmental standards, coupled with the spread of international supply chains focusing attention on the role companies can play in taking responsibility for conditions within the contractors and suppliers with which they do business – similar to the trend that led to the due diligence provisions of the EU Timber Regulation. In general neither governments nor businesses have been leaders in this debate, but neither have they been strongly opposed, partly because the requirements placed on businesses so far have been so light-touch, and partly because the history of boycott action against companies such as Nike has made companies sensitive to pressure.

Synthesis

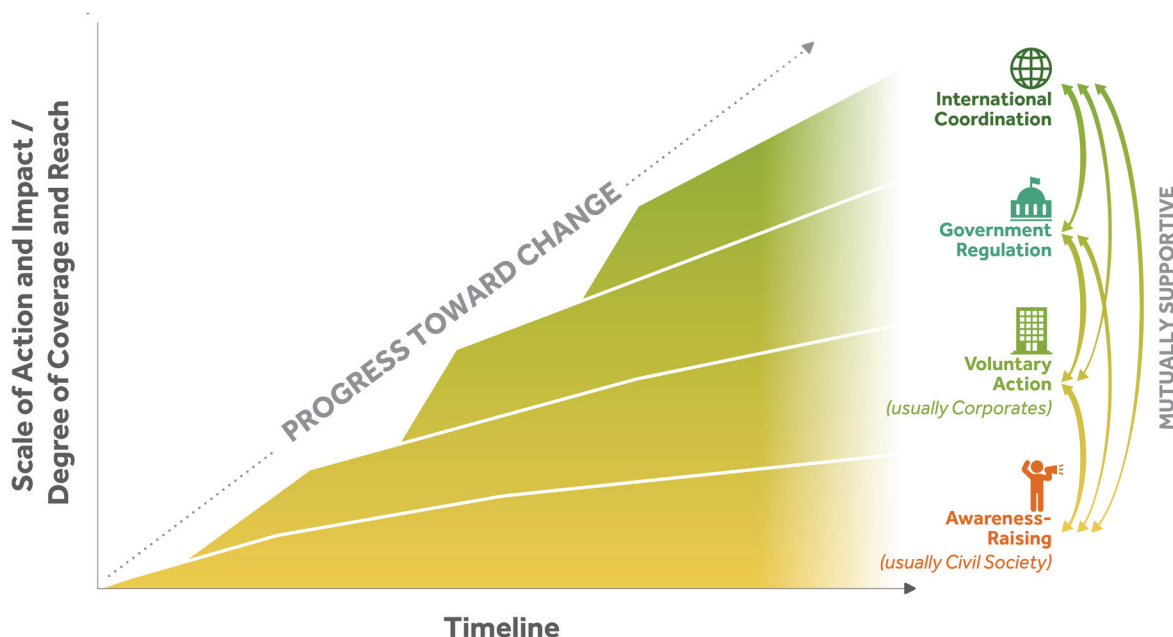
The key lessons from these case studies on actions to get the “bads” out of “goods” include the following:

- **The direction of progress is clear.** There is a consistent pattern in which tackling these bads advances from voluntary action by companies to regulatory action by governments.
- **Progress is messy.** It often involves multiple actions by NGOs, companies, and governments taken in parallel, in different ways and at different speeds. Cycles may emerge where the locus of progress shifts back to NGOs and voluntary action; and feedbacks are common, in which efforts by one group enables progress by others.
- **Skipping steps is possible, but risky.** There appears to be an additive value in progressing through each phase, with awareness-raising providing raw material and evidence; voluntary action by companies building confidence that change is not an economic threat and creating consumer-country constituencies for regulatory action; and national regulation providing both carrots and sticks that facilitate successful international cooperation.
- **Effective international cooperation is difficult but necessary.** A combination of action on the ground in producer countries and in the markets in consumer countries, and controls on the trade between them,

is likely to be the most effective. This requires effective cooperation between producer and consumer-country governments, ideally in the context of an international (or, if necessary, bilateral) agreement. Reaching such agreement requires consumer-country leadership, but benefits to producer countries must also be evident.

- **Nations should not wait for effective international agreement to take national action.** While effective global agreements such as the Montreal Protocol are obviously ideal, their absence, or the existence of weaker agreements, such as the Kimberley Process, does not mean that action by national governments is of no value. Particularly where nations commanding a significant share of the global market act together, they can have an impact.

A General Model of Policy Change for “Global Bads”



Lessons for Agricultural Commodities Associated with Deforestation

Efforts so far to reduce and eliminate deforestation from agricultural supply chains by 2020, in line with the UN Sustainable Development Goals, are moving too slowly to meet this target. In common with the other case studies, while the actions taken so far – mainly voluntary commitments by companies to eliminate deforestation from their supply chains – have been valuable, they are insufficient to achieve the objectives. For a successful path forward:

- Continued awareness-raising and campaigning by NGOs is critical.
- Voluntary corporate zero-deforestation commitments are helpful and should continue to be encouraged, applauded, and monitored. Assessments both of the extent to which companies have adopted commitments, and the progress they have made in fulfilling them, are important.
- Ambitious and progressive companies can lead the way by piloting approaches, showing that costs and operational challenges are manageable, encouraging certification schemes to improve their standards and levels of enforcement, and discovering the challenges and barriers to effective action.
- They can also press for action, through government regulation and international cooperation, to ensure a level playing field with their competitors.
- The growing engagement of consumer-country governments and their support for action on the ground in producer countries through financial and technical assistance and capacity-building is essential.
- Voluntary measures alone, however, are insufficient to successfully address commodity-driven deforestation at the global scale.
- Consumer-country regulation and, ultimately, international cooperation will be needed if international goals are to be reached.

- Advancing from voluntary to regulatory action, either by select consumer-country nations or through international cooperative agreement, will require a greater level of consensus on common standards than currently exists, including by producer-country governments.
 - In principle, this definition could rest on either the sustainability of production, as is currently the approach for zero-deforestation supply-chain commitments; or on the legality of production, as has been the case for timber.
 - The legality approach has some advantages. A large proportion of agro-conversion is illegal; and enforcing the laws of the producer country rather than imposing an external standard may create greater support from developing countries, which has proven critical for advancing from voluntary to regulatory approaches and international cooperation.
 - An international conversation about appropriate standards for agro-conversion is needed among producer and consumer governments, informed by NGOs and leading companies.
- Leadership by NGOs, progressive companies, and consumer-country governments will be necessary to push through action against likely opposition from companies to national or international regulation that they perceive as increasing their costs or affecting their competitiveness.

1. Introduction

The purpose of this paper is to provide an overview and analysis of the means by which a number of “global public bads” associated with international trade have been addressed. Lessons are drawn from these experiences and applied to attempts to tackle the problem of the illegal conversion of forests for agriculture driven by the international demand for agricultural commodities.

The paper contains four case studies, on:

- Illegal and unsustainable logging (Section 3);
- Conflict diamonds and the associated trade (Section 4);
- Ozone-depleting substances and the Montreal Protocol (Section 5); and
- Forced labor and modern slavery in supply chains (Section 6).
- Each case study analyses the key measures adopted, the evolution of action – including not just what happened but who were the key actors and what were the key drivers in catalyzing action – and the way in which actions evolved through different phases, including awareness-raising and campaigning, voluntary efforts, national action and international agreement (not necessarily in that order).

These four cases have been selected because:

- They all undermine or damage efforts to improve or protect “global public goods.”¹ The global public goods which the “bads” examined in this paper threaten include the world’s forests (and the peoples who depend on them), the Earth’s stratospheric ozone layer, peace and security, and human and labor rights.
- They are associated with and exacerbated by international trade – the export, import and trans-shipment of goods – and by the predominance of international corporate supply chains – the systems through which companies source the products they produce, consume and sell.
- They feature internationally coordinated attempts to tackle the problem, whether through multilateral agreements or regional or bilateral networks of cooperation and dialogue – though these are at very different stages of evolution.

Section 2 provides context and background. Sections 3 – 6 cover the four case studies listed above, starting with the section on illegal logging, which clearly relates most strongly to the issue of the illegal conversion of forests for agriculture. Section 7 discusses commonalities and differences between the case studies in a brief synthesis. Section 8 reviews the issue of deforestation linked to agriculture, including the illegal conversion of forests to agriculture, and actions taken to date to address it, and draws on the synthesis of lessons learned to propose potential ways forward.

2. Background

2.1 Globalization, Trade, and Supply Chains

The rapid expansion of international trade and investment has been one of the defining characteristics of the world economy since 1945, and a key factor in the complex of processes known as “globalization.” The volume of global exports of merchandise (primary commodities and manufactured products), for example, grew from US\$62 billion in 1950 to US\$19 trillion in 2014, in real terms a 30-fold increase.²

Many factors lie behind this dramatic growth, including rapid technological advances in transport and communications, the spread of investment, the development of international specialization, the ascent of new

¹ Goods which are non-excludable (when provided to one party, the public good is available to all) and non-rivalrous (the consumption of the public good by one party does not reduce the amount available to the others to consume) and which exist at the global scale. For a longer discussion of the concept, see *Meeting Global Challenges: International Cooperation in the National Interest* (Summary Report of the International Task Force on Global Public Goods, 2006).

² WTO Statistics Database (<http://stat.wto.org/Home/WSDBHome.aspx?Language=>).

economic powers and the dramatic surge in world population (largely due to improved standards of public health, nutrition and the conquest of many infectious diseases) and in levels of income and consumption per head, which are in turn stimulated by an increase in trade.³

On top of this – and in marked contrast to other periods in world history – there has been a broad international consensus in favor of the liberalization of trade. This has been signaled most obviously by agreement on the General Agreement on Tariffs and Trade (GATT) in 1947, by successive rounds of GATT trade talks leading to the lowering of export and import duties (tariffs) and other barriers to trade, and by the GATT's replacement by the World Trade Organisation (WTO) and its network of trade agreements in 1995. Also of significance has been the “Washington consensus” of economic reform, trade and investment liberalization and the deregulation of markets within the domestic economy, prescribed for developing countries by the International Monetary Fund, the World Bank and many development assistance agencies.

Another marked difference from earlier periods of globalization has been the fact that over several recent decades, world trade has grown faster than world production. In 1950, for example, the proportion of world GDP exported was 19 percent; in 2011, it was 59 percent.⁴ This is due partly to the rapid spread of international supply chains. Manufacturing is increasingly managed through complex global supply chains – effectively, world factories – which locate various stages of the production process in the most cost-efficient locations. Goods are increasingly made in two or more sequential stages, with firms relying more and more on imported material inputs and offshored administrative tasks.⁵

2.2 International Trade in Global Public “Bads”

This growth in international trade and in the complexity of international supply chains has at the same time facilitated the growth of trade in “undesirable products” associated with “global public bads” – i.e., trade in goods which are produced illegally or unsustainably (which, in this context, means production which does not respect environmental or social aims or norms). Sometimes the production of the good may be illegal or unsustainable while the trade may be legal; sometimes production may be legal but the trade illegal; and sometimes both production and trade may be illegal. (See below for a further discussion of legality and sustainability; in the remainder of this section, “undesirable” is used as a shorthand for “illegal and/or unsustainable.”)

Like the growth in international trade itself, this expansion of the trade in undesirable products has many contributory factors.⁶ Three main drivers can be identified:

- Differential costs or values: where undesirable activities are driven by costs which do not reflect externalities (e.g., the costs of pollution or the long-term costs of natural resource depletion), by regulations creating cost differentials between desirable and undesirable products (illegal goods are usually cheaper to produce than legal ones), by differential compliance costs, or different consumer prices, in different countries, by demand for scarce products for which substitutes are not available or accepted and by a lack of concern for or valuation of the environment or of human or labor rights.
- Regulatory failure: where undesirable activities result from a lack of appropriate regulation, including failures to determine and/or protect property rights (open access problems) or to correct for externalities (see above).
- Enforcement failure: where undesirable activities exist because of problems with enforcement, including the unsuitability of regulation or enforcement methodology and the costs of compliance, regulatory capture, lack of resources and infrastructure, a lack of political will or expertise, corruption, and political and economic disruption.

³ For a longer discussion of the issues covered in this section, see “Trends in International Trade” in *World Trade Report 2013* (WTO, 2013).

⁴ Esteban Ortiz-Ospina and Max Roser (2017) – “International Trade.” Published online at OurWorldInData.org. Retrieved from: <https://ourworldindata.org/international-trade>.

⁵ “Trends in International Trade.”

⁶ For a longer discussion, see OECD (2012), *Illegal Trade in Environmentally Sensitive Goods*, OECD Trade Policy Studies, OECD Publishing. <http://dx.doi.org/10.1787/9789264174238-en>

Another contributory factor is scale: when production and trade are larger in volume terms, all else being equal trade in undesirable products will be larger too. The trend towards trade liberalization can make imposing border controls more difficult for both practical and political reasons; although border controls are not the only way to inhibit trade in undesirable products, they can be effective, and, in the shape mainly of licensing systems, are often used to try to control international trade in undesirable products. Border checks are also rendered more difficult by the increasing tendency towards containerization in maritime freight transport. The growth of transnational corporations (TNCs), international supply chains and trading platforms may also mean that companies are sourcing intermediate products from enterprises in countries far away with whom they have little contact and influence; and national regulations may be more difficult to apply and enforce against TNCs or against companies' suppliers and sub-contractors located in different countries.

The spread of environmental and human rights norms and legislation also has an effect: there may now be more norms to ignore and laws to break than there used to be, and evidence of breaches of legislation – or, sometimes, moral and cultural norms – may in turn lead to pressure for more legislation. Finally, the growth in importance to international trade of both “transition economies” (former Soviet and eastern European states), following the collapse of the Soviet Union, and developing countries – particularly in East Asia, and especially China – means that more products are being produced and consumed in countries with no long history of effective regulation and enforcement and which often face problems of corruption, organized crime and a lack of regulatory and enforcement capacity.

2.3 Legality and Sustainability

The discussion above uses the term “undesirable” to refer to both illegal and unsustainable activities, but there are of course major differences between the two sets of characteristics. “Sustainability” in relation to goods and commodities is a very broad concept, encompassing the environmental, economic and social impacts and side-effects (including the impacts on human rights) of production, consumption and trade. For one of the issues covered in this paper – logging – there have been various attempts to define how “sustainable” products might be produced, through, for example, voluntary certification schemes and/or national or international regulation: the criteria include aspects such as requirements to limit impacts on the natural environment (e.g., maintaining forest cover at the same or higher levels, protecting particular areas or ecosystems, reducing or eliminating side-effects such as those caused by the use of pesticides) and to respect the labor rights of workers in the industry and the human rights of communities dependent on the resource in question (e.g., indigenous peoples living in the forest) and adherence to national and international laws.

Since logging is regulated by national laws there may be a distinction between *illegal* and *unsustainable* products; depending on the details of the laws in question, products which are legally produced may nevertheless be unsustainable. This is true for other global bads as well: where there is any regulation at all, a distinction is likely to emerge between illegal and unsustainable production.

If regulations are adequate to guarantee the sustainability of production, the distinction disappears. However, the definition of “sustainability” can be controversial; producer countries often perceive trade or purchasing decisions based on sustainability criteria as the imposition of unfair standards or “green protectionism” directed at their own products, with definitions of sustainability drawn up through processes in which they may not be well represented. Sustainability criteria may also often give greater weight to the environmental rather than the social or economic aspects of an activity – e.g., palm oil production may help to bring prosperity to developing countries and to smallholder producers even while threatening deforestation and the loss of biodiversity and contributing to global climate change.

It is for reasons such as these that approaches based on the legality of production have been more widely adopted in tackling trade in illegally and unsustainably produced timber – including licensing systems based on the legality of production, prohibitions on the placing of illegal timber on the market and requirements on industry to exercise due diligence in sourcing timber in order to minimize the chance of them handling illegal products. Some activities, however, including some public procurement policies, and voluntary industry commitments to source sustainable, or sometimes “zero-deforestation,” products, aim at sustainable as well as legal products.

The main advantage of an approach focusing on the legality of production is that the definition of the problem rests in the hands of the producer country. It is the national legal framework, as drawn up in the country of origin, that

defines the illegality; it is not a question of standards drawn up outside the country being imposed on it – an accusation which is sometimes levelled at an approach based on sustainability standards.

The main disadvantage is the inverse: that the national laws in question may not be adequate to deliver the underlying objective of protecting global public goods – for example, for timber, that of reducing the impact on forests. While a legality approach should reduce illegal logging, it may not be sufficient to address environmental and social harms from legal deforestation. If the law permits deforestation (or even possibly requires it; for example, palm oil companies are sometimes obliged to develop their concessions to the full even where they would prefer to avoid areas of high conservation value forest), simply relying on establishing legal production may not be adequate to achieve the broader aim. There is also the fear with a legality approach that producer-country laws might be weakened in response to demand-side action, increasing the gap between legal and sustainable. These are all arguments for a sustainability approach, encompassing a broader range of measures, in preference to a legality approach.

While this is a valid concern, a legality approach can often act as a stepping-stone to sustainability. For example, putting in place the mechanisms needed to track the movement of logs from the forest through to consumption or export – necessary for a legality approach – is a big step towards establishing full chain-of-custody tracking, which is itself necessary for a sustainability approach. Often a legality approach may itself lead to improvements in laws and regulations – or at least to improvements in transparency that make unsustainable regulations and practices harder to ignore – with long-term improvements in forest governance.

2.4 Distinguishing Between Desirable and Undesirable Products

In terms of controlling the cross-border movement of undesirable items, whether legal or sustainable or anything else, two things are important: (a) the definition of “desirable” must be clear; and (b) it must be possible, in practical terms, to distinguish legal or sustainable products from their illegal or unsustainable equivalents, either at the border or at the point at which they enter the supply chain.

Where international agreements exist, the definitional problem becomes much easier. The agreement defines the behavior which is desirable, and any departure from it is, in effect, “illegal.” This is the situation for two of the four case studies in this paper. The Kimberley Process bans diamonds which are not conflict-free from international trade; it is the association with conflict that makes the diamonds “illegal.” While this has proved a useful start (though it has been unevenly enforced), it is also being argued that its definition is inadequate, that the restriction of the process to diamonds associated only with armed conflict by rebel groups is too narrow, and that it should be widened to cover the human rights abuses and impacts on the environment associated with the diamond trade. This is a similar argument in some ways to the debate around a legality approach versus a sustainability approach – “legal” according to the Kimberley Process may not be “sustainable” when broader human rights and environmental criteria are applied.

The Montreal Protocol sets out phase-out schedules for the production and consumption of ozone-depleting substances, which define, in effect, legal behavior under the treaty; if parties fail to meet these targets, they will be subject to the Protocol’s non-compliance procedure. Parties to the treaty develop national legislation to fulfil its aims, and if this is breached by individuals or companies, their behavior is illegal under national law.

In the remaining case studies, logging (as discussed above) and modern slavery, no formal international definitions exist, though there have been various attempts to reach them and the terms are widely understood, even though national definitions may vary. In each case, developing countries have expressed concerns over external definitions being imposed upon them, for example through the use of trade measures against products produced with forced labor, where what is “forced” may be defined by the country of import, not the country of production. This is why trade restrictions for timber have been applied on the basis of legality, not sustainability, and there have been only limited instances of this kind of regulation for modern slavery.

In both cases, measures have also been taken to place requirements on companies to scrutinize and (mainly for timber) eliminate undesirable products or behavior from their supply chain. Again, for timber this is on the basis of legality, as discussed above. For modern slavery in business supply chains, there is no single universally accepted definition of modern slavery, though UN and International Labour Organization (ILO) reports have painted a broad picture. To date there appears to have been no objection from developing countries to the kind of transparency

requirements for business supply chains gradually being introduced by a few countries; this may be because they have had little effect so far, or it may also be because the outcomes of the measures may see businesses trying to improve their or their suppliers' conditions of employment rather than abandoning sourcing from the country in question altogether, in a way which is not possible if trade measures are used against imports.

The second requirement – that it must be possible to distinguish between desirable (legal or sustainable) and undesirable (illegal or unsustainable) products – is generally not easy in any of the case studies examined in this paper. Sections 3 to 6 describe the various measures that have been developed, many of which involve the use of trade as a policy instrument.

The expansion of trade described above in Section 2.2 also increases international interdependency, which has two effects of relevance to this paper. First, it highlights the way in which consumer countries are frequently major contributors to the problem: they provide sources of export earnings for the products of illegal activity such as timber or diamonds. The profits thus generated (which may also flow to TNCs or companies outside the countries of origin) may far exceed the resources available to the producer countries for regulation and law enforcement. The final consumers of these products may care little about the consequent damage to the environment or to human rights in countries far away – or, even if they do care, they may find it difficult to do anything about it.

Second, however, trade offers a potential instrument through which countries or international organizations can exert influence on other countries. Sometimes this can be through prohibiting trade in particular products – as used against non-parties or non-complying parties to a number of multilateral environmental agreements, including the Montreal Protocol. In other cases it can be through conditioning access to a particular market to products that meet specific requirements, for example through the use of licensing systems, examples of which are present in three out of the four case studies included here. This restriction of market access provides a powerful incentive to producers of the products in question to change their behavior to meet these requirements – for example to export timber products verified as legally produced, or conflict-free diamonds, or to phase out the use of ozone-depleting substances. This change in behavior may in turn involve reform of laws and regulations, or better enforcement of laws already in existence.

The use of trade measures or conditions on market access in this way can be a controversial subject, raising not only fears of a challenge under WTO disciplines (though such challenges are often threatened, without any real justification, by those who dislike the measure; trade measures can be designed to be compatible with WTO rules⁷) but also allegations of neo-colonialism, of developed countries applying their own rather than local norms, or “green protectionism,” against poor countries seeking to expand their share of the market. This is why, in general, it is preferable to apply them in the context of an international agreement, whether bilateral or multilateral.

Trade measures such as these can be difficult to apply, requiring reasonably robust means of identifying undesirable (or desirable) products, which in turn needs investment in personnel and technology and proper enforcement to avoid smuggling, fraud and other means of subverting the system. As noted above, a complementary policy instrument, and one used more frequently in recent years, is the placing of requirements on companies to exclude undesirable products from their own supply chains, or to minimize the risk of undesirable products being present – usually described as “due diligence” or “due care” obligations, though sometimes they take the form simply of requirements for transparency. Sometimes these are explicit, as in, for example, the EU Timber Regulation, and sometimes they evolve in the process of applying a piece of legislation, as in the due care strategies that have emerged in the process of applying the Lacey Act in the US (see Section 3). This is also the main means through which the issue of modern slavery in supply chains is being addressed.

2.5 How Policy Evolves

Perhaps surprisingly, there appears to be little academic analysis of the way in which, in general, national and international legislation dealing with the type of issues discussed in this paper – mainly concerning the global environment, but also human rights abuses – comes into being. Much domestic environmental legislation, particularly in the nineteenth and earlier parts of the twentieth century, was stimulated by the direct impacts on human health and the local environment of human activity; the impact and the root cause were usually obvious.

⁷ For a longer discussion, see Duncan Brack, *Combating Illegal Logging: Interaction with WTO Rules* (Chatham House, May 2013).

This is different for issues such as ozone depletion and, at least for final consumers, for issues such as illegal logging, conflict diamonds or modern slavery.

With general frameworks lacking in the academic literature, this paper organizes actions into four categories: awareness-raising, voluntary action, government regulation, and international coordination.

Awareness-Raising

Initial concerns over an issue are often raised by civil society, usually NGOs or scientists, sometimes operating jointly with partners or contacts overseas (e.g., in a country affected by illegal logging or by conflict financed by the diamond trade or by modern slavery). Awareness-raising efforts may also include research.

Frequently, sounding an alarm bell about an issue is not enough to generate action, and civil society organizations escalate from raising general awareness of the issue to raising awareness about the negative impacts or actions by specific companies or industry in general. Such targeted business-focused campaigns are undertaken mainly by NGOs (as in the four cases examined in this paper), but also sometimes by religious groups, trade unions, or activist shareholders (who may see undesirable production as a business liability) applying pressure to companies into changing their behavior to avoid sourcing undesirable products.

Policy campaigns may target government rather than, or in addition to, companies. These campaigns encourage government to change its own behavior (e.g., through assistance or public procurement policy), or to regulate private-sector behavior through national legislation or through negotiating international agreements. While policy campaigns are often led by NGOs, companies themselves may also lobby government to regulate, in order to level the playing field so that their competitors are required to implement similar measures as they have undertaken voluntarily, and/or erect trade barriers against foreign products not produced to the same standards.

Voluntary Action

Companies often respond to pressure by adopting voluntary commitments to tackle the problem, either singly or together in groups. Voluntary corporate efforts may include promises of greater supply-chain transparency and commitments to eliminate a “bad” from their own supply chains, sometimes without external scrutiny, but sometimes also using independent systems such as third-party certification, auditing or monitoring.

While most voluntary actions identified in the four case studies below are corporate, some national government actions are also more “voluntary” in nature than regulatory. For example, governments of consumer countries may respond to pressure (from any of the sources mentioned above, and others, such as international partners) to take action, through their own operations. This might include providing financial and technical assistance, or using public procurement policy, or working with relevant companies to tackle the problem, or trying to influence a foreign country through diplomacy, or all of these.

Government Regulation

Voluntary actions, self-evidently, have their limits: they may only be taken up by a small number of companies, or companies may take some action but with insufficient impact. If the costs of taking action are significant, companies doing so may lose market share, or profits, or both, in the face of competition from other companies not taking any action, whether in their home country or abroad. The fear of such an outcome may inhibit companies from taking action.

So if voluntary solutions are inadequate, and the problem worsens, or public pressure to address the problem increases, governments may then regulate to exclude the “bads” from supply chains directly. In some cases, governments may come under pressure from front-running companies to regulate to prevent them being undercut by their competitors not taking similar action. (More commonly, companies may lobby governments to oppose regulation, because of the perceived impact on market share, profits and possibly jobs.)

Government regulation can come in several forms:

- Labeling or other informational requirements designed to identify the undesirable (or desirable) products in the marketplace.
- Bans on the import or sale or end use of undesirable products, possibly including licensing schemes designed to ensure that only desirable products are imported.

- Requirements on industry, such as transparency or due diligence obligations designed to identify the risk of undesirable products in their supply chains and take action to minimize or exclude them.
- Even when laws and regulations are present, enforcement may be weak or lacking; stepped-up enforcement actions are therefore also included in this category.

(For the purposes of this paper, action by the EU is categorized as “national regulation.” Although the EU is of course an international organization, it operates like a national government in many ways, particularly in the control of international trade.)

Sometimes, national regulation precedes international action, and international agreements may build on national experiences; sometimes it follows from and is determined by international agreements.

International Coordination

The supply chains this paper focuses on are international in nature, and, as such, no individual national government can control behavior across the entire supply chain from production through trade to consumption. Actions by individual governments or groups may simply have the effect of diverting production of or trade in the products in question to less sensitive jurisdictions, with no or little global benefit.

Recognizing this, governments may seek to work together to try to promote common solutions, either at a global level or with consumer and/or producer countries together, without going so far as to regulate. Or they may reach bilateral or multilateral agreement on international regulatory approaches such as trade measures designed to exclude the undesirable products from trade entirely. Trade measures can also be used to encourage non-parties to join the agreement or as a mechanism to encourage compliance with its terms amongst parties to the agreement. Given the scale and value of international trade in most of the products discussed in this paper, the use of trade measures in this way can often be considerably more effective than other options such as diplomatic pressure or the provision of financial assistance; or it can reinforce these measures if taken together.

It should be noted, though, that international agreements may be constrained by the normal consensus-based approach of international diplomacy and may in practice be held back by member states opposed to ambitious action; of the cases examined in this paper, the Kimberley Process is an example. The existence of a weak international agreement does not, accordingly, invalidate the argument for national action by individual governments or groups of them.

A General Model of Policy Change

In the four case studies examined below, the scale of action and impact and the degree of coverage and reach of efforts to address global public bads tend to progress in order through these four categories (Figure 1). There are exceptions in the linking between actor and type of action, for example when governments take voluntary action or companies participate in awareness-raising efforts. The progression is also not always stepwise through the categories. A synthesis of the lessons learned from the case studies – including an attempt to understand why they deviate at times from the model – is in Section 7.

Each of the sections below considers these categories of effort, and their interactions, in the context of the “global public bad” in question. Each contains a simplified timeline of key developments which indicates the type of action, who took it, and at what scale. It asks how actions evolve over time, and the extent to which the case exemplifies or differs from the general model presented in Figure 1. Finally, Section 8 examines the case of agricultural commodity production driving deforestation in light of the lessons and commonalities gleaned from the case studies.

Figure 1. A General Model of Policy Change for “Global Bads”



3. Illegal Logging and the Trade in Illegal Timber

3.1 Illegal Logging

Illegal logging and the international trade in illegally logged timber is a major problem for many timber-producing countries. It causes environmental damage, contributes to climate change, costs governments billions of dollars in lost revenue, promotes corruption and undermines the rule of law and good governance; in some cases it has funded armed conflict. Consumer countries contribute to these problems by importing timber and wood products without ensuring that they are legally sourced.⁸

Illegal logging takes place when timber is harvested, transported, bought or sold in violation of national laws. What is “illegal” will therefore depend on the particular national legislation in force, though most countries do not vary significantly in the broad outlines of their forest laws. An Interpol/UN Environment Programme (UNEP) study in 2012 listed ten means of illegal logging: logging in protected areas; logging in unprotected areas without permits; illegal logging in conflict zones; logging in excess of permit or concession quotas; logging with forged or re-used permits; obtaining permits through bribes; establishing or expanding plantations (for e.g., oil palm) beyond legal limits; agricultural expansion by small-scale farmers without permission or title to the land; cattle ranching and soy production without permission or title; and widening road corridors, mining or other felling without permission or title.⁹ In addition, illegalities may occur during transport, including illegal processing and export, misdeclaration to customs, and avoidance of taxes and other charges.

By definition, the scale of illegal logging is impossible to measure precisely. A study conducted for the American Forest & Paper Association in 2004 (still the most comprehensive global survey to date) suggested that illegal activities accounted for about US\$23 billion per year in production (8–10 percent of the global total at that time) and at least US\$5 billion per year in trade (7 percent of the global total). It also estimated that world timber prices were depressed by between 7 and 16 percent (depending on product) by the prevalence of illegal products in the market, losing US timber firms at least US\$460 million each year in forgone sales. This contrasts with the widely quoted figure of US\$10 billion – 15 billion per year estimated by the World Bank in 2002, and the US\$30 billion – 100 billion (10–30 percent of the global market) estimated by a UNEP report in 2014¹⁰ – though no sources or methodologies for these figures were provided, and it is not clear whether they refer to the value of production or of international trade.

Successive studies by Chatham House on the international response to illegal logging in key producer, consumer and processor countries suggested that the extent of illegal logging peaked in about 2006–08, declined under the impact of the policy measures examined below, but then rose again, as incentives grew for illegal clearance of forests for agriculture and as domestic markets and markets in Asia both expanded strongly.¹¹ While there had been clear policy successes, in particular in “sensitive” consumer countries – for example, from 2006 to 2013, volumes of illegal wood-based products imported by the US fell by a third, and by France, Netherlands, and the UK by half – this had been countered by increases of over 50 percent in the volume (though not necessarily the proportion) of illegal products imported by the emerging economies of China, India and Vietnam. The three largest source countries for illegal timber were identified as Indonesia, Brazil, and Malaysia.

The economic, social and political drivers underlying illegal logging are many, and vary from country to country and time to time. Although there are instances of small-scale illegal logging by individuals and communities to sustain

⁸ For overviews, see David Humphreys, *Logjam: Deforestation and the Crisis of Global Governance* (Earthscan, 2006); OECD, *Illegal Trade in Environmentally Sensitive Goods*; David Humphreys, “Forest crimes and the international trade in illegally logged timber,” in Lorraine Elliott and William H. Schaedla (eds.), *Handbook of Transnational Environmental Crime* (Edward Elgar, 2016).

⁹ Christian Nellemann (ed.), *Green Carbon, Black Trade: Illegal Logging, Tax Fraud and Laundering in the World's Tropical Forests* (Interpol Environmental Crime Programme and UNEP, 2012), pp. 29–37.

¹⁰ Nellemann, Christian, Rune Henriksen, Patricia Raxter, Neville Ash and Elizabeth Mrema (eds.) (2014), *The Environmental Crime Crisis: Threats to Sustainable Development from Illegal Exploitation and Trade in Wildlife and Forest Resources. A Rapid Response Assessment*, Nairobi and Arendal: UNEP and GRID-Arendal.

¹¹ Sam Lawson and Larry MacFaul, *Illegal Logging and Related Trade: Indicators of the Global Response* (Chatham House, July 2010); Alison Hoare, *Tackling Illegal Logging and the Related Trade: What Progress and Where Next?* (Chatham House, July 2015).

their own livelihoods, in most cases illegal logging has been conducted by companies driven by the desire for profit, and rendered possible, or at least much easier, by systemic failures of governance, including corruption, and of law enforcement. By logging in protected areas or over allowed quotas or without paying taxes and charges, by processing the logs without acquiring licenses, and by exporting the products without paying export duties, companies can generate much greater profits for themselves than by behaving legally. The extent of illegal logging in some countries has been so large, and law enforcement so poor and corruption so rife, that the chances of detection and punishment may be very small – and the incentives to operate illegally are correspondingly large.

During the 1990s and 2000s, much illegal logging was thought to stem from over-allocation of logging concessions and processing licenses, frequently associated with corruption and often encouraged by regulations and taxation which rewarded high extraction rates. In some countries, regulations may be so poorly written that it can be difficult even to decide what is illegal; in others, compliance costs – such as applying for permits – may be so high in terms of time or money that legal operations become uneconomic, sometimes intentionally so. In some countries, customary law and the formal legal system may be inconsistent with each other.

Many of these problems are still present, but the 2000s and 2010s have also seen, in some countries, exports of timber continuing or rising even while levels of illegal (and sometimes even legal) logging were supposed to have been falling. Studies suggest that while the extent of logging of forests for timber may indeed have fallen, the illegal conversion of forest land to other uses, usually agriculture, has been growing in size, with an accompanying production of timber. A 2014 report for Forest Trends concluded that nearly three-quarters (71 percent) of all tropical deforestation between 2000 and 2012 was caused by commercial agriculture. Almost half (49 percent) of total tropical deforestation between 2000 and 2012 was due to illegal conversion for commercial agriculture. Nearly one-quarter (24 percent) was the direct result of illegal agro-conversion for export markets.¹²

3.2 Tackling the Issue

No comprehensive global agreement on forests exists; an attempt to negotiate one at the UN Conference on Environment and Development (the “Earth Summit” in Rio) in 1992 foundered on developing-country suspicions of industrialized countries’ attempts to, as they saw it, prevent them benefiting from their own natural resources. The conference was able to reach agreement on a broad commitment to the idea of sustainable forest management (“Forest resources and forest lands should be sustainably managed to meet the social, economic, ecological, cultural and spiritual needs of present and future generations”¹³) and following the conference, various processes were initiated to elaborate this concept at a regional and national level, often with support through development aid. Forest certification schemes were established to supply wood products from sustainably managed forests, but take-up in consumer markets remained limited despite NGOs’ attempts to promote them.

Alongside these developments, throughout the 1990s awareness and understanding of the problems of illegal logging also steadily grew, not just because of its impact on forests but also because of the scale of the losses in tax revenue to poor countries that it represented (US\$5 billion a year, according to one estimate, at least triple overseas development assistance for forests) and its links with armed conflict, such as the Khmer Rouge insurgency in Cambodia. NGOs, including Global Witness, began to campaign on the issue, and in 1998 the UK presidency of the G8 included discussion of the topic in the G8 Action Programme on Forests.

Within the UK the issue was led mainly by the Department for International Development (DFID), which had been established as an independent ministry the year before by the new Labor government. Its policy-making role (in contrast to the technical-assistance-provider role of many other development agencies, such as the German GIZ and the French AFD), coupled with the new government’s willingness to pursue a foreign policy with an ethical dimension, helped it to think innovatively and to act with a degree of freedom to experiment which would become more difficult in later years. DFID was open to new thinking about the relevance of broader issues such as governance to development models, and was also aware that development assistance for forests, mainly focused

¹² Sam Lawson et al., *Consumer Goods and Deforestation: An Analysis of the Extent and Nature of Illegality in Forest Conversion for Agriculture and Timber Plantations* (Forest Trends, September 2014), p. 2.

¹³ Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of all Types of Forests (the “Forest Principles,” 1992), para. 2(b); available at <http://www.un.org/documents/ga/conf151/aconf15126-3annex3.htm>.

on promoting sustainable forest management, was not proving particularly effective, not least because it was dwarfed in scale by the value of timber products in international trade.

DFID found an ally in the US State Department, which proposed a ministerial conference on forest law enforcement and governance (FLEG) in Indonesia, where illegal logging was increasingly being experienced and recognized. Organized by the World Bank and supported by the UK and US governments, the conference, which took place in September 2001, brought together governments, industry and NGOs from countries inside and outside the region in an attempt to establish frameworks through which producer-country governments could work with one another and with governments of consumer countries to tackle illegal activities. It marked the first international recognition that consumer-country action to close international markets to illegal products was a necessary accompaniment to producer-country action to prevent illegal activities at source.

During the following years, NGOs stepped up their calls for action. In June 2003 Greenpeace published a report suggesting that building sites for UK government offices in central London were using plywood hoardings from Indonesia which were probably illegally sourced, in breach of the government's own timber procurement policy (the UK Timber Trade Federation, the importers' association, confirmed that Indonesian mills were increasingly unable to identify where their raw material was coming from).¹⁴ Activists occupied some of the building sites and hung "Rainforest Demolition Site" banners from some of the huge cranes; the pictures, with Big Ben in the background, made the news that night and were used for years afterwards. On the same day Greenpeace staged similar actions at a German sawmill sourcing timber from Africa; further occupations of building sites and company premises were to follow in Europe and North America.

In response, companies began to take action to try to exclude illegal products from their supply chains (see further below). In 2004 the UK Timber Trade Federation (comprising timber importers, merchants, agents and manufacturers accounting for most of the UK timber industry), to which the government had seconded a civil servant to help them work on the issue, published its Responsible Purchasing Policy, which eventually became a requirement of membership. It included the commitment to: "sourcing their timber and timber products from legal and well-managed forests. Members unreservedly condemn illegal logging practices and commit themselves to working with suppliers and other stakeholders towards complete elimination."¹⁵ Reasons for the adoption of the policy included the awareness that the entire sector's brand was being damaged, and the need to respond to government procurement policy, which required government buyers to purchase legal and sustainable products. Similar steps were taken in other countries which imported the bulk of their timber, such as the Netherlands and Denmark, but were not, by and large, introduced by other countries with a much larger domestic timber sector; in the EU, countries such as Finland and Sweden were to prove consistently reluctant to adopt controls on the timber trade for fear of the impacts on their own industry.

The G8 Action Programme and the three FLEG ministerials (including Africa in 2003 and Europe and North Asia in 2005) led to relatively few concrete actions in themselves, but they did help to raise the profile of the issue and to trigger, in the EU, discussions that led to the Forest Law Enforcement, Governance and Trade (FLEGT) action plan. Agreed in 2003, the FLEGT action plan remains the most ambitious set of measures aimed at illegal logging and forest governance adopted by any consumer country or bloc to date.¹⁶ It includes:

- The negotiation of FLEGT voluntary partnership agreements (VPAs) with timber-producing countries. These include a licensing system designed to identify legal products and license them for import to the EU (unlicensed products are denied entry), combined with capacity-building assistance to partner countries to set up the licensing scheme, improve enforcement and, where necessary, reform their laws.
- Consideration of additional legislative options to prohibit the import of illegal timber to the EU more broadly, particularly products originating from countries not participating in VPAs and therefore not covered by the licensing scheme.

¹⁴ "Greenpeace highlights forest crimes in Europe," Greenpeace, 4 June 2003 (<https://www.greenpeace.org/archive-international/en/press/releases/2003/greenpeace-highlights-forest-c/>).

¹⁵ *Timber Trade Federation Responsible Purchasing Policy, Document 4: Background to the RPP* (November 2004) (https://www.illegal-logging.info/sites/default/files/uploads/RPP_Background.pdf).

¹⁶ European Commission, *Communication from the Commission to the Council and the European Parliament: Forest Law Enforcement, Governance And Trade (FLEGT) – Proposal for an EU Action Plan* (May 2003).

- Encouragement for voluntary industry initiatives, and government procurement policy, to limit purchases to legal sources.
- Encouragement for financial institutions to scrutinize flows of finance to the forestry industry.

The bilateral VPAs with timber-producing countries lie at the heart of the FLEGT approach. By June 2018, VPAs had been concluded with six countries: Cameroon, the Central African Republic, Ghana, Indonesia, Liberia and the Republic of Congo. VPA negotiations were under way in a further nine countries: Côte d'Ivoire, Democratic Republic of the Congo (DRC), Gabon, Guyana, Honduras, Laos, Malaysia, Thailand, and Vietnam. Several other countries have expressed an interest in entering negotiations.

The licensing system established under the terms of the VPA prevents the export from the partner country to the EU of any timber products that have not been licensed as legally produced. In most cases the VPA negotiations have seen the adoption of multi-stakeholder processes to agree operational definitions of “legal timber,” and all the agreements contain commitments to legal reform to make forest laws and regulations clearer and more comprehensive. They also contain provision for independent auditors to check the integrity of the legality assurance and licensing systems; in some cases civil society independent monitors also operate to scrutinize the forest sector and illegal activities more broadly. In November 2016 Indonesia started to issue FLEGT licenses to accompany its timber exports, its timber legality assurance system having been judged adequate by both parties to the VPA. To date it is the only VPA country to do so; legality assurance systems have proved to be more complex and difficult to establish than originally anticipated.

At the same time as the FLEGT initiative was being debated and adopted in the EU, in the US the President's Initiative Against Illegal Logging was established, in 2003, though US activities were mainly focused on delivering support to producer countries and to international forums; the government was in general reluctant to develop FLEGT-type measures aimed at closing off the US market to illegal imports. In 2008, however, Congress voted to amend the 100-year-old Lacey Act, extending its prohibition on the import of wildlife illegally produced outside the US to cover timber and wood products as well; the amendment was the outcome of an effective lobbying campaign led by NGOs (chiefly the Environmental Investigation Agency (EIA)) supported by the US domestic wood products industry, concerned at the impact illegal imports were having on the competitiveness of its products.

In turn this stimulated the EU to begin work on the component of the FLEGT action plan to consider whether additional legislation would be needed to deal with imports of illegal timber from non-VPA countries. This led eventually to the EU Timber Regulation (EUTR) agreed in 2010 and applying in full from March 2013.¹⁷ This prohibits the placing of illegally harvested timber and timber products on the EU market, whether sourced from domestic production or from imports. Products accompanied by a FLEGT license (or a permit issued by the Convention on International Trade in Endangered Species [CITES]) are considered to have been legally harvested for the purposes of the regulation.

The EUTR also places an obligation on timber operators to put in place systems of “due diligence” to minimize the risk of their handling illegal timber. This includes means of ensuring access to information on the products and a process of analyzing and mitigating against the risk of placing illegal products on the market. Since it applies to any company which first places timber products on the market, it has very wide application and may prove to be the element of the EUTR with the widest and longest lasting impact. Although in the US the Lacey Act does not contain any requirements for industry to set up a similar system, the measures required by the courts of a number of companies subject to enforcement action have in effect created a similar “due care” obligation on US importers of timber.

Other consumer countries have been influenced by these developments in the EU and US; legislation similar to the EUTR and Lacey Act now exists in Australia and, in a weaker and essentially voluntary form, in Japan, and is in the process of development in Korea. As well as these legislative reforms, many countries – mostly in the EU – have

¹⁷ Regulation (EU) No 995/2010 of the European Parliament and of the Council of 20 October 2010, laying down the obligations of operators who place timber and timber products on the market.

used their public procurement policies to grow the market for legally (and often sustainably) sourced timber products, including paper, furniture and timber for the construction and maintenance of public buildings.¹⁸

Companies and trade associations have increasingly taken action to try to exclude illegal products from their supply chains, partly in response to government action, such as public procurement policies or the EUTR and Lacey Act, sometimes as a result of direct consumer and NGO pressure, and often also as part of the wider move towards responsible supply chains being seen across many different sectors. This is particularly true of retailers and traders – aware of the reputational risk of being seen to handle illegal products – but it can also be seen in the behavior of some producer companies. In 2010, the Consumer Goods Forum, a global industry network of retailers, manufacturers and service providers, adopted a target of achieving zero net deforestation in its membership's supply chains by 2020.¹⁹ In September 2014, the New York Declaration on Forests, signed by governments, corporations and NGOs at the UN Climate Summit, committed its signatories collectively to “at least halve the rate of loss of natural forests globally by 2020 and strive to end natural forest loss by 2030.”²⁰

Following these and other commitments, many companies have adopted purchasing policies often aiming at sourcing sustainably (rather than illegally) produced timber and wood products. Many such supply-chain controls, including those in public procurement policies, make use of the main international voluntary forest certification systems, those of the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC), as relatively straightforward ways of identifying sustainable or legal products, and in turn this has helped boost the market penetration of such certified products. First established in the 1990s to promote purchasing of sustainably sourced timber products, take-up of these certification schemes has been boosted by the focus on illegal logging. Although detailed consumer-country data is not generally available, the Netherlands, a country with an ambitious public procurement policy and an industry highly sensitized to concerns over illegality and sustainability, has tracked the penetration of certified products. Between 2005 and 2015, the proportion of sawnwood and panels on the Dutch market certified by either FSC or PEFC rose from 13 percent to 83 percent, and the proportion of certified paper rose from less than 1 percent to 64 percent.²¹ FSC has set itself the target of achieving 20 percent of the global market for commercially sold forest products by 2020.²²

Producer countries have also undertaken a wide range of measures to reduce illegal logging and the export of illegal timber, often with financial and technical support from donors. Significant improvements in forest governance have been achieved in most producer countries. Indonesia, for example, has targeted corruption and financial crime in its forest sector and issued a landmark court ruling providing for formal recognition of customary land rights, as well as implementing the national system for timber legality assurance required under its VPA. Many countries have pursued law enforcement operations more aggressively, and civil society has often become more active in monitoring forest crimes. But many countries still suffer from a lack of capacity or political will, weak law enforcement and extensive corruption.

¹⁸ See Duncan Brack, *Promoting Legal and Sustainable Timber: Using Public Procurement Policy* (Chatham House, September 2014).

¹⁹ See <http://www.theconsumergoodsforum.com/sustainability-strategic-focus/climate-change/deforestation>.

²⁰ Climate Summit (2014), *Forests: Action Statements and Action Plans*. New York: United Nations.

²¹ “Dutch sustainably sourced timber production grows to 83% in a decade” (Probos, bosberichten 2017 No. 3).

²² “By 2020, FSC plans to double its share in global timber trade” (http://www.lesprom.com/en/features/By_2020_FSC_plans_to_double_its_share_in_global_timber_trade_10/).

3.3 Analysis: Key Factors

Table 1 contains a simple timeline of key developments.

Table 1. Developments in Action Against Illegal logging and the Trade in Illegal Timber

Date	Activity	Type	Actors
1990s onwards	Concern over illegal logging begins to grow, including global media coverage of the Amazon burning	Awareness-raising	NGOs, research institutes, some governments, World Bank
1992	Negotiations on international Forests Agreement fail	International coordination	UN, governments
1993	FSC established	Voluntary action	NGOs, industry
1998	G8 Action Programme on Forests agreed	International coordination	G8 governments
1999	Home Depot announces pro-FSC procurement policy; other major companies follow	Voluntary action	Industry
1999	PEFC established; recognizes first national certification system in 2000		
2001	East Asia FLEG ministerial	International coordination	Governments, NGOs, World Bank
2000s	Public procurement policies for timber begin to emerge	Government regulation	Governments, industry
2000s on	NGO action against consumer-country governments and companies sourcing illegal products	Awareness-raising	NGOs
2003	EU FLEGT Action Plan agreed	International coordination (e.g., VPAs) and government regulation (e.g., EUTR)	Governments, EU, industry
2004	UK Timber Trade Federation adopts Responsible Purchasing Policy	Voluntary action	Industry
2004	AF&PA publishes estimates of global illegal logging	Awareness-raising	Industry
2008	US Lacey Act amended	Government regulation	US Congress, NGOs, industry
2008	First VPA agreed (Ghana)	International coordination	EU, Ghana, NGOs
2009	Other VPAs agreed and negotiations started	International coordination	EU, producer country governments, NGOs
2010	Chatham House publishes first study on response to illegal logging	Awareness-raising	Research institute
2010	EUTR agreed (enters into force fully 2013)	Government regulation	EU, NGOs, industry
2010	Consumer Goods Forum adopts zero-deforestation by 2020 target	Voluntary action	Industry
2012	Australian Illegal Logging Prohibition Act agreed (enters into force fully 2014)	Government regulation	Australian government
2016	Indonesia FLEGT licensing starts	International coordination	EU, Indonesia, industry

The restrictions on market access by consumer countries outlined in the previous section, operating alongside the provision of financial and technical assistance, have provided an incentive for producer-country governments to take action and have been a valuable addition to their own domestic enforcement efforts. A range of instruments,

including licensing systems, public procurement policies and prohibitions, aim to create protected markets in which legal (and sometimes sustainable) timber can command a fair price and not be undercut by cheaper illegal products; effectively they aim to shut out illegal timber from international markets. This has helped to compensate, at least to some extent, for many forest countries' lack of capacity to regulate adequately their own forests and timber exports.

These restrictions on market access have been accompanied by action on the part of the private sector, through both voluntary initiatives and regulatory requirements, such as the due diligence obligations of the EUTR. If these are properly applied and robustly enforced – in many EU member states, enforcement actions are now under way – this may have longer lasting impacts than some of the other measures described here.

As well as providing a reinforcement to producer countries' actions, consumer-country trade measures have also established an incentive for producer-country governments (and industry) to undertake them, conditioning market access on their achievement. And of course, consumer countries have also provided financial and technical assistance for the reforms and improvements necessary to implement them.

In some ways, the VPAs negotiated between the EU and timber-producing countries are an ideal instrument: they are bilateral agreements, with which both parties must be happy; they rest on a definition of legality that is related to the producer country's laws, not an external approach which is imposed on them; they use trade as an incentive and a policy instrument; and they are accompanied by financial assistance. (In other ways, they are less ideal: they are resource-intensive and time-consuming to negotiate, and timber legality assurance schemes have proved very difficult to implement.) Perhaps most importantly, they seem already to have had positive impacts on forest governance. The processes of negotiating and starting to implement the VPAs have in general improved transparency, opened up decision-making processes to participation from civil society and triggered processes of legal and regulatory reform, with potentially far-reaching long-term impacts.²³

Who were the key actors who helped drive these activities? Following the simple model outlined in Section 2, NGOs, including Global Witness and EIA, among many others, were indeed some of the first to raise concern over the issue, in the mid-1990s (Figure 2). In general this proved a fruitful period to raise matters of global environmental (and wider) concern; the Earth Summit had helped to raise the profile of climate change, biodiversity loss and other issues, and many countries were beginning to legislate accordingly. The UK and US governments, and the World Bank, contained individuals (both ministers and civil servants) who were willing to take up the issue, not least because the impact of illegal logging in terms of the loss of tax revenue was clearly counteracting development assistance efforts. They proved willing to use existing international forums, such as the G8, and to set up entirely new ones, such as the FLEG ministerials, to raise the profile of the issue, promote dialogue (between consumer-country governments and between consumer and producer countries) and attempt to reach common solutions.

At least some producer-country governments were also important in responding positively to the agenda and taking up the opportunity to work together with consumer countries; this includes, especially, Indonesia, which developed good relations in particular with the UK (it helped that Britain had not been the colonial power) and which had major and obvious problems with illegal logging. Other producer countries, such as Brazil and Malaysia, were far less keen to engage in what they tended to see as a Western attempt to interfere in their own national sovereign affairs and shut their exports out from Western markets. This tension continues.

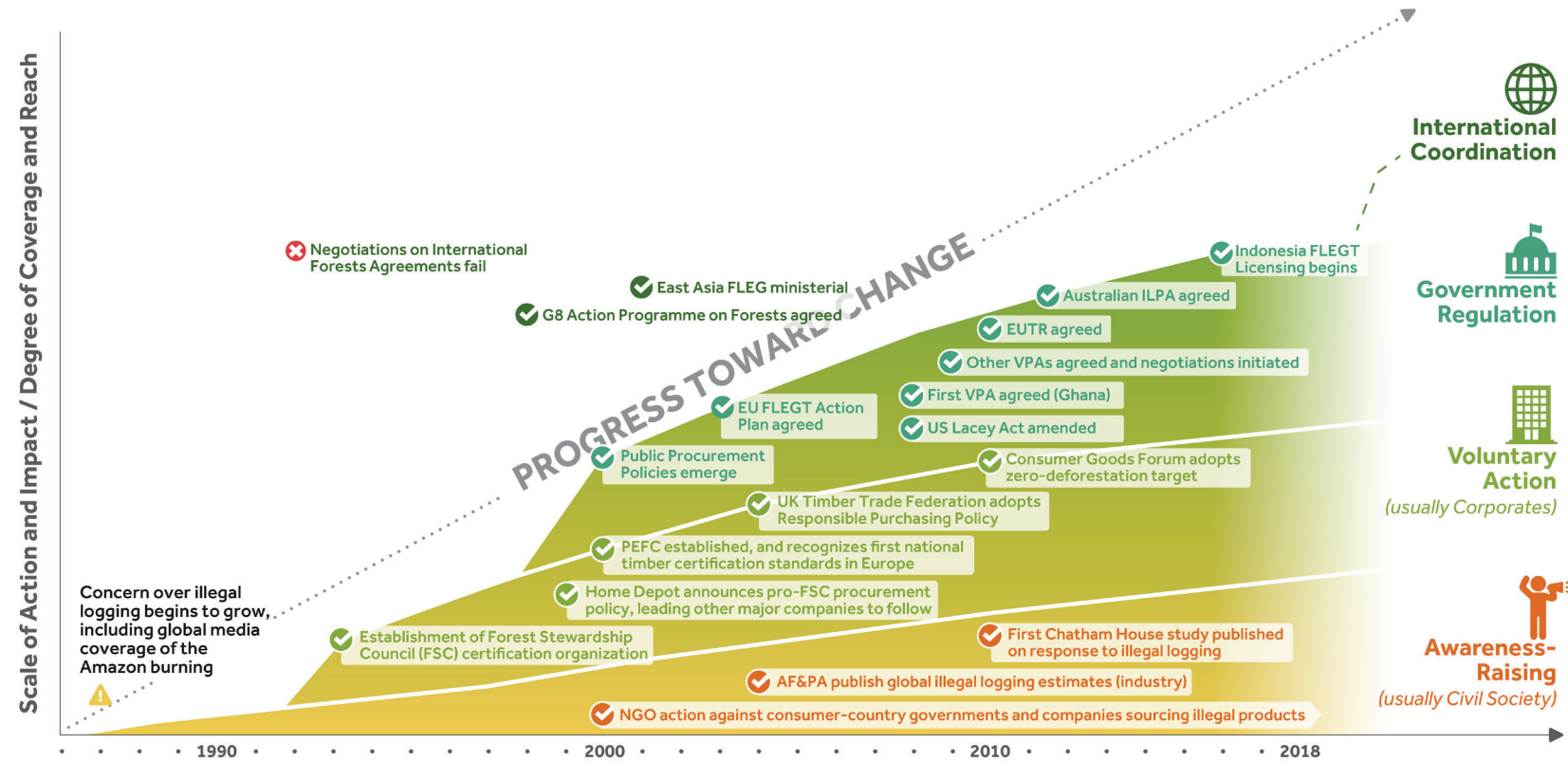
Not all consumer-country governments were as keen to follow this agenda. Within the EU, the FLEGT approach initially met some resistance from countries such as Austria and Germany, who tended to see its focus on legality as a diversion from the more important issue of sustainability; and also, and more importantly, from Sweden and Finland, countries in which the timber industry holds significant influence and is not enthusiastic about the notion of any restrictions on trade in timber products. Consumer countries outside the EU, including Japan and China, have also been hesitant to impose any restrictions on the market; although both have taken action, it has been limited in scope and very slow to develop.

²³ See further in An Bollen and Saskia Ozinga, *Improving Forest Governance: A Comparison of FLEGT VPAs and their Impact* (FERN, February 2013).

Industry has played a mixed role. Timber importers in countries such as the Netherlands and the UK have in general supported moves to exclude illegal and unsustainable timber, and in many cases have adopted their own responsible purchasing policies (in the UK, DFID's secondment of an official to the UK Timber Trade Federation helped the development of the debate in the early years). Producers in developing countries have generally, and unsurprisingly, been hostile, though many have gradually recognized the direction in which markets are moving – though some have simply diverted their exports from sensitive markets such as the EU and US to less sensitive destinations in China, India and the Middle East. Producer companies in developed countries have displayed a mixed response, sometimes opposing any restrictions on the timber trade, sometimes (as in the US) supporting actions to level the playing field between their own legal products and their competitors' illegal ones.

Needless to say, these processes have not proceeded in an orderly linear fashion. Governments, NGOs and companies have all taken action in parallel, in different ways and at different speeds. Governments have both established new mechanisms to exclude illegal timber from trade – the VPAs, the EUTR, the Lacey Act amendment – and coopted existing systems, such as the certification schemes, now often used, in effect, in many timber procurement policies. Political priorities have changed with changes of government and broader international developments, but there have always been at least some consumer-country and producer-country governments willing to press for ambitious action; and the combination has been important. Similarly, there have always been some companies and trade associations willing to argue for or to take action themselves.

Figure 2. Evolution of Action Against Illegal Logging and the Trade in Illegal Timber



4. Conflict Diamonds

The second case study, on conflict diamonds, is similar in some ways to that of illegal logging: a clear public “bad,” with impacts on conflict, development and human rights, being encouraged by demand from consumer markets through international trade. Unlike the case of illegal logging, however, on this occasion the solution has focused primarily on an international agreement.

4.1 Conflict Diamonds and the Kimberley Process

Conflict diamonds, also known as “blood diamonds,” were originally defined by the UN as “diamonds that originate from areas controlled by forces or factions opposed to legitimate and internationally recognized governments, and are used to fund military action in opposition to those governments, or in contravention of the decisions of the Security Council.”^{24, 25} The term was first used in relation to the civil war in Sierra Leone from 1991 to 2002, during which the RUF insurgency was largely funded by profits from the diamond trade. Similarly, the civil war in Angola in the 1980s and 1990s saw each side funded by the sale of “conflict resources” – the MPLA (the eventual victors) by oil and UNITA by diamonds. From 1992 to 1998 it was estimated that UNITA had consistently controlled 60–70 percent of Angola’s diamond production, generating about US\$3.7 billion in revenue.²⁶ The diamond trade was also implicated in conflicts in Côte d’Ivoire and Liberia (partly spilling over from the war in neighboring Sierra Leone) and DRC. At the peak of the Angolan and Sierra Leone conflicts in the mid to late 1990s, it was estimated that conflict diamonds represented as much as 15 percent of all the diamonds in world trade.²⁷

In common with the other issues explored in this report, the trade was fed by consumer markets largely ignorant of – and by traders deliberately concealing – the origin of the product. As Global Witness put it in one of the organization’s earliest reports, “UNITA’s diamonds reach the major international markets through a worldwide diamond industry that operates with little transparency or scrutiny from the international community.”²⁸ The report explicitly blamed the De Beers company, which at that time was sorting, valuing and selling around 80 percent of world diamond production.

In 1998 UN Security Council Resolution 1173 identified conflict diamonds as funding the civil war in Angola, and imposed sanctions against UNITA, prohibiting the import of diamonds from UNITA-controlled areas and the sale of mining equipment, motor vehicles and water craft to UNITA. In March 2000, however, UN investigators reported that the organization had been able to continue financing its war efforts through the sale of diamonds on the international market; the report named the countries, companies, government and individuals involved.²⁹ This led to a meeting of Southern African diamond-producing states in Kimberley, in South Africa, in May 2000, determined to protect their own legitimate diamond industry by taking action to stop the supply of conflict diamonds to the market.

This took place against the background of a NGO-led campaign, “Fatal Transactions.”³⁰ Launched in October 1999 by Global Witness, Medico International (Germany), the Netherlands Institute for Southern Africa (NIZA), and Novib (the Dutch affiliate of Oxfam), the campaign was to feature investigative reports, protests at jewelry shops and widespread reports in the mass media seeking to link diamonds with conflict and suffering. The diamond industry’s advertising slogans proved highly vulnerable to “adusting,” including “diamonds are a guerrilla’s best friend” and

²⁴ “General Assembly urges states to implement measures to weaken link between diamond trade and weapons for rebel movements” (UN Press Release GA/9839, 1 December 2000).

²⁵ For overviews, see Ian Smillie, *The Kimberley Process Certification Scheme for Rough Diamonds* (Verifor Case Study 1, ODI, October 2005); *The Truth About Diamonds* (Global Witness, 2006); Arthur V. Levy, *Diamonds and Conflict: Problems and Solutions* (Nova, 2007); Audrie Howard, “Blood Diamonds: The Successes and Failures of the Kimberley Process Certification Scheme in Angola, Sierra Leone and Zimbabwe,” *Washington University Global Studies Law Review* 15:1, 2015.

²⁶ *A Rough Trade: The Role of Companies and Governments in the Angolan Conflict* (Global Witness, 1998).

²⁷ *The Truth About Diamonds*, p. 2.

²⁸ *Ibid.*, p. 3.

²⁹ “Final Report of the UN Panel of Experts on Violations of Security Council Sanctions Against Unita” (The “Fowler Report,” S/2000/203, 10 March 2000) (<https://www.globalpolicy.org/component/content/article/202/41606.html>).

³⁰ Philippe le Billion, “Fatal Transactions: Conflict Diamonds and the (Anti)Terrorist Consumer,” *Antipode* 2006.

“amputation is forever.”³¹ The aim was not so much to encourage consumers to boycott diamonds – largely because of the probable impact on employment in diamond-mining and diamond-cutting developing countries – as to raise awareness and hold the threat of a boycott over the industry’s head unless it took action.

In December 2000, the UN General Assembly supported the creation of an international certification scheme for rough diamonds, and the Kimberley Process on conflict diamonds came into operation on 1 January 2003; it now involves 81 countries.³² The Process is not a treaty which countries must ratify; it is an intergovernmental agreement to establish a certification scheme for rough diamonds embodying a set of common minimum standards. This is one of the strengths of the Process, avoiding the need for time-consuming procedures of negotiation and ratification, though it has also caused problems due to the lack of a central secretariat to serve the Process, and any financial mechanism to support it; member countries take it in turns to chair the Process, meeting the necessary costs themselves.

The system revolves around the certification of diamond exports. If the system is applied properly, producer countries control the production and transport of rough diamonds from mine to point of export. Shipments of rough diamonds are sealed in tamper-resistant containers and a forgery-resistant Kimberley Process certificate is issued for each shipment. Importing countries inspect the seal and the certificate (and sometimes the contents) at the time of import, and prohibit the import of rough diamonds not accompanied by a certificate issued by a Kimberley Process participant. Similarly, transit countries ensure that only rough diamonds accompanied by a Kimberley Process certificate are permitted to enter the chain of transactions from import to export. Imports from and exports to non-participants in the Process are prohibited – using trade measures as a compliance mechanism, as in the Montreal Protocol (see Section 5).

Participants undertake to establish internal systems to implement and enforce the certification scheme, including establishing suitable penalties for transgressions. In practice this led to the extensive adoption of new legislation in most of the member countries.³³ The Process’ Participation Committee examines each country’s national regulations to see if they meet the required minimum standards; if they do not the country is excluded from the Process. The first round of scrutiny resulted in 18 out of 58 countries being excluded; all were readmitted after legislative reforms.

Despite pressure from NGOs, however, the Process has never agreed any formal system for monitoring whether members’ legislation, including internal controls and minimum standards, is actually being applied. In 2003 it agreed a voluntary peer review mechanism under which member countries could volunteer for a visit by a review team comprising three representatives from member countries and one each from NGOs and industry. By 2007 more than 50 such inspection visits had been conducted.

On a number of occasions the Process has used its power to suspend or expel member countries from the certification scheme for weaknesses in their internal controls. The Republic of Congo was removed from the scheme in 2004 because it was found to be unable to prove the origin of its gems, most of which were believed to have come from neighboring DRC; its membership was reinstated in 2007. In 2005, Côte d'Ivoire was suspended; most of its diamond mines were then under rebel control, and diamonds were being exported to Mali (then a non-member) and Guinea (a member); it was readmitted in 2012. In 2008, Venezuela voluntarily removed itself from the scheme after it had been in non-compliance for several years; it was readmitted in 2016. The Central African Republic was suspended between 2013 and 2015.

In 2002 the World Diamond Council – established by the diamond industry in July 2000 to participate in the Kimberley Process³⁴ – created a system of warranties under which all buyers and sellers of both rough and polished diamonds must make an affirmative statement on all invoices that the diamonds have been purchased from legitimate sources not involved in funding conflict and in compliance with UN resolutions. The seller guarantees that the diamonds are conflict-free (using the Kimberley Process definition, i.e., free of armed conflict by rebel

³¹ “Campaign launched to stop billion dollar diamond trade from funding conflict in Africa” (IRIN, 3 October 1999) (<https://reliefweb.int/report/angola/campaign-launched-stop-billion-dollar-diamond-trade-funding-conflict-africa>).

³² See www.kimberleyprocess.com.

³³ Smillie, *The Kimberley Process Certification Scheme for Rough Diamonds*, p. 4.

³⁴ See <https://www.worlddiamondcouncil.org>.

groups), based on their personal knowledge and/or written guarantees provided by the supplier. Warranty declarations on sales must be corroborated by warranty invoices received for purchases, and the flow of warranties is audited by the company's auditors.

4.2 Weaknesses in the Kimberley Process

The Kimberley Process has suffered from two main problems: weaknesses in the controls on the diamond supply chain, and the limitations of the definition of "conflict diamonds."

It is difficult (though not impossible) to distinguish the origin of rough diamonds by inspection, and the Kimberley Process certification system does not require individual diamonds to be traceable to their mine of origin. A lack of capacity and suitable technology, coupled with corruption, has led to governments awarding Kimberley Process certificates to diamonds with unknown histories (sometimes under certificates of mixed origin, i.e., from more than one country), making it easy to inject banned diamonds into the certified supply. An NGO study in 2009 concluded that "in two of Africa's largest diamond producers – Angola and the Democratic Republic of the Congo – internal controls are still so weak after seven years that nobody can be certain where the diamonds they export really come from."³⁵

A series of investigations and analysis of diamond trade statistics have revealed multiple abuses of the system. Despite their suspension from the scheme, diamonds from the Central African Republic, Cote d'Ivoire and Venezuela have easily been smuggled into the international trade through neighboring countries.³⁶ In 2009 Lebanon was shown to be exporting significantly more gem-quality rough diamonds than it imported, and over the preceding two years diamond exports from Guinea – a country whose own government had acknowledged widespread corruption in the mining industry – had increased by 500 percent.³⁷ In 2013, an investigation showed how at least US\$3.5 billion worth of diamonds from Angola, DRC and Zimbabwe had been shipped to Dubai to be given mixed-origin Kimberley Process certificates and then re-exported to Antwerp.³⁸ The process had also involved under-invoicing the value of the diamonds, with a portion of the profits diverted to personal bank accounts.

This case also illustrates the second main problem, which is that the Kimberley Process only applies to conflict diamonds, i.e., diamonds which have funded the rebel side in a civil war. Although most observers would probably agree that the Process did help to bring an end to a number of civil conflicts – though in practice they were mostly winding down as the Process was being established – it does not apply to diamonds whose production is associated with violence caused by any other agency – e.g., a government army – or other abuses of labor or human rights, including child labor, or to instances of smuggling or diversion of revenues.

There has been extensive evidence of exactly such human rights abuses, most notably in Zimbabwe, where in 2006 one of the largest diamond finds in recent history was made in Marange. In 2008 the diamond fields were seized by government security forces, killing at least 200 small-scale miners. In June/July 2009, a Kimberley Process review mission documented extensive smuggling of diamonds and violence against local miners and residents by Zimbabwean police and army officers. This was confirmed in October, when Human Rights Watch found serious human rights violations by the military, including forced labor, child labor, killings, beatings, smuggling, and corruption.³⁹ Diamond exports from Marange were suspended in June, and at the end of 2009 the Zimbabwean government agreed to undertake a series of reforms, including demilitarization, action on smuggling, and the legalization of small-scale mining, as a basis for the authorization of further exports. Despite clear evidence of a failure to adhere to this workplan, the Kimberley Process reauthorized diamond exports in 2011.

³⁵ *Diamonds and Human Security Annual Review 2009* (Partnership Africa Canada, 2009), p. 2.

³⁶ *Loupe Holes: Illicit Diamonds in the Kimberley Process* (Partnership Africa Canada and Global Witness, November 2008); *Chains of Abuse: The Global Diamond Supply Chain and the Case of the Central African Republic* (Amnesty International, 2015); *A Game of Stones* (Global Witness, June 2017).

³⁷ "Blood diamonds – time to plug the leaks," Partnership Africa Canada, 29 June 2009 (<https://impacttransform.org/en/blood-diamonds-time-to-plug-the-leaks/>).

³⁸ Khadija Sharife and John Grobler, "Kimberley's Illicit Process," *World Policy Journal* winter 2013.

³⁹ "Kimberley Process: Zimbabwe Action Mars Credibility," Human Rights Watch, 9 November 2009 (<https://www.hrw.org/news/2009/11/06/kimberley-process-zimbabwe-action-mars-credibility>).

In 2017, Global Witness published the results of an investigation revealing extensive collusion between government agencies, including the Zimbabwean Central Intelligence Organisation, overseas investors and mining companies to conceal their finances and shield their operations from public scrutiny.⁴⁰ Although between 2010 and 2016 Zimbabwe exported over US\$2.5 billion worth of diamonds, according to official figures from the Kimberley Process, only around US\$300 million can clearly be identified in government accounts.⁴¹

Despite a number of efforts to extend the definition of conflict diamonds – most recently in 2017, opposed by, among others, Zimbabwe⁴² – the Kimberley Process has never been able to agree this. Critics have argued that the award of a Kimberley Process certificate – even where it accompanies a diamond which is genuinely conflict-free – may be misleading consumers into thinking that it indicates an ethically sourced gem, free of labor, human rights abuses and conflict, rather than, as it does, solely armed conflict by rebel groups.⁴³

4.3 Analysis: Key Factors

Table 2 contains a simple timeline of key developments.

Table 2. Developments in Action Against Conflict Diamonds

Date	Activity	Type	Actors
1998	Global Witness publishes first report on diamonds and conflict in Angola	Awareness-raising	NGOs
1998	UN Security Council identifies conflict diamonds as funding Angolan civil war, imposes sanctions against UNITA	International coordination	UN
1999	Fatal Transactions campaign launched	Awareness-raising	NGOs
2000 January	Partnership Africa Canada (now IMPACT) publishes first report on diamonds and conflict in Sierra Leone	Awareness-raising	NGOs
2000 May	Meeting in Kimberley to discuss conflict diamonds	International coordination	Governments, NGOs, industry
2000 July	UN Security Council imposes ban on purchase of rough diamonds from Sierra Leone	International coordination	UN
2000 July	World Diamond Council established	Voluntary action	Industry
2000 December	UN General Assembly supports creation of international certification scheme for rough diamonds	International coordination	UN
2001	UN Security Council imposes ban on purchase of rough diamonds from Liberia	International coordination	UN
2003	Kimberley Process comes into operation; participants establish licensing schemes	International coordination Government regulation	Governments, NGOs, industry
2004	Republic of Congo first participant to be removed from Kimberley Process	International coordination	Kimberley Process

⁴⁰ *An Inside Job – Zimbabwe: The State, the Security Forces, and a Decade of Disappearing Diamonds* (Global Witness, September 2017).

⁴¹ *Ibid.*, p. 8.

⁴² “Kimberley Process Intersessional Kicks Off in Australia,” The Diamond Loupe website, 1 May 2017 (<https://www.thediamondloupe.com/articles/2017-05-01/kimberley-process-intersessional-kicks-australia>).

⁴³ “Certifying unethical diamonds,” Brilliant Earth (<https://www.brilliantearth.com/kimberley-process/>).

Date	Activity	Type	Actors
2010	Global Witness publishes first report on diamonds in Zimbabwe (technically not conflict diamonds)	Awareness-raising	NGOs
2011	Global Witness leaves Kimberley Process	Awareness-raising	NGO
2017	IMPACT leaves Kimberley Process	Awareness-raising	NGO

The Kimberley Process is the clearest example, out of the cases examined in this paper, of a process stimulated by NGOs, mainly Global Witness and Partnership Africa Canada (now called IMPACT). It was the reports released by these two bodies, in 1998 (Global Witness, on Angola) and 2000 (Partnership Africa Canada, on Sierra Leone⁴⁴), that helped to focus attention on the specific problem of conflict diamonds, and suggested a means of tackling it – regulating the global trade in diamonds – which went beyond simply relying on UN sanctions applied on a country-by-country basis. Later reports by other NGOs – including, for example, a NIZA report in 2001 revealing the Dutch bank ABN Amro’s role in financing an estimated one third of the total bank debt of the global diamond industry (US\$5.7 billion at the end of 1999)⁴⁵ – reinforced the message.

The argument for the regulation of diamond supply chains was picked up in particular by the UK and US governments – both of which were run at the time by administrations with an interest in and willingness to promote human rights and conflict resolution on the international level – and also by other diamond-producing countries perceiving the opportunity – and the need – to avoid any restrictions on their own diamond exports. As noted above, it is difficult to discern the origin of any given diamond simply by inspection, meaning that in the absence of a some kind of certification or licensing system, any diamond could quite easily be a “conflict diamond,” with the risk of poisoning the entire global diamond “brand.”

The international process developed very quickly from its initial beginnings (Figure 3), partly because diamonds were highly important to the economies of several developing countries – in cutting and polishing as well as in mining – but not to those of major industrialized countries; there was never any significant opposition from any entrenched interest. The system built on the approach of UN sanctions operations with which governments were already familiar. The fact that the NGOs kept a relatively low profile in the early stages of the process helped to involve some governments – for example, China – that might otherwise have held back; the process did not obviously look like an NGO-driven one, though it partly was. The speed of the development of the Process was so fast that, in contrast to the other case studies in this paper, there was no time and no need for individual governments to take action, or for NGOs to argue for voluntary action by industry, or for progressive companies to take up the call.

Not that there were many progressive companies. In contrast to some of the other cases examined here, with a few exceptions industry has played mainly a negative role. Historically, the diamond industry has always operated in an opaque and secretive manner, partly because of the necessary security issues around such a valuable commodity, but also because the trade in diamonds, after they have been mined, has traditionally remained in the hands of very small, close-knit family enterprises, the kind of companies that generally defy effective governmental regulation.⁴⁶ And in fact the Kimberley Process has placed very few obligations directly on industry, in contrast, for example, to the due diligence approach increasingly used in the control of illegal logging (see Section 3); most obligations fall on governments. In general the industry has tried to picture the issue as primarily one of supply, to be addressed on the ground in producer countries, rather than one of demand, and it has resisted attempts to widen the definition of “conflict” to encompass broader human rights issues.

The Kimberley Process is an example of an international attempt to tackle a global public bad – trade in diamonds which provided funds for armed conflict by rebel groups – which has at best only partially succeeded. Its main failure lies in an insufficiently rigorous means of controlling the supply chain, and its inability to hold to account

⁴⁴ Ian Smillie, Lansana Gberie, Ralph Hazleton, *The Heart of the Matter: Sierra Leone, Diamonds and Human Security* (Partnership Africa Canada, 2000)

⁴⁵ *ABN Amro and the Diamond Trade* (SOMO, for NIZA, 2001).

⁴⁶ Smillie, *The Kimberley Process Certification Scheme for Rough Diamonds*, p. 1.

participating countries that repeatedly break its rules; its consensus-based model has made it easy for states to block compliance action. It has also failed to prevent the trade in diamonds from fueling violence and human rights violations – though this was, of course, not its original remit. It was for both these reasons that Global Witness, one of the main NGOs involved in the process since its beginning, ended its partnership with the Kimberley Process in 2011;⁴⁷ IMPACT followed in 2017.⁴⁸

The Kimberley Process has had some positive impacts. It has created a somewhat greater degree of scrutiny over what had been a highly opaque international trade, and in some producer countries it has opened up the sector to greater participation by civil society. Furthermore, in principle, both of the main problems described above could be fixed. Supply chain controls could be made more sophisticated and robust, with third-party verification along the chain of custody; indeed, there are efforts to do just this through initiatives such as the Maendeleo Diamond Standards supported by the Diamond Development Initiative, which aims to ensure that artisanal diamond mining contributes to sustainable community development.⁴⁹ The definition of “conflict” could be extended to encompass a wider range of human rights and environmental factors, in line with the general move towards responsible supply chains. And stricter due diligence obligations could be placed on industry, along the lines of the UN Guiding Principles, for example (see Section 6), or the OECD Due Diligence Guidance for Conflict Minerals, agreed originally in 2011.⁵⁰ The EU Conflict Minerals Regulation covering tin, tantalum, tungsten and gold and due to enter into force in 2021, provides another possible model, and its design has to a certain extent built on the experience of the Kimberley Process.⁵¹

⁴⁷ “Global Witness Leaves Kimberly Process, Calls for Diamond Trade to be Held Accountable” (Global Witness, 2 December 2011) (<http://www.globalwitness.org/library/global-witness-leaves-kimberley-process-calls-diamond-trade-be-held-accountable/>).

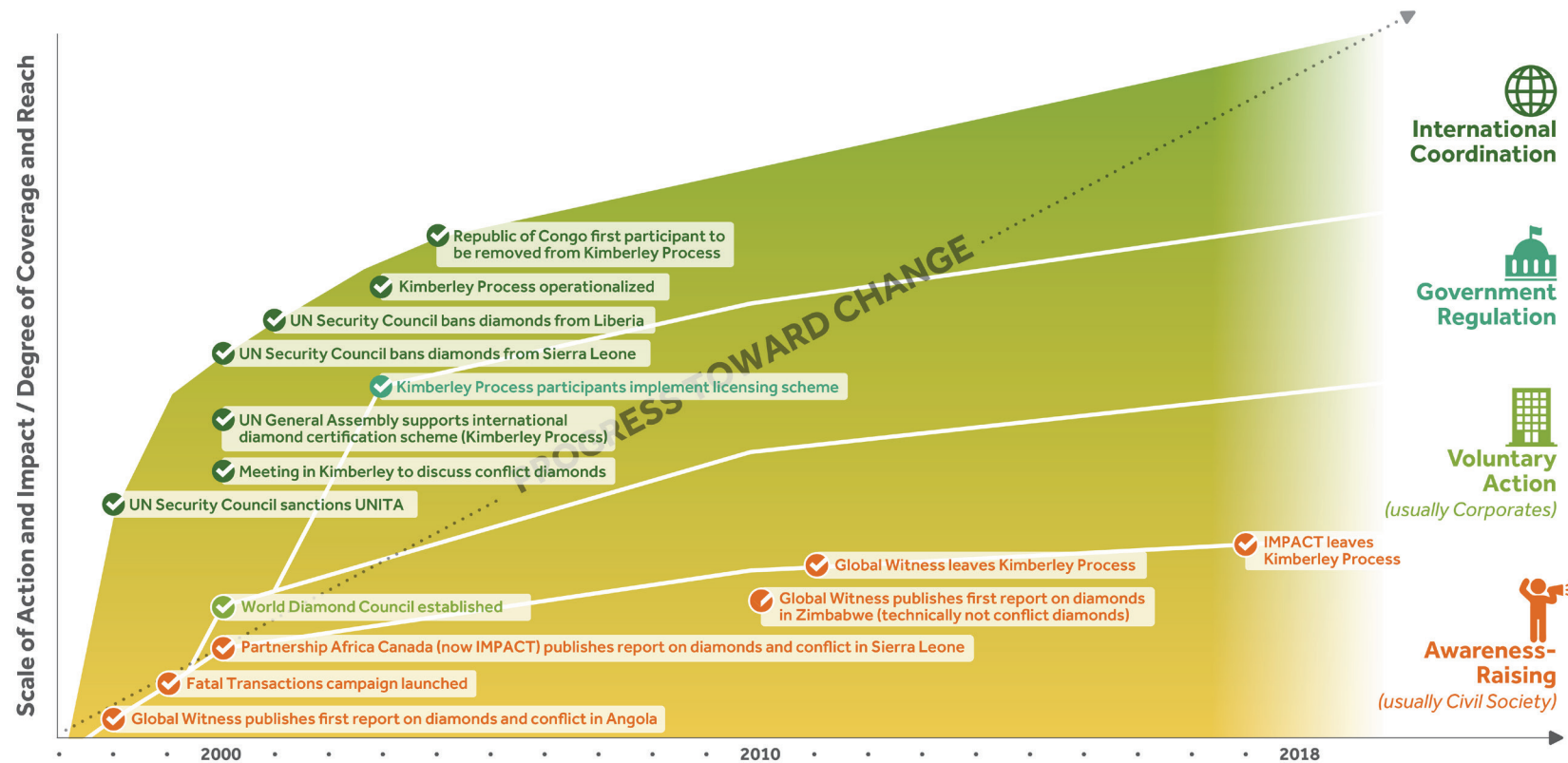
⁴⁸ “Consumers are Being Sold Something That’s Not Real’: Non-Profit Announces Departure from Conflict Diamonds Certification Scheme” (IMPACT, 14 December 2017) (<https://impacttransform.org/en/non-profit-announces-departure-from-conflict-diamonds-certification-scheme/>).

⁴⁹ See <http://www.ddiglobal.org/what-we-do/certification/>.

⁵⁰ *OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas* (OECD, third edition, 2016).

⁵¹ See <http://ec.europa.eu/trade/policy/in-focus/conflict-minerals-regulation/>.

Figure 3. Evolution of Action Against Conflict Diamonds



5. Ozone-Depleting Substances and the Montreal Protocol

In contrast to the previous two sections, where trade was a – or the – major contributor to the problem needing to be controlled, this case study is an example of an instance where the control of trade became necessary to the achievement of the main objective: the protection of the earth's stratospheric ozone layer through banning the production and consumption of ozone-depleting substances. Once the necessary international and national systems were in place, illegal trade emerged and it became necessary to take measures to control that too.

5.1 Ozone Depletion and the Montreal Protocol

The 1987 Montreal Protocol on Ozone-Depleting Substances has a good case for being regarded as the world's most successful environmental treaty; indeed, as UN Secretary General Kofi Annan put it in 2003, possibly the single most successful international agreement of any kind.⁵² Its aim was to phase out the production and consumption of ozone-depleting substances (ODS) such as chlorofluorocarbons (CFCs), which in the 1970s and 1980s were found to be destroying the Earth's stratospheric ozone layer, which absorbed much of the harmful ultraviolet-B radiation emanating from the sun. Increased penetration of UV-B radiation has adverse effects on human health – including in particular an increase in the incidence of skin cancer and cataracts and the suppression of immune systems – animals, plants, microorganisms, materials and air quality.⁵³

Concern was first raised by scientists; a possible mechanism for the depletion of the ozone layer by CFCs was first published in 1974 in a paper which, twenty years later, was to win its two authors, Mario Molina and Sherwood Rowland, the Nobel Prize for Chemistry.⁵⁴ Their work inspired other scientists to check and extend their results and led to an expansion of ozone measurements worldwide. Convincing real-world evidence for the ozone depletion hypothesis did not become available until 1985, however, with the discovery by the British Antarctic Survey of the “ozone hole” (an area in which more than 50 percent of stratospheric ozone is lost) over the Antarctic. Even then neither the magnitude of the problem nor its causes became apparent until 1988, with the release of the report of the Ozone Trends Panel reviewing evidence particularly from US Antarctic expeditions – including spy plane flights through the ozone hole – in 1986 and 1987. This confirmed sharp declines in the ozone layer over polar regions and a fall in its thickness over mid-latitudes.

The early stages of international action, before the discovery of the ozone hole, were therefore characterized by agreements merely to cooperate over research. A research-oriented “World Plan of Action on the Ozone Layer” was agreed in 1977, with the Coordinating Committee on the Ozone Layer, containing experts from agencies and NGOs, established by UNEP to oversee it. The chemicals industry, at the time largely concentrated in the US and Western Europe, vigorously opposed the idea that any regulatory controls were necessary. First commercialized in the 1920s, CFCs, which were stable and non-toxic, had come to be used for a very wide range of applications, including refrigeration, air conditioning and foam-blowing and as solvents, sterilants and aerosol propellants; halons, at the time the other main chemical family of ODS, were used as fire extinguishants. In a pledge which was to return to haunt the industry, in 1974 a top executive of DuPont, a major producer of CFCs, promised that “if creditable scientific data ... show that any CFCs cannot be used without a threat to health, DuPont will stop production of these compounds.”⁵⁵

Concern mounted throughout the 1970s, however, partly because of debates over the potential impact on the ozone layer of nitrogen oxide emissions from supersonic aircraft. US NGOs, particularly the Natural Resources Defense Council and Greenpeace, helped to popularize the Molina and Rowland paper, and campaigned for a reduction in the use of CFCs. The chemical companies which produced the CFCs largely opposed action; some took

⁵² “International Day for the Preservation of the Ozone Layer,” 16 September (<https://www.un.org/en/events/ozoneday/background.shtml>).

⁵³ For overviews, see Duncan Brack, *International Trade and the Montreal Protocol* (Royal Institute of International Affairs / Earthscan, 1996); Richard Elliot Benedick, *Ozone Diplomacy: New Directions in Safeguarding the Planet* (Harvard, 2nd edn., 1998); Reiner Grundmann, *Transnational Environmental Policy: Reconstructing Ozone* (Routledge, 2001); Stephen O. Andersen and K. Madhava Sarma, *Protecting the Ozone Layer: The United Nations History* (Earthscan and UNEP, 2002).

⁵⁴ Mario J. Molina & F. S. Rowland, “Stratospheric sink for chlorofluoromethanes: chlorine atom-catalysed destruction of ozone,” *Nature* vol. 249, pp. 810–812 (28 June 1974).

⁵⁵ Benedick, *Ozone Diplomacy*, p. 12.

out newspaper advertisements questioning the science, and the trade publication *Aerosol Age* went so far as to suggest that Molina and Rowland were agents of the Soviet KGB.⁵⁶

Companies which made and sold the products which used CFCs, and which were therefore more exposed to consumer pressure, were much more open to action, however; as early as 1975, the household products company S. C. Johnson announced that it would abandon CFCs.⁵⁷ Other companies, including those producing pharmaceuticals and cosmetics, followed and began to advertise their products as CFC-free. In 1976 the US government announced that it would legislate to prohibit the use of CFCs as aerosol propellants (then the main application) in non-essential applications by 1978. US production of the main CFCs fell from 46 percent of the world total in 1974 to 28 percent by 1985 as a result; alternative propellants were rapidly introduced and often proved more economic than the original CFCs.

Although the US aerosol ban was followed by Canada, Sweden, and Norway, by 1980 European governments in general were less convinced by the (then uncertain) state of the evidence, and preferred to concentrate on controls on total production, rather than use controls in single sectors. European NGOs, concentrating at the time on the issue of acid rain, proved less effective in campaigning on ozone depletion than their US counterparts. In 1980 the EU agreed to freeze CFC production capacity – then substantially above consumption levels – and reduce their use in aerosols. By the mid-1980s, CFC production in the US was starting to accelerate once more, as usage increased sharply in the mobile air-conditioning and foam-blowing sectors, arguably showing the wisdom of the EU approach.⁵⁸

Negotiations for an international convention on the ozone layer to regulate CFC production and use started in 1981 but proceeded slowly. While the US and allies favored a range of control measures on the use of CFCs in various sectors, the EU argued mainly for a cap on existing production capacity. The differences could not be bridged and the Vienna Convention for the Protection of the Ozone Layer, agreed in March 1985, contained pledges only to cooperate in research and monitoring, to share information on CFC production and emissions and to pass control protocols if and when warranted. Although this was a clear disappointment for the supporters of control schedules, they did manage to achieve a resolution empowering UNEP immediately to convene working group negotiations for a control protocol, to be signed if possible in 1987.

Attempts made by elements of the Reagan administration in 1987 to reverse the regulation of CFC production and consumption and avoid negotiating an international treaty fell apart in spectacular fashion after Interior Secretary Hodel argued publicly for “personal protection” programs, instead of regulation, to avoid the impact of UV-B radiation. Hodel’s remarks were lampooned in newspaper editorials, by cartoons of fish and animals wearing sunglasses and by NGO activists appearing at one of his press conferences wearing cowboy hats and enormous dark glasses with their faces smeared white with sunscreen.⁵⁹

In comparison with the protracted talks over the Vienna Convention, the negotiations for the Montreal Protocol proceeded remarkably quickly and achieved far more than was initially thought possible. Under its charismatic Executive Director, Mostafa Tolba, UNEP played a more active role than hitherto, exploiting the powers it was given by the Convention, NGO activity was greater, the US continued to take an advanced leadership role, and the scientific evidence of ozone depletion, notably the discovery of the Antarctic ozone hole, strengthened the case for action. Since the causes of ozone depletion were still unclear, however, tribute should also be paid to the negotiators’ willingness to abide by the precautionary principle, probably for the first time in a major international negotiation.

The resulting agreement, signed on 16 September 1987, featured 50 percent cuts from 1986 levels in both production and consumption of the five main CFCs by 1999, with interim reduction steps. Production and consumption of the three main halons was to be frozen at 1986 levels from 1993. Although these reductions could be attacked as either too little (if the ozone depletion hypothesis was believed) or too much (if it was not) it marked

⁵⁶ Stephen O. Andersen, K. Madhava Sarma and K. N. Taddonio, *Technology Transfer for the Ozone Layer: Lessons for Climate Change* (Earthscan, 2007).

⁵⁷ Andersen and Sarma, *Protecting the Ozone Layer*, p. 198.

⁵⁸ Brack, *International Trade and the Montreal Protocol*, p. 11.

⁵⁹ Benedick, *Ozone Diplomacy*, p. 60.

an important political and psychological breakthrough. Following the Ozone Trends Panel report in March 1988, with its convincing evidence of the linkage between ozone depletion and CFCs, opposition to the principle of controls on ODS largely collapsed. Industry came to accept the necessity of introducing alternatives rather than opposing control measures, and concentrated resources on their development, with the aim of being first in the field with the new substances.

An important feature of the Montreal Protocol was the flexibility designed into it to allow for its further development in the light of evolving scientific knowledge and technological developments. Even before it entered into force on 1 January 1989, plans were being made to strengthen its provisions, accelerating the phase-out schedules for CFCs and halons, and adding further chemicals which possessed ozone-depleting potential. The Protocol has now been adjusted and amended on 11 occasions, and by 2016 98 percent of the consumption of all ODS had ended. Ozone depletion levels are probably now at or past their peak, though full recovery will take several more decades. The latest step – the Kigali Amendment, agreed in 2016 – adds hydrofluorocarbons (HFCs) to the Protocol's control schedules; although they have no effect on ozone depletion, HFCs are powerful greenhouse gases, and their consumption is accelerating rapidly primarily as a result of actions taken under the Montreal Protocol, as they are effective replacements for their ozone-depleting predecessors, particularly in refrigeration and air-conditioning.

As well as the design of the Protocol, other factors behind its success include the special treatment afforded to developing countries, which enjoyed longer phase-out schedules and the provision of financial assistance, and an effective non-compliance mechanism. Perhaps most importantly, once the fluorocarbon industry understood that the markets for ODS would close permanently, they proved faster than originally predicted at developing replacements which were either less or non-ozone-depleting. Production of the chemicals was concentrated amongst a relatively small number of companies and countries (though production in developing countries grew faster than anticipated), making the issue much less difficult to address than the far broader problems of climate change. (In fact, since most ODS are also powerful greenhouse gases, the Montreal Protocol has contributed more to limiting global warming than the Kyoto Protocol.)

5.2 International Trade and the Montreal Protocol

The control of international trade in ODS was first raised as an issue by the US in 1986, midway through the negotiations on the Montreal Protocol. Agreement was reached eventually on what became Article 4 of the Protocol, which originally required parties to the treaty to ban the import of CFCs and halons from non-parties from 1990 (one year after the Protocol came into force); exports to non-parties were banned from 1993. Imports of goods containing CFCs (listed in another annex and including, for example, refrigeration and air-conditioning equipment) were banned from 1993; a ban on imports of products made with but not containing ODS (e.g., electronic components) was contemplated in the Protocol, but in the end the parties decided that its introduction was impracticable due to difficulties in detection. These trade provisions were extended to the new substances that were subsequently added to the control schedules, with usually a slight delay to allow parties time to adjust.

These trade provisions had two aims. One was to maximize participation in the Protocol, by shutting off non-signatories from supplies of ODS, which were always manufactured in a relatively small number of countries. The other goal, should participation not prove total, was to prevent industries from migrating to non-signatory countries to escape the phase-out schedules and then exporting ODS back into signatory countries. In the absence of trade restrictions, this could have fatally undermined the control measures, countering attempts to limit use in the signatory countries and helping non-signatory countries to gain a competitive advantage, as it was assumed that the phase-out would raise industrial production costs for adherents to the treaty. The development of alternatives to CFCs would be drastically hindered, which is largely why US industry in particular supported the idea of the trade provisions (EU industry, which exported a larger proportion of its production, was more reluctant). In fact, as industrial innovation proceeded far more quickly than expected, many of the substitutes proved significantly cheaper than the original ODS – but this could not have been foreseen in 1987.

In practice, the trade restrictions have not often been applied, largely because every major producer and consumer rapidly became a party to the Protocol; since 2009 it has enjoyed universal ratification. There is direct evidence from some countries, however, that the trade provisions were an important factor in persuading them to accede to the

treaty; a good example is Korea, which initially stayed out of the Protocol and expanded its domestic CFC production, but then realized the disadvantages of being shut out of western markets and became a party.⁶⁰

The Article 4 trade measures are also available for use against parties which are found not to be complying with the control measures: they can be suspended from specific rights and privileges under the Protocol, including those concerned with trade.⁶¹ Inclusion of this threat of the application of trade measures has become a standard element in non-compliance decisions taken by meetings of the parties, after a process of consultation and deliberation by the Protocol's Implementation Committee. So far this provision has never had to be used, however; although several countries – mainly developing countries and transition economies in the former Soviet Union – have occasionally failed to comply with the control schedules, there has never been a case of persistent and deliberate non-compliance. On at least one occasion, a representative of a non-complying country encouraged the Implementation Committee to include the threat of trade measures against his country in the draft decision for the meeting of the parties, on the grounds that this was the only way to gain the attention of senior officials and ministers in his government.

It should be noted that the trade measures are only one element in the non-compliance regime of the Montreal Protocol. The Implementation Committee always prefers to work in a consensual manner with the non-complying party, agreeing a plan of action for its return to compliance, along with assistance from the Protocol's financial mechanism and its implementing agencies. The threat of trade measures remains, however, an important backstop.

5.3 Illegal Trade in Ozone-Depleting Substances

Although the Montreal Protocol as a whole has proved highly successful, it also created, as a by-product, incentives for individuals and companies to evade the controls and engage in illegal trade in ODS. This began to emerge in the mid-1990s, as industrialized countries neared total phase-out of CFCs in 1996. At first, enforcement agencies were caught off guard, especially in Europe, where action against illegal trade lagged behind the more concerted efforts seen in the US. The possibility of a black market had not been foreseen by those who negotiated and implemented the Montreal Protocol, and enforcement agencies such as police and customs had had no involvement in the issue. By the time the Protocol was amended, in 1997, to require the implementation of licensing systems, ODS smuggling had become entrenched in many countries.⁶²

In the mid-1990s the illegal trade in ODS was estimated as 16,000 – 38,000 tonnes per year, equivalent to 6–16 percent of global ODS consumption, with a value perhaps as high as half a billion dollars,⁶³ though other estimates suggested that around 20 percent of all ODS traded in the mid-1990s came from illegal sources; as with all areas of environmental crime, accurate figures are impossible to come by.

As the 1990s drew to a close, Europe and the US witnessed a decline in the level of smuggling, due partly to improved enforcement and tighter regulations controlling the trade and use of ODS, and partly to falling demand, as CFC-using machinery was gradually replaced or adapted to use CFC substitutes. At the same time, however, illegal trade grew in developing countries – particularly in the Asia-Pacific region, which in the mid-2000s accounted for more than 80 percent of global CFC production and consumption – as they started their own reduction schedule, with a final phase-out date of 2010.

⁶⁰ Brack, *International Trade and the Montreal Protocol*, pp. 54–58.

⁶¹ For a longer discussion, see Duncan Brack, "Monitoring the Montreal Protocol," *Verification Yearbook 2003* (VERTIC, 2004).

⁶² For overviews, see Brack, *International Trade and the Montreal Protocol*; Jennifer Clapp, "The Illegal CFC Trade: An unexpected wrinkle in the Ozone Protection Regime," *International Environmental Affairs* 9:4, 1997; "Illegal Trade in Ozone Depleting Substances: is there a hole in the Montreal Protocol?" *OzonAction Newsletter Special Supplement No. 6* (UNEP, 2001); Duncan Brack, Jade Saunders, Richard Tarasofsky, Claire Bass, Alexander von Bismarck, Ezra Clark and Danielle Grabiell, *ODS tracking: Feasibility study on developing a system for monitoring the transboundary movement of controlled ozone-depleting substances between the parties* (Chatham House and Environmental Investigation Agency, 2006); OECD, *Illegal Trade in Environmentally Sensitive Goods*; Ning Liu, Vira Somboon and Carl Middleton, "Illegal trade in ozone depleting substances" in Lorraine Elliott and William H. Schaedla (eds.), *Handbook of Transnational Environmental Crime* (Edward Elgar, 2016).

⁶³ Duncan Brack, "The Growth and Control of Illegal Trade in Ozone-Depleting Substances," paper for 1997 Taipei International Conference on Ozone Layer Protection, and UNEP, "Monitoring of International Trade and Prevention of Illegal Trade in ODS, Mixtures and Products Containing ODS" (UNEP/OzL.Pro/WG.1/22/4, 23 April 2002.)

In countries where concerted enforcement efforts were made, the size of ODS seizures and intelligence from market surveys suggested that the scale of the black market was of the order of 10–20 percent of the legitimate trade, with an approximate value of US\$25 million – US\$60 million a year (smaller than the estimates of ten years earlier, as the global market had by then shrunk considerably). In some cases this may have been an underestimate; analysis of discrepancies in trade data pointed to unreported imports of CFCs of more than 70 percent of some countries' national consumption, though this could also have been due to failures in data recording and reporting. Undercover investigations carried out in China in the mid-2000s by EIA suggested illegal exports equal to around 30 percent of legal exports.

The incentive for illegal use arose not so much from any higher costs of the ODS alternatives – although this has sometimes been the case, they have often proved to be cheaper and more effective than the ODS they replaced – but more from the cost of adaptation or replacement of the machinery in question, which could be relatively high. Most refrigeration and air-conditioning equipment has a long lifetime, implying a continued incentive for illegal use. In the US an additional incentive was created by the application of an excise tax to CFCs to speed up the phase-out; this opened up a steadily widening gap between the price of the legitimate and the black-market (untaxed) material.

The main source of the illegal material was originally the Russian Federation, which continued to produce after its phase-out date, in breach of its commitments. After Russian production was phased out, China became the main global supplier; as far as is known, total production was within the country's legal limits, but some of it was exported illegally. In some instances CFCs produced in Europe after developed-country phase-out for the "basic domestic needs" of developing countries (an allowable exemption from the controls) were also diverted on to the black market.

Several different methods of illegal trade have been detected:

- Mislabeling of containers (for example, as HFCs or hydrocarbons or as recycled ODS, which is usually exempt from controls) and of accompanying documentation (including the use of false customs codes). ODS are colorless, odorless gases at room temperature, and chemical analysis is needed to determine precisely what substances are present; portable detector kits have been developed but have never been widely used. <sup>[L]
[SEP]</sup>
- Concealment of material, for example in the midst of legitimate cargo or, more elaborately, by constructing cylinders with hidden compartments containing illegal material (the equivalent of the traditional smuggler's false-bottomed suitcase, on an industrial scale), as detected in Taiwan. <sup>[L]
[SEP]</sup>
- Disguise: virgin CFCs can be deliberately contaminated, for example with water vapor, to make them appear as recycled material. <sup>[L]
[SEP]</sup>
- Diversion of material destined for legal markets in developing countries into domestic markets in non-developing countries, with false documentation. This was a common problem in the US, with Miami an important source as a major trans-shipment port to developing countries in Latin America; the imported CFCs were never re-exported but diverted into the domestic US market. <sup>[L]
[SEP]</sup>
- Smuggling across borders: the simplest method, CFCs were often brought into the US in small quantities by cars crossing the Mexican border or boats sailing across the Caribbean.

CFCs were always the main substances illegally traded, though halons (which had a narrower range of applications, mostly in fire suppression) were occasionally detected. Although the involvement of organized crime (particularly Russian) was often claimed, there is relatively little evidence to suggest this; probably the sector was too specialist to involve criminals working in other areas, though occasionally individuals involved in illegally trading ODS were found also to have been involved in arms or drugs trafficking.⁶⁴

With a few minor exemptions for essential uses, CFCs were phased out everywhere in the developed world by 1996 and in developing countries by 2010; phase-out of halons was achieved by 1994 and 2010, respectively. (Cases of illegal trade in CFCs were still being detected as late as 2016, however,⁶⁵ and a wholly unexpected increase in

⁶⁴ Julian Newman, "The Tricks of Illegal Trade: How Criminals Smuggle ODS," *OzonAction Newsletter* Special Supplement 6.

⁶⁵ Environmental Investigation Agency, "New Trends in ODS Smuggling" (EIA, November 2014); EIA database of refrigerant seizures.

emissions of CFC-11 was detected in 2018, probably from East Asia.⁶⁶) Although in some cases alternative technologies were developed which did not need ODS at all, for many applications CFCs and halons were replaced by hydrochlorofluorocarbons (HCFCs), which still deplete the ozone layer but at much lower rates. HCFCs have their own phase-out schedules, ending in developed countries by 2020 (with a small volume allowed for a “service tail,” for HCFC-using equipment, until 2030) and in developing countries by 2030 (with a service tail until 2040). Intermediate steps meant that by 2015 developed countries had phased out 90 percent, and developing countries 10 percent, of their production and consumption of HCFCs.

As HCFC phase-out got under way, illegal trade in these chemicals also began to emerge, using the same methods as were used for CFCs: false labeling (often as HFC-134a, a common non-ozone-depleting replacement), misdeclaration by falsifying shipping documents or licenses, misclassification as recycled material, concealment, transshipment fraud (importing the material ostensibly for transshipment elsewhere but then diverting it into the domestic market), and smuggling across borders, often through unmonitored crossing points. Seizures of illegally traded HCFCs have been made in many countries to date.⁶⁷

Analysis of trade data for 2013 and 2014 – after the revision of the World Customs Organisation’s (WCO’s) Harmonised System (HS) of customs codes for HCFCs in 2012 – suggested that reported exports of HCFC-22 (one of the main HCFCs in use) from China were on average 28 percent higher than reported imports in China’s trading partners.⁶⁸ The discrepancy could have been due to illegal trade, though mistakes or failures in data recording were probably likely too.

As noted above, HFCs – common replacements for CFCs and HCFCs – will be subject to the Montreal Protocol once the Kigali Amendment enters into force in 2019. The first reduction steps come in 2019 or 2020 for developed countries and 2029 or 2032 for developing countries (each category is divided into two sub-groups for HFC purposes), though several countries now have domestic legislation in place which may lead them to phase down the use of HFCs faster. There seems every reason to expect that illegal trade in HFCs will emerge in due course – though the fact that the control schedules have an 80 or 85 percent reduction as the final step, rather than total phase-out, may limit its development.

5.4 Tackling Illegal Trade

As noted, the first indications of illegal trade in CFCs appeared in the US, partly because of its excise tax (by 1995 the taxed price of CFC-12 was almost four times the untaxed price) and also because of the extensive use of air-conditioning systems in cars (at the time this was much less common in Europe), which required regular servicing and refilling with CFCs, through a network of mostly small garages difficult to monitor. Pressure to tackle the problem came initially from US CFC producers, alarmed at seeing their legitimate products increasingly undercut; the fact that the illegal trade also involved tax evasion helped to stimulate government action. In October 1994 the US government announced the formation of an inter-agency task force (involving the EPA, Internal Revenue Service, Customs Service and Departments of Commerce and Justice) to concentrate on tracking imports and licenses, and on border checks.

One year after its formation, the task force had scored notable successes: US\$40 million had been collected in unpaid taxes and penalties, 450 tonnes of CFCs had been impounded and ten individuals had been convicted of smuggling or diverting CFCs into the US, the first convictions ever under the Clean Air Act.⁶⁹ Many seizures were made in Miami, a major transshipment point for cargoes imported from Europe and bound for Latin America; several cases involved CFCs originating in Russia ostensibly for re-export to South America but diverted into the domestic market. At the time it was estimated that CFCs were the second most valuable commodity smuggled through Miami, after cocaine. The authorities took a high-profile approach to their operations, publicizing indictments and convictions widely in an attempt to dissuade potential criminals.

⁶⁶ Matt McGrath, “Mysterious rise in emissions of ozone-damaging chemical,” BBC News, 16 May 2018.

⁶⁷ “Update on the Illegal Trade in Ozone-Depleting Substances” (EIA, July 2016); EIA, *Risk Assessment of Illegal Trade in HCFCs* (UNEP, 2011); EIA database of refrigerant seizures.

⁶⁸ EIA, “Update on the Illegal Trade in Ozone-Depleting Substances.”

⁶⁹ Brack, *International Trade and the Montreal Protocol*, p. 107.

Enforcement operations elsewhere, particularly in Europe, were slow to develop, with customs agencies in general being disinclined to accept, or to investigate, the scale of the problem – as a specialist area, with no obvious victims and relatively small in scale compared to drugs, arms or human trafficking, for instance, it seldom seemed a high priority. Most EU member states did not use taxation to accelerate CFC phase-out, and this, coupled with generally lower levels of consumption, meant that illegal trade was always likely to be less prevalent (though, equally, less likely to be detected). Nevertheless, seizures of illegal material began in 1997, and coordination, mainly through an ad hoc working group of the European Commission comprising representatives of member states' environment departments and customs agencies, and of industry, improved.

At the international scale, the Montreal Amendment to the Protocol, agreed in 1997, required parties to establish a system of import and export licenses for trade in the various categories of ODS. This was introduced primarily to control illegal trade, and with the benefit of hindsight should have been written into the treaty from the beginning. Successive decisions of meetings of the parties encouraged countries to implement licensing schemes, and the Protocol's financial mechanism, the Multilateral Fund, provides assistance for their implementation. Parties' reporting systems for exports, re-exports and imports have also been revised on a number of occasions in an effort to obtain greater accuracy.

The amendment did not, however, require parties to cross-check import and export licenses against each other, a significant weakness. It was to tackle this loophole that UNEP established an Informal Prior Informed Consent Mechanism to facilitate the voluntary, informal exchange of information on intended trade in ODS. Participating countries share information on their registered importers and exporters, including the companies' ODS quotas (which should be set under the country's licensing system), together with national regulations on the control of ODS. The system also facilitates queries relating to shipments of ODS; from 2012, this has been managed through an online platform. Starting on a pilot basis in 2006, participation in the system is now widespread and is believed to have prevented several cases of illegal ODS trade.⁷⁰

The involvement of enforcement agencies – mainly customs but also sometimes police – is clearly crucial in addressing the illegal trade in ODS. In 2004 UNEP and the WCO jointly launched the Green Customs Initiative, which now also includes the secretariats of relevant trade-related multilateral environmental agreements (including the Montreal Protocol), Interpol, the Organisation for the Prohibition of Chemical Weapons and the UN Office on Drug and Crime.⁷¹ Its aims are to raise awareness of the problem amongst customs officers and to provide assistance and encourage training and sharing of best practice.

In some regions this kind of collaboration has worked well. "Project Sky-Hole Patching," for example, a joint exercise between the WCO's Asia-Pacific Regional Intelligence Liaison Organisation and UNEP in 2006–07, led to several seizures of illegal ODS. It also stimulated similar operations for hazardous waste and a second phase of operations on ODS, this time global in scope, including a seizure in Gambia in 2010 of 12 cylinders of CFC-12 together with over two tonnes of cocaine worth an estimated US\$1 billion.⁷²

Unlike many other instances of international environmental crime, the problem of illegal trade in ODS will, in due course, solve itself, as all ODS-using equipment is eventually replaced by new machinery using ODS replacements – though the presence of illegal ODS on the market inhibits phase-out efforts, causes additional damage to the ozone layer and can lose governments tax and import duty revenue. One of the most effective means of tackling illegal trade in CFCs proved to be a special World Bank initiative to raise funding to phase out Russian production by the end of 2000, and World Bank assistance (as one of the implementing agencies of the Multilateral Fund) in phasing out CFC production and consumption in China.

⁷⁰ See <http://web.unep.org/ozonaction/resources/informal-prior-informed-consent-mechanism>.

⁷¹ See <http://www.greencustoms.org>.

⁷² Korea Customs Service, "Project Sky-Hole-Patching" (presentation to Customs Coordination Meeting in St Petersburg, April 2012; http://www.unido.ru/upload/files/p/prezent_2012_04_11/jinkon.pdf).

5.5 Analysis: Key Factors

Table 3 contains a simple timeline of key developments.

Table 3. Developments in Action Against Ozone-Depleting Substances and the Illegal Trade in ODS

Date	Activity	Type	Actors
1970s	Ozone depletion by CFCs hypothesis published and publicized	Awareness-raising	Scientists, NGOs
Mid to late 1970s	Some companies (mainly US) begin to abandon CFCs	Voluntary action	Industry
1978	US, followed by other countries, bans CFC use in aerosols	Government regulation	US, other governments
1985 March	Vienna Convention agreed	International coordination	UN, governments
1985 May	British Antarctic Survey publishes proof of ozone hole	Awareness-raising	Scientists
1987	Montreal Protocol agreed, including Article 4 trade measures	International coordination	UN, governments
1988	Ozone Trends Panel report confirms ozone depletion by CFCs	Awareness-raising	Scientists
1989	Montreal Protocol enters into force; parties begin implementing controls on ODS	Government regulation	Governments
1990	First amendment to strengthen Protocol; others follow	International coordination	UN, governments
1992	Greenpeace and industry partners introduce first non-ODS ("Greenfreeze") domestic refrigerators	Voluntary action	NGOs, industry
mid 1990s	Illegal trade in CFCs emerges; US takes action, followed by EU	Government regulation	Governments, NGOs, industry
1996	CFC use phased out in developed countries	International coordination	UN, governments
1997	Montreal Amendment include licensing system for imports and exports of ODS	International coordination	UN, governments
2004	Green Customs Initiative launched	International coordination	Various UN bodies
2010	CFC use phased out in developing countries	International coordination	UN, governments
2016	Kigali Amendment introduces phase-down schedules for (non-ozone-depleting) HFCs	International coordination	UN, governments

The Montreal Protocol is the best example, in this paper, of the hypothetical sequence of action described in Section 2.5 (Figure 4). Initial concern over the impact of CFCs and other ODS on the ozone layer was raised first by scientists and then taken up strongly by NGOs. This led in turn to companies, mainly those making consumer products, taking voluntary action to end their use of CFCs, even while the chemicals companies who produced the CFCs remained vigorously opposed. National legislation followed, first in the US, then in Canada and some European countries, and then in the EU. Finally, international agreement was reached, first on a framework convention with no firm obligations, and then on the Montreal Protocol embodying control schedules which required all parties to regulate their markets to achieve phase-out.

The steady advance of scientific research and the emerging evidence, first of the hole in the ozone layer, and then of ODS as the culprit, was crucial to this relatively rapid progress, helping to demolish opposition to the principle of controls and accelerate the adoption of the Protocol. Once the treaty was agreed, it was able to be amended and adjusted on several occasions, introducing new chemicals and accelerating the control schedules, as industry

proved much faster than expected at innovating once the companies started to compete in the market for alternative technologies and substances. NGOs themselves played a role in this process, as Greenpeace funded the development of the “Greenfreeze” domestic refrigerator using non-ozone-depleting hydrocarbon refrigerants.

Many other things went right for the Montreal Protocol. It was negotiated and entered into force as the wave of environmental concern was growing throughout the 1980s, culminating in the Earth Summit in 1992. The problem it was created to address was a dramatic and clearly man-made one (unlike, for example, climate change, which was gradual and more difficult, at least initially, to link to human activities). Although the chemicals industry fought it initially, it was not a large enough industrial sector in any country to give it decisive weight with any one government (and DuPont was hobbled by its 1974 pledge). The Protocol itself was negotiated by a relatively small group of countries (55, plus the EU), not including many developing countries, who at the time did not produce CFCs and consumed them only in small volumes. The US was able to play a consistent leadership role, despite some internal opposition. And the Protocol, including its trade measures, was well designed.

In one respect, however, it could have been better drawn up. With hindsight the problem of illegal trade in ODS should have been foreseen, arising as it did from the costs of retrofitting or replacing CFC-using machinery (plus, in the US, the excise tax), coupled with the differential phase-out schedules of developed and developing countries, which meant that some countries could produce ODS entirely legally even while their use was constrained or banned in others. Nevertheless, it had not been foreseen by the negotiators of the Montreal Protocol, primarily diplomats, government officials (mostly from environment ministries) and technical specialists with little experience of law enforcement or trade. It was anticipated that the price of CFCs would rise as supplies fell, but it was expected that this would lead to greater incentives to develop and install alternatives rather than create a black market.⁷³ In fact, it did both.

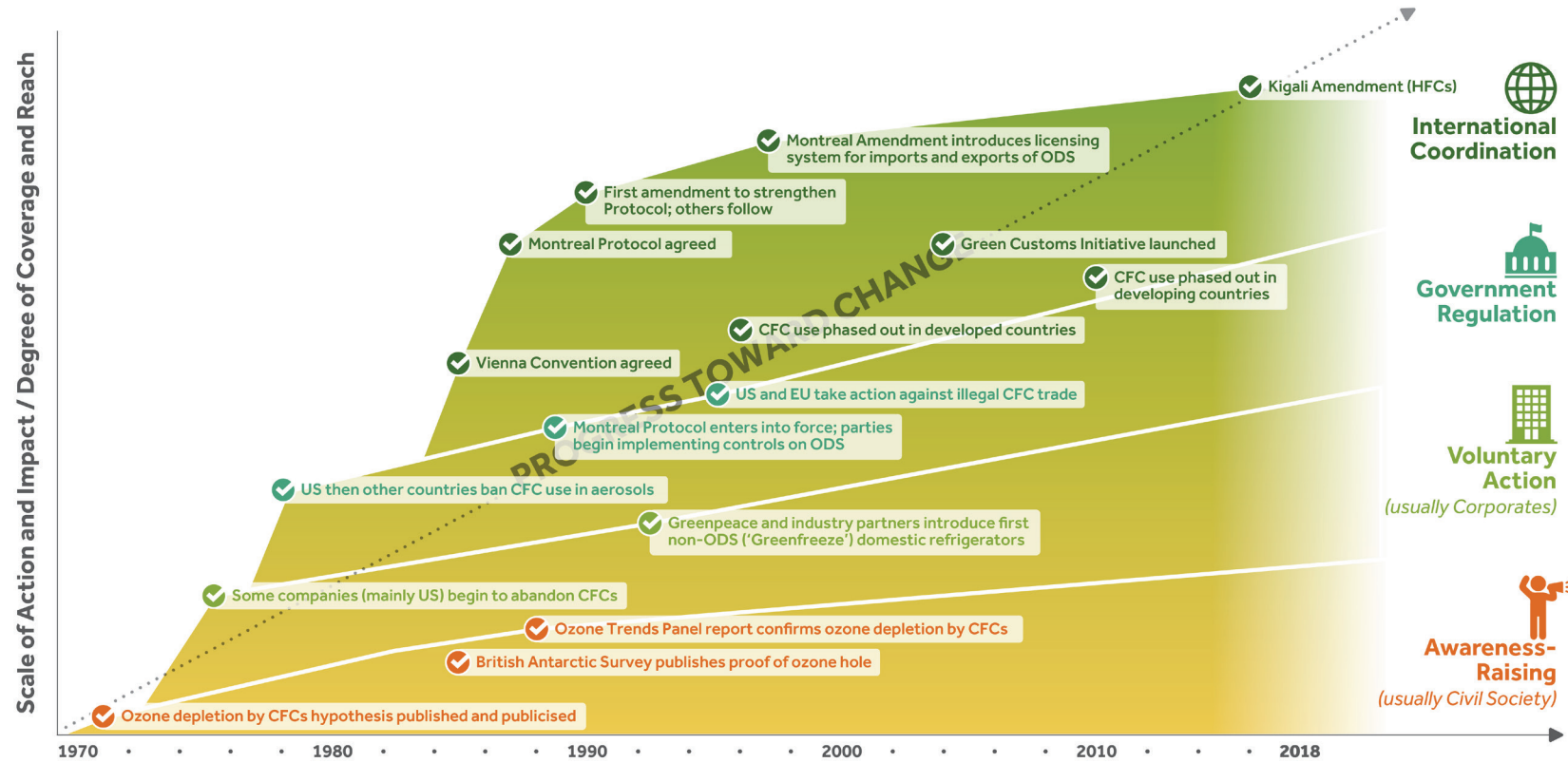
Although many NGOs had been active in pressing for ambitious action during the build-up to and in the early years of the Montreal Protocol, from the mid-1990s their involvement began to wane as the problem of ozone depletion seemed increasingly to have been solved. There is one major exception, however: EIA. Starting in 1997, employing tactics such as the creation of fake companies supposedly sourcing CFCs, and covertly filming meetings with exporters, EIA unearthed a regular succession of companies, mainly in China, willing to supply CFCs on demand, including falsifying documentation if requested. Their regular reports and films helped to stimulate action, both in Europe and amongst UN agencies. (It also gained EIA credibility on other issues, including, for example, lobbying for the phase-down of HFCs.)

The efforts taken to address illegal trade in ODS revolve mostly round the interdiction of international trade in the substances concerned, including the export and import licensing system, and elaborations of it such as the informal prior informed consent mechanism, border checks and intelligence-led enforcement actions (in countries with the capacity for them). At a national or regional level the establishment of inter-agency task forces, helping to educate enforcement agencies in the impact of and the reasons for the problem, has also proved important. Another key factor was the provision of adequate funding for capacity-building in developing countries through UNEP’s Compliance Assistance Programme, supported by the Multilateral Fund. This included supplying refrigerant identification equipment for use by enforcement agencies.

In one sense enforcement is easier than for the problems of, for example, illegal logging, since ODS should only be traded across borders accompanied by documentation such as specific export and import licenses; if detected without these, the trade is almost certainly illegal – as it is when the cylinders are concealed or disguised. The issue is also different from the others discussed in this paper in that the problem can be tackled effectively at source, by replacing the harmful substances with non-harmful alternatives. The total phase-out of Russian and Chinese CFC production, for example, were important steps in bringing the problem of illegal trade under control.

⁷³ Tom Land, Sue Stendebach and Lars Wilcut, “Safeguarding the Success of the Montreal Protocol,” *OzonAction Newsletter* Special Supplement 6.

Figure 4. Evolution of Action Against Ozone-Depleting Substances and the Illegal Trade in ODS



6. Modern Slavery in Supply Chains

This final case study is different from its predecessors in that it is not a problem associated with the impacts on sustainable development of the production, consumption or trade of a particular product. It is, rather, an undesirable characteristic of the supply chains of many different types of product. Efforts to combat the use of forced labor through erecting trade barriers have been used but are controversial and of limited application. Efforts to address the rather wider concept of modern slavery through increasing transparency in corporate supply chains or, more radically, through placing requirements on companies to eliminate modern slavery from their supply chains, are much more recent and still evolving.

6.1 Modern Slavery and Business

“Modern slavery” is an umbrella term encompassing slavery, servitude, forced or compulsory labor and human trafficking. The common factor is that its victims are unable to leave their situation of exploitation; they are controlled by threats, punishment, violence, coercion or deception. Estimates of the number of people in modern slavery range from 27 million to 40 million to 46 million; as with the other cases in this paper, it is impossible to reach an accurate number.⁷⁴

International Labour Organization (ILO) estimates suggest that out of the total of those in modern slavery in 2016, 25 million people were victims of forced labor, including 16 million in the private sector (particularly domestic work, construction and agriculture), 5 million in forced sexual exploitation and 4 million in forced labor imposed by state authorities.⁷⁵ The total illegal profits obtained worldwide from the use of forced labor (excluding state-imposed forced labor) were estimated at some US\$150 billion per year in 2014.⁷⁶

A 2012 report by the UN Special Rapporteur on trafficking in persons highlighted the potential exposure to forced labor of businesses with complex supply chains, observing that even if their own workforces were free of modern slavery, they might still be “indirectly associated with the crime of trafficking when their suppliers, subcontractors or business partners supply goods or services produced or provided by trafficked persons.”⁷⁷ In 2015, a survey of UK companies which were already actively managing labor standards in their supply chains found that 71 percent believed there was a likelihood of modern slavery occurring at some stage in their supply chains; it was perceived to be complex, hidden and challenging to address.⁷⁸

Research by the ILO and others suggested that forced labor in supply chains is likely to be present in many sectors, including primary production such as cocoa, cotton, or seafood, the extraction of minerals such as coltan or tungsten (sometimes originating in conflict areas, where rebel groups may often use forced labor), and manufacturing, including the electrical and electronics industry.⁷⁹ The US Department of Labor maintains a list of goods and their source countries which it has reason to believe are produced by forced labor or indentured child labor, as required under the Trafficking Victims Protection Reauthorization Act of 2005; the latest list, published in September 2016, includes 139 goods from 75 countries, including bricks, cotton, footwear, gold and garments.⁸⁰ Since 2013 the Environmental Justice Foundation has published a series of reports revealing the extent of forced

⁷⁴ See Kevin Bales (2017) “Unlocking the Statistics of Slavery,” *Chance*, 30:3, 4–12 (<http://dx.doi.org/10.1080/09332480.2017.1383105>); Global Slavery Index (<https://www.globalslaveryindex.org>).

⁷⁵ International Labour Office, *Global Estimates of Modern Slavery: Forced Labor and Forced Marriage*, 2017.

⁷⁶ International Labour Office, *Profits and Poverty: The Economics of Forced Labor*, 2014, pp 13–15.

⁷⁷ UN Special Rapporteur on trafficking in persons, especially women and children, *The issue of human trafficking in supply chains*, A/67/261, 2012, p. 5.

⁷⁸ Quintin Lake et al, *Corporate approaches to addressing modern slavery in supply chains: A snapshot of current practice* (Ethical Trading Initiative and Ashridge Centre for Business and Sustainability, 2015).

⁷⁹ International Labour Office, *Global Estimates of Modern Slavery: Forced Labor and Forced Marriage*; Anti-Slavery International, “Slavery in supply chains” (<https://www.antislavery.org/slavery-today/slavery-in-global-supply-chains/>); *Harnessing the Power of Business to end Modern Slavery* (Walk Free Foundation, 2016).

⁸⁰ US Department of Labor, “List of Goods Produced by Child Labor or Forced Labor” (<https://www.dol.gov/ilab/reports/child-labor/list-of-goods/>).

labor in the Thai fishing industry.⁸¹ Journalists from Associated Press and elsewhere have revealed similar conditions in other south-east Asian countries.

One of the most notorious sectors is textile manufacturing, including in particular small garment or footwear factories in the largely informal sector in South Asia. Documented concerns at many of these factories include excessive working hours and production targets, payment of high recruitment fees, illegal retention of passports, and in some cases illegal imprisonment and beatings of workers. In 2013 practices such as these were highlighted in the collapse of the Rana Plaza commercial building in Dhaka; more than 1,100 died and about 2,500 were injured. The five-story building contained clothing factories, a bank, apartments, and several shops. While the shops and the bank on the lower floors were immediately closed after cracks were discovered in the building, garment workers were ordered to return to work the following day; the building collapsed soon afterwards.⁸²

Public concern, at least in Western countries, over poor labor conditions or modern slavery in supply chains has been growing for several decades. In the 1990s the creation of fair trade labeling initiatives began to transform the fair trade movement, enabling products produced under fair trade conditions to be sold through ordinary shops and supermarkets. The aims of fair trade were primarily to deliver adequate remuneration to producers, but its standards include minimum conditions of employment, including decent wages and health and safety standards and the right to join trade unions.⁸³

Actions aimed specifically at companies perceived to be abusing their workforces also gained ground. One of the first to be targeted, as early as the 1970s, was the footwear and sports equipment company Nike, which was accused of using sweatshops employing workers on low wages for long hours under poor health and safety standards. The accusations gathered steam in the 1990s, as Nike moved its sourcing from China and Korea, where living standards and labor legislation were improving, to countries such as Indonesia and Vietnam, where standards were much lower. Although the company initially dismissed the criticisms, claiming it did not own or control the factories, it faced a growing boycott which affected sales and profits. A wide range of groups led the campaign against Nike (and other companies sourcing from overseas), including development NGOs, human rights organizations, church and other religious groups, consumer organizations and trade unions; examples include Global Exchange (US), Christian Aid (UK), The Ethical Shopper (New Zealand) and the Clean Clothes Campaign (Europe).

Finally, in 1998, Nike's chief executive admitted that: "the Nike product has become synonymous with slave wages, forced overtime, and arbitrary abuse" and announced a program of improvement in standards.⁸⁴ In 1999 Nike created the Fair Labor Association, a non-profit group involving companies, human rights and labor representatives to establish independent monitoring systems and codes of conduct. Factory audits began in 2002, and in 2005 Nike became the first company in its industry to publish a complete list of the factories it contracted with.

Similar investigations and campaigns have been run against many other companies in many industries; in recent years IT companies such as Apple and Samsung, and the factories they source from, usually in China, have been targeted.⁸⁵ Boycotts, however, have become less common, partly because NGOs and activists accept that they run the risk of worsening poverty and undermining the economy of poor countries. Boycotts are a blunt weapon, incapable of discriminating between suppliers to the same consumer goods company who may have very different working conditions. Having seen what happened to Nike (and other companies over different issues – for example, Nestle over its sourcing of palm oil, associated with deforestation, for KitKat⁸⁶), companies (at least in Europe and North America) now tend to be more open to pressure, and legislative initiatives are slowly spreading.

⁸¹ See, e.g., *Pirates and Slaves: How Overfishing in Thailand Fuels Human Trafficking and the Plundering of Our Oceans* (Environmental Justice Foundation, 2015).

⁸² Rina Chandran, "Three years after Rana Plaza disaster, has anything changed?" Reuters World News, 22 April 2016.

⁸³ Fairtrade International (<https://www.fairtrade.net>).

⁸⁴ Max Nisen, "How Nike Solved Its Sweatshop Problem," Business Insider UK, 10 May 2013 (<http://uk.businessinsider.com/how-nike-solved-its-sweatshop-problem-2013-5>).

⁸⁵ See, for example, Edoardo Maggio, "Workers at an Apple manufacturing plant in China complained about poor working conditions and exposure to noxious chemicals," Business Insider UK, 17 January 2018 <http://uk.businessinsider.com/china-labor-watch-apple-catcher-working-conditions-2018-1>

⁸⁶ See Greenpeace's 2010 mock advert, "Give the orangutan a break," at <http://www.greenpeace.org/archive-international/en/campaigns/climate-change/kitkat/>.

6.2 Forced Labor and International Trade

The linkages between forced labor (a sub-set of modern slavery) and international trade, and the possibility that the use of forced labor in production for export may generate a comparative advantage for the exporting country, have long been recognized. The GATT itself, when agreed in 1947, included as one of the permitted exceptions from its obligations measures “relating to the products of prison labor” (GATT Article XX(e)). Proposals to extend this provision to the wider term “forced labor,” or even more widely to include a “social clause” in the GATT, recognizing, for example the provisions of the ILO’s eight core conventions, have also been put forward, in particular after the GATT’s transformation into the WTO in 1995. The EU, for example, attempted to raise the issue at the WTO’s first ministerial conference, in 1996.

The topic is, however, a highly controversial one. Developing countries in particular have generally argued that the campaign to bring labor issues into the WTO is in reality a bid by industrialized nations to undermine the comparative advantage gained by poorer countries from lower wages and conditions of employment – sometimes the only comparative advantage such countries enjoy. Restrictions on their exports could then undermine their ability to raise labor standards through economic development. While some forms of forced labor, such as prison labor, are generally regarded as unacceptable, attitudes to other forms, such as child labor, may vary significantly between countries at different stages of development; if schooling is not available, for example, it can be argued that it may be better for children to be in employment rather than to go hungry or be forced into prostitution.

In the end, at the 1996 WTO ministerial WTO members concluded that the ILO, not the WTO, was the competent body to discuss and negotiate labor standards.⁸⁷ While WTO members declared their commitment to recognized core labor standards, they affirmed that these should not be used for protectionism and the economic advantage of low-wage countries should not be questioned. The conference was clear that while the WTO and ILO secretariats would continue their existing collaboration, this did not put labor rights on the WTO’s agenda.

The US, however, has for many decades possessed legislation banning the import of goods produced with forced labor. The Tariff Act of 1930 gave the US Customs Service authority to seize commodities imported into the US where forced labor was suspected to have been used in the supply chain. “Forced labor” was defined as “all work or service which is exacted from any person under the menace of any penalty for its non-performance and for which the worker does not offer himself voluntarily”; convict and indentured labor were also covered, and these definitions overlapped in practice with child labor.⁸⁸ In reality, however, the law was seldom enforced (only about once every two years, on average, between 1930 and 2016, and not at all between 2000 and 2016) and was not imposed in cases where domestic supply of the products in question was inadequate to meet domestic needs (“consumptive demand”). In addition, for many decades after 1930 the public scrutiny applied to supply chain transparency, particularly overseas, was far less than it is today.

In February 2016, however, President Obama signed the Trade Facilitation and Trade Enforcement Act, which eliminated the “consumptive demand” exception from the 1930 Tariff Act; the amendment was motivated by the increased attention paid to the issues described in the preceding section. Enforcement actions can be triggered by anyone who reports suspicious activity to US Customs and Border Protection. If there is sufficient evidence of forced labor, a detention order may be issued; four such orders were issued in the first seven months after the Act came into force, seizing shipments from Chinese chemical and agricultural companies. For a seized shipment to be released, the importer must submit a certificate of origin for the goods and a statement detailing the importer’s efforts to ascertain the source and processes used in their production and that they were free of forced labor. Although there were no further seizures in 2016 or 2017, the Trump Administration’s intention of opposing “unfair trade” suggests that this may only be a temporary pause.

In 2010, the European Parliament called on the EU to establish a traceability mechanism for goods produced by forced or child labor, in order to ban their import, though a report by the European Commission three years later concluded that trade restrictions would be of only limited effect, since child labor was prevalent mainly in sectors

⁸⁷ “Labor standards: consensus, coherence and controversy,” WTO website at https://www.wto.org/english/thewto_e/whatis_e/tif_e/bey5_e.htm.

⁸⁸ Claire Reade and Samuel Witten, “Understanding the US Ban on Importing Forced Labor Goods” (Arnold & Porter, April 2017) (<https://www.arnoldporter.com/en/perspectives/publications/2017/04/understanding-the-us-ban-forced-labor-goods>); and Emily Holland, “New U.S. Customs and Border Protection rule amends regulations in light of ban on forced labor imports” (Freshfields Bruckhaus Deringer, June 2017) (<http://humanrights.freshfields.com/post/102e9j5/new-u-s-customs-and-border-protection-rule-amends-regulations-in-light-of-ban-on>).

that did not produce for export, such as subsistence agriculture.⁸⁹ At the worst, it argued, trade restrictions could impose significant costs on poor countries. In July 2016, however, the Parliament reiterated its request, calling for a “balanced and realistic proposal for legislation, including measures such as labeling child-labor-free products, giving trade preferences to countries that meet certain labor standards and imposing horizontal import prohibitions on products made using child labor.” No such legislative proposal has yet been put forward.

6.3 Modern Slavery in Business Supply Chains

The main alternative to excluding from trade products produced with forced labor, or modern slavery, is to encourage or require the businesses in question to improve their own standards throughout their supply chains.

The impacts of transnational corporations (TNCs) on human rights and development has long been a matter of debate. As far back as 1973, the UN created the Commission on Transnational Corporations, with the goal of formulating a corporate code of conduct, though the commission never managed to reach agreement and was dissolved in 1994. In the mid to late 1990s, however, as oil, gas, and mining companies expanded their operations into increasingly sensitive areas, and as the spread of global supply chains helped to draw attention to poor working conditions in offshore production, the debate gathered momentum. After another failed attempt to draw up standards for corporations’ human rights obligations, in 2005 the UN Secretary-General appointed Harvard professor John Ruggie to the post of Special Representative for Business and Human Rights.

In 2008 Ruggie presented his “protect, respect and remedy” framework, outlining states’ duty to protect against human rights abuses (including by business), the responsibility of companies to respect human rights (both to avoid infringing the rights of others and to address adverse impacts that occur), and the need for both states and businesses to strengthen access to appropriate and effective remedies for victims of business-related human rights abuse. The framework in itself did not establish any new legal obligations on companies or states; the core rights it supports are those found in a range of international instruments, such as the International Bill of Human Rights and the ILO’s core labor standards.

The UN Guiding Principles on Business and Human Rights, agreed in 2011, provide guidance on how respective parties should operationalize this “protect, respect and remedy” framework.⁹⁰ The Guiding Principles cover companies’ supply chains as well as their own operations. Principle 17 specifies that a company’s human rights due diligence: “should cover adverse human rights impacts that the business enterprise may cause or contribute to through its own activities, or which may be directly linked to its operations, products or services by its business relationships.”⁹¹ The document recognizes that this may be difficult:

Where business enterprises have large numbers of entities in their value chains it may be unreasonably difficult to conduct due diligence for adverse human rights impacts across them all. If so, business enterprises should identify general areas where the risk of adverse human rights impacts is most significant, whether due to certain suppliers’ or clients’ operating context, the particular operations, products or services involved, or other relevant considerations, and prioritize these for human rights due diligence.⁹²

Debate continues on the desirability of a binding legal instrument to establish an “obligation” on businesses to realize human rights, rather than simply encouraging a “responsibility” to do so. In October 2016, for example, the European Parliament voted for a (non-legally binding) resolution calling on EU member states and the European Commission to adopt regulations on corporate liability for serious human rights abuses in global supply chains, including a certified “abuse-free” product label at EU level.⁹³

⁸⁹ “Ban on import of goods produced using modern forms of slavery and forced labor, including that of children,” European Parliament website, 20 January 2018 (<http://www.europarl.europa.eu/legislative-train/theme-europe-as-a-stronger-global-actor/file-ban-on-import-of-goods-produced-using-modern-forms-of-slavery>).

⁹⁰ Office of the UN High Commissioner for Human Rights, *Guiding Principles on Business and Human Rights: Implementing the United Nations “Protect, Respect and Remedy” Framework* (UNOHCHR, 2011) (http://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf).

⁹¹ *Ibid.*, p. 17.

⁹² *Ibid.*, p. 18.

⁹³ <http://www.europarl.europa.eu/sides/getDoc.do?type=TA&reference=P8-TA-2016-0405&format=XML&language=EN>

Nevertheless, the publication of the Guiding Principles managed to achieve a far greater degree of consensus than any previous attempt at creating a business-human rights standard. It also had an impact on other processes, including revisions of the International Finance Corporation's (part of the World Bank Group) Environmental and Social Performance Standards and the OECD Guidelines for Multinational Enterprises, and the formulation of the ISO 26000 social responsibility standard, which closely incorporates the "protect, respect and remedy" framework and its implementing steps. It also helped to prepare the ground for a series of initiatives placing responsibility on businesses to scrutinize their supply chains for their exposure to modern slavery.

6.4 National Transparency Initiatives

The first such initiative came in California, a state with a long history of exposure to human trafficking due to its proximity to the Mexican border, its large number of ports and airports, its significant immigrant population, and its large economy, including industries that tend to attract forced labor. In 2005, the state adopted legislation setting higher criminal penalties for human trafficking, and five years later agreed the Transparency in Supply Chains Act 2010.

These developments took place against the background of an increased focus on human trafficking in the US. At the federal level the Office to Monitor and Combat Trafficking in Persons was established within the State Department in October 2001; it publishes annual Trafficking in Persons reports ranking governments based on their perceived efforts to acknowledge and combat human trafficking. As noted above, the Department of Labor also maintains a list of goods and source countries which may be produced by forced or child labor.

Entering into force in 2012, the California Transparency in Supply Chains Act requires retail sellers and manufacturers that do business in California and have over US\$100 million in gross annual receipts to publicly disclose their efforts to eradicate slavery and human trafficking from their supply chains. Two studies in 2015, however, suggested that the Act had had only limited impact. It does not require that the names of the companies subject to the law be made public, and state tax privacy laws have prevented the California Attorney General's office from releasing a full list. Of 500 companies that the KnowTheChain partnership believed were required to comply, only 31 percent had a disclosure statement available that was in compliance with all the requirements of the law; the organization concluded that clear guidance and more resources were needed.⁹⁴ A more detailed study by Development International surveyed 2,126 potentially qualifying companies; of these, only 14 percent were fully compliant, though 62 percent had attempted compliance. The report highlighted companies which had fully complied, including the dried fruit company Sun-Maid, which had not only posted the required disclosure on its website but had indicated the processes it had followed – including the use of third-party auditors – and the disciplinary steps it had taken when it had found forced labor in its supply chain.⁹⁵

At a federal US level, the Business Supply Chain Transparency on Trafficking and Slavery Act was introduced to the House of Representatives in 2011, 2014 and 2015 and to the Senate in 2015; essentially it mirrored the California legislation's provisions to require companies with a turnover above US\$100 million to disclose the policies and management systems they had in place to identify and eradicate slavery and human trafficking within their global supply chains.⁹⁶ On each occasion the bill was referred to a committee and failed to make further progress.

In the UK, legislation on modern slavery introduced in 2014 initially focused only on slavery and human trafficking within the UK, but was amended to include transparency provisions after a concerted lobbying campaign led primarily by NGOs but including pressure from, among many others, the British Retail Consortium. Section 54 of the Modern Slavery Act 2015 requires any commercial organization which supplies goods or services, carries on a business or part of a business in the UK, and is above a specified total annual turnover (currently £36 million) to produce an annual slavery and human trafficking statement, which must include "the steps the organization has taken during the financial year to ensure that slavery and human trafficking is not taking place in any of its supply chains, and in any part of its own business," or a statement that the organization has taken no such steps.⁹⁷

⁹⁴ "Insights Brief: Five Years of the California Transparency in Supply Chains Act" (KnowTheChain, September 2015).

⁹⁵ *Corporate Compliance with the California Transparency in Supply Chains Act of 2010* (Development International, November 2015).

⁹⁶ For further information, see www.congress.gov – legislation – HR2759 (2011–12), HR4842 (2013–14), HR3226 (2015–16) and S1968 (2015–16).

⁹⁷ Modern Slavery Act 2015, Section 54 (4) (a) and (b).

This is a requirement for transparency rather than action; the company is not required to guarantee that its entire supply chain is slavery-free.⁹⁸ It is assumed that the requirement to publish the statements will raise the profile of the issue and facilitate pressure on the company to improve its performance, for example from campaigning groups or shareholders. The guidance accompanying the Act suggests that the statement should include relevant company policies, the company's due diligence processes in relation to slavery and human trafficking in its business and supply chains, the parts of its business and supply chains where there is a risk of slavery and human trafficking taking place, and the steps it has taken to assess and manage that risk, the effectiveness of these steps, and the training and capacity-building available to its staff. The statement must be approved and signed by a director, member or partner of the organization, and must be published on its website, with a link in a prominent place on the home page, to ensure transparency.

Implementation of Section 54 has been slow. While an estimated 12,000 companies qualify under the Act's requirements to publish a statement, by June 2018 less than half (about 5,500) had done so.⁹⁹ An analysis of statements published in March 2017 found that most lacked detail and were limited to broad descriptions of processes and activities.¹⁰⁰ Due diligence processes were not, in general, reported in detail, and while supply chains were relatively well covered, there was a significant gap in relation to contractors such as labor providers, outsourced service providers or sub-contractors in construction – all areas where cases of forced labor have been identified. The most informative statements had been made by large multinationals, which are usually consumer-facing, with complex international business models, and which are often exposed to investor scrutiny.

At the EU level, December 2016 was the deadline for EU member states to transpose into law the Non-Financial Reporting Directive (2014/95/EU). Companies which have more than 500 employees and are of significant public relevance because of the nature of their business, size or their corporate status (of which there are about 6,000 in total in the EU) are required to report on how the organization's performance, position and activities affect environmental, social, employee, human rights, anti-corruption and bribery issues. Information should cover the company's policies on each issue and their outcomes, its due diligence processes, principal risks, the business relationships, products and services which are likely to cause adverse impacts in those areas of risk, and a description of how the company manages the principal risks.

In December 2016 the Consumer Goods Forum announced three "Priority Industry Principles" designed to eradicate forced labor from corporate supply chains.¹⁰¹ Resolving to uphold these practices in their own operations, member companies also committed to use their collective voice to promote the adoption of the principles industry-wide, with an initial focus on two supply chains of particular relevance: seafood, and palm oil in Southeast Asia.

In February 2017 France adopted a corporate "devoir de vigilance" (due diligence) law applying to companies with more than 5,000 employees in France or 10,000 world-wide.¹⁰² Companies subject to the legislation (an estimated 150–200) must implement a diligence plan seeking to identify and avoid human rights violations, breaches of fundamental freedoms, violations of health and safety rights and environmental damage. Building on the UN Guiding Principles, this includes the identification of risks, procedures for regular assessments of subsidiaries, sub-contractors and suppliers, actions to mitigate risks or prevent serious harm, and mechanisms for an alerts and monitoring.

In March 2017, the proposed penalties for failing to prepare such a plan – fines of up to €10 million, or up to €30 million if the failure to develop a plan led to injuries that could otherwise have been prevented – were struck down as unconstitutional.¹⁰³ The requirement to implement a diligence plan remains, however, as well as civil liability mechanisms in case of failure to implement the plan or weaknesses in it. This obligation is more stringent than mere reporting, such as the California and UK requirements examined above (though much smaller in terms of numbers

⁹⁸ Home Office, *Transparency in Supply Chains etc.: A Practical Guide* (29 October 2015).

⁹⁹ According to the list of statements maintained by the Business and Human Rights Resource Centre; the government itself does not maintain a central registry. See <http://www.modernslaveryregistry.org>.

¹⁰⁰ *Modern slavery statements: One year on* (Ergon Associates, April 2017).

¹⁰¹ <http://www.theconsumergoodsforum.com/consumer-goods-industry-sets-bar-in-fight-against-forced-labor>

¹⁰² <http://www.csrandthelaw.com/2017/02/28/french-national-assembly-adopts-corporate-duty-of-vigilance-law/>

¹⁰³ <https://www.jdsupra.com/legalnews/french-companies-must-show-duty-of-care-56981/>.

of companies). Companies will be required to implement specific concrete actions and cannot limit themselves just to reporting whether or not they have done anything.

In February 2017, the Dutch House of Representatives (parliament's lower house) adopted the Child Labor Due Diligence Bill, though the bill has made no progress in the Senate (the upper house).¹⁰⁴ The legislation would require companies registered or selling products in the Netherlands to produce a declaration that they had exercised due diligence to prevent the goods and services they supply to have been produced with the involvement of child labor. The same month saw the Australian Parliament announce a new inquiry into establishing a Modern Slavery Act,¹⁰⁵ and in August 2017 the Australian government published a consultation on establishing a reporting requirement for modern slavery in supply chains.¹⁰⁶ In Switzerland, a campaign to amend the constitution to require companies to incorporate respect for human rights and the environment in all their business activities, including their activities abroad, is under way, aiming at a popular referendum.¹⁰⁷

This trend towards more effective action has also been reflected in developments in the international framework for tackling forced labor. Two of the ILO's eight core conventions (the Convention Concerning Forced or Compulsory Labor (ILO 29) and the Convention concerning the Abolition of Forced Labor (ILO 105)) deal with the issue; parties to the convention are required to establish forced or compulsory labor as a criminal offence (with a few exceptions, such as compulsory military service). In practice, however, many countries proved incapable of detecting or suppressing forced labor, and in the light of the growing problems, highlighted above, in 2014 the ILO agreed a protocol to ILO 29. This requires ratifying states to establish effective measures to suppress forced or compulsory labor, including prevention, prosecution and protection of victims, to publish a national policy and plan of action, and to submit a report, every three years, on the measures taken to implement the protocol and the convention. The protocol entered into force in 2016. By June 2018, it had been ratified by only 24 of the ILO's 187 member states, but these included the UK and France, in line with their own national initiatives.

6.5 Analysis: Key Factors

Table 4 contains a simple timeline of key developments.

Table 4. Developments in Action Against Forced Labor and Modern Slavery in Supply Chains

Date	Activity	Type	Actors
1930	US Tariff Act allows seizure of imports of goods produced with forced labor, but infrequently used	Government regulation	US government
1970s on, particularly 1990s on	Pressure on Western companies over labor conditions overseas	Awareness-raising	NGOs
2000s on	Companies start to accept responsibility for supply chains, start auditing suppliers and imposing conditions of employment	Voluntary action	Industry
2008 / 2011	UN publishes Ruggie principles for responsible business	International coordination	UN
2012	California Transparency in Supply Chains Act enters into force	Government regulation	State government
2014	Protocol to ILO Forced Labor Convention agreed	International coordination	ILO

¹⁰⁴ Cees Van Dam, "Statutory human rights due diligence duties in the Netherlands," https://www.rsm.nl/fileadmin/Images_NEW/Sites/Chair_IBHR/Publications/Van_Dam_-_Statutory_HRDD_duties_in_NL.pdf

¹⁰⁵ http://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Foreign_Affairs_Defence_and_Trade/ModernSlavery/Terms_of_Reference

¹⁰⁶ *Modern Slavery in Supply Chains Reporting Requirement: Public Consultation Paper and Regulation Impact Statement* (Attorney General's Department, Australian Government, August 2017).

¹⁰⁷ <http://konzern-initiative.ch/initiativtext/?lang=en>

Date	Activity	Type	Actors
2015	UK Modern Slavery Act enters into force	Government regulation	Government
2016	US amends Tariff Act to close loophole; four seizures follow	Government regulation	US state government
2016	EU Non-Financial Reporting Directive transposed into member states' law	Government regulation	EU, governments
2016	Consumer Goods Forum "Priority Industry Principles" design to eradicate forced labor from supply chains	Voluntary action	Industry
2017	French due diligence law enters into force	Government regulation	Government

This topic, like the others in this paper, displays the same pattern of early awareness-raising and campaigning activities and pressure on governments and companies by NGOs (though also, unlike the other areas, by religious groups and trade unions), followed by responses from some companies (Figure 5). Three different types of regulatory response can be discerned:

- Trade measures taken against products produced with forced labor or child labor – not common, and controversial because of the possible effect on developing countries' exports and fears of disguised protectionism.
- Supply chain transparency requirements – placing obligations on companies to scrutinize their supply chains for evidence of modern slavery. There is no requirement on the companies to do anything else, but the assumption is that if they find modern slavery, they will take suitable action.
- Due diligence requirements – placing obligations on companies not just to scrutinize their supply chains for the presence of modern slavery but to take action to eliminate it if they do find it.

It seems unlikely that the first type – trade measures against products produced with forced labor or child labor – will develop to any great extent, given firm opposition from developing countries and, indeed, many developed-country NGOs and other groups. However, as the votes in the European Parliament have demonstrated, there may well be some pressure for these types of measures, and in general, support for protectionist trade measures is stronger now than it was a few years ago.

The attempts to tackle modern slavery in business supply chains though placing obligations on companies are much more recent – and indeed, are the most recent of all the cases examined in this paper, although they have their roots in a long-running debate over the responsibilities of businesses as regards human rights and environmental standards and a much more recent focus on the extent of modern slavery, as revealed, for example, through investigations into the Thai seafood industry or the Rana Plaza building disaster. These, coupled with the spread of international supply chains (as discussed in Section 2), has helped to focus attention on the role companies can play in taking responsibility for conditions in the chain of companies, including their contractors and suppliers, with which they do business, with the aim of preventing abuses of labor standards or human rights that would never be permitted in the countries in which these companies are headquartered or sell their products.

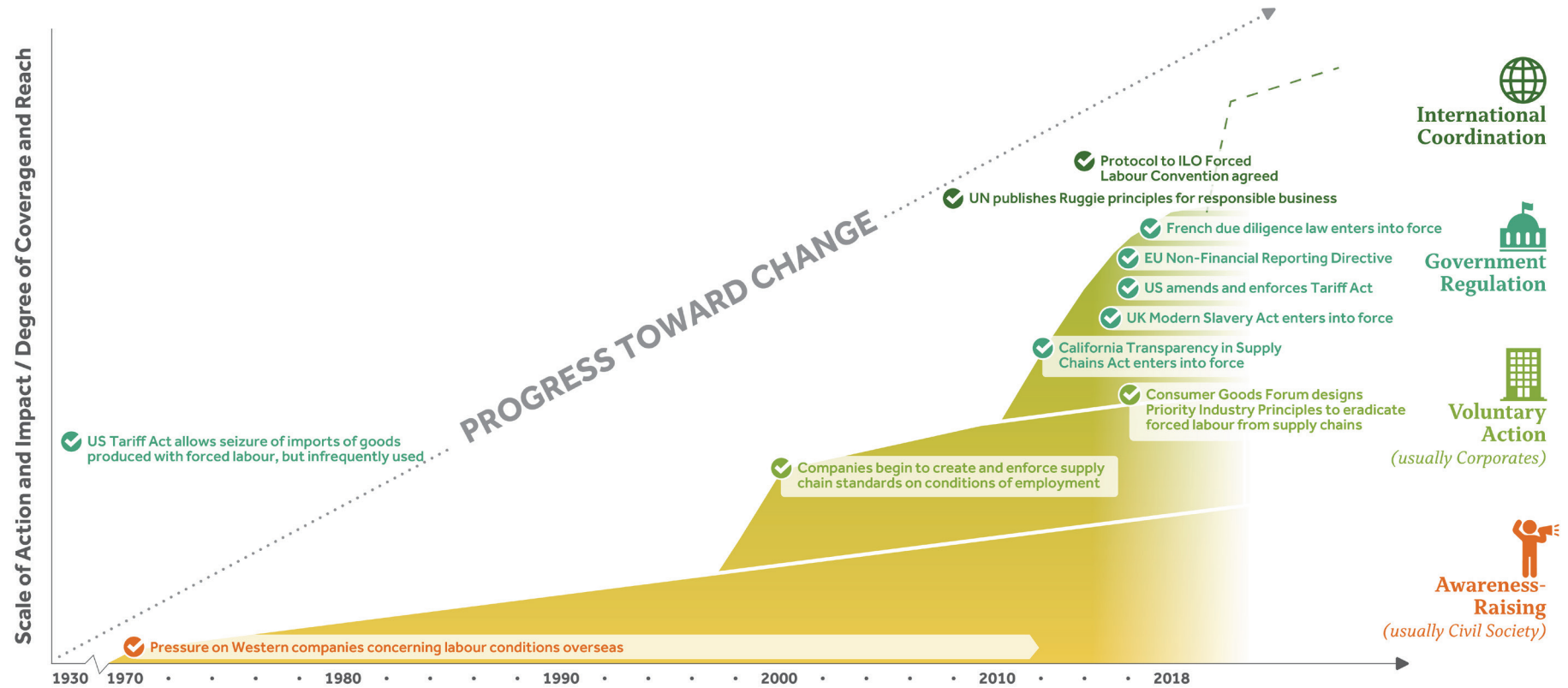
While this is a largely new phenomenon for many companies, it can be seen to be part of the same trend that led to the due diligence provisions of the EU Timber Regulation (see Section 3). In the case of modern slavery, however, the initiatives so far have concentrated mostly on establishing reporting requirements, and thereby improving transparency, rather than on incorporating any kind of prohibition or requirement for action. If the French legislation proves to have an impact, however, further such initiatives can be expected, and this may also lead to efforts to establish some kind of international framework, perhaps to harmonize requirements on companies operating in different jurisdictions.

Two main sets of actors can be identified as helping to create the pressure for these initiatives. These include NGOs responsible for first, raising the issues – examples include the Walk Free Foundation, Anti-Slavery International and the Environmental Justice Foundation – and second, lobbying for action, where examples include the CORE

Coalition in the UK, the main coordinator of the campaign to include supply chain transparency provisions in the Modern Slavery Act. The second group is those involved in the work of the UN to establish international guiding principles, including in particular Professor Ruggie and his colleagues, and in the efforts of the ILO to establish international standards for tackling forced labor.

In general neither national governments nor businesses have been leaders in this debate, but neither have they been strongly opposed, partly because the requirements placed on businesses so far have been so light-touch, with little requirement for very detailed reporting or action and very few sanctions for non-compliance, and partly because the history of boycott action against companies such as Nike has made companies sensitive to pressure. As noted, the bigger and more vulnerable companies have in some cases already begun to take action to scrutinize their supply chains, though as the record of compliance with the California and UK acts shows, many still have a long way to go.

Figure 5. Evolution of Action against Forced Labor and Modern Slavery in Supply Chains



7. Case Study Synthesis and Discussion

The purpose of this paper is to draw lessons from the four case studies analyzed in Sections 3–6 for the control of deforestation linked to the conversion of forests to agriculture. This section provides a brief discussion of commonalities and differences across the case studies as fodder for the analysis of action on forest-risk commodities in Section 8. It is necessarily somewhat speculative, as the sample size of cases is small; extending the study to additional examples of “global public bads” would be helpful in the future.

The case studies exhibit a common pattern in the evolution of action that suggests a “cascade” across scale, key actors and types of action – as suggested in the simple model discussed in Section 2.5. Action tends to advance from a narrow organizational scope to national and international efforts; from NGOs to companies to governments and intergovernmental institutions; and from awareness-raising to voluntary action and ultimately to regulation, national and international.

The evolution of action has not, however, always proceeded in an orderly linear fashion. There is rarely a clean break in the movement from one phase to the next, and in most of the case studies, NGOs, companies, and governments have all taken action in parallel, in different ways and at different speeds. For example, in the case of the trade in illegal timber, government regulation advanced in parallel to the uptake of voluntary certification schemes, with governments at times coopting the voluntary approaches for their own timber procurement policies. This parallel action and overlap between phases is often a productive process, not least because it provides creative tension between various stakeholders’ differing objectives and the tools for action at their disposal.

Cycles appear in some case studies, with emerging information or failures reinvigorating activities in what are typically earlier categories of action. For example, the Montreal Protocol itself followed the general model almost precisely in addressing the “global public bad” of ODS production and use – from awareness-raising by scientists and NGOs to voluntary action by companies to some national-scale government regulation and ultimately to an international agreement which then imposed requirements for national government regulation more widely. When the illegal trade in ODS emerged as an unexpected side-effect of the international regulatory regime, a new cycle of action began with awareness-raising, mainly by EIA, national regulatory controls, and international cooperation to correct design flaws in the existing international framework.

There are feedbacks between different types of actions as well, with efforts by one group of actors enabling and encouraging progress by other actors and at different scales. The case of ODS again provides several examples: continued research by scientists and awareness-raising about their findings supported the negotiation first of the Vienna Convention and then of the Montreal Protocol. Perhaps more importantly, the voluntary abandonment of CFCs by some companies early in the process proved to governments that regulatory action would not be excessively costly or burdensome to industry.

The progression is also not always stepwise through each of the four categories. For example, while the case of conflict diamonds is perhaps the most canonical in terms of its initiation through NGO awareness-raising campaigns, an international process emerged quickly to address the issue, with little preceding voluntary company action or national regulation. This was the result of several factors: the inability to discern the origin of a diamond by inspection made conflict diamonds a serious risk to markets for all diamonds; the balance of international political power – diamonds were not economically critical to any major industrialized country; the quiet behind-the-scenes role played by NGOs in the early stage of the Kimberley Process, which reassured those governments which may otherwise have been reluctant to engage; and leadership by a few key national governments (particularly diamond-producing countries in Africa and the US and UK) willing to carry the flag for international action.

However, there are also a few examples where attempts to advance to typically later categories too quickly have failed, suggesting that earlier phases may be necessary to lay the groundwork for regulatory success at scale. For example, the attempt to negotiate an international agreement on forests in 1992 at the Earth Summit in Rio failed, as there was no consensus between industrialized and developing countries on norms for trade in forest products. In the case of modern slavery, early attempts by the UN to regulate the behavior of TNCs led only after many years to the publication of the Ruggie Principles. It took growing evidence of the problem, including most notably the Rana Plaza disaster, to trigger regulatory action, and this is still quite limited.

Two of the case studies – illegal logging and modern slavery – seem to follow the early stages of the general model, but international coordination has not yet progressed to multilateral trade or regulatory agreements (with the exception of the EU's bilateral VPAs). This lack of progress on international agreement appears to result from a lack of widespread alignment on the appropriate underlying norms – i.e., disagreements about what constitutes a “bad”; and also, at times, from protectionism combined with elite capture of government by key industries.

As noted in Section 2.5, the linkage between actor, type of action, and scale of action is not always as tight as suggested by the general model. For example, in several cases demand-side industrialized-country governments take voluntary actions such as allocating development assistance to producer countries, rather than pursuing only regulatory action; and companies and governments have both at times participated in awareness-raising efforts.

Why does action to address global public bads progress through these typical phases? The first two phases are relatively well understood. Identification of societal issues and collective calls for action are hallmarks of NGOs' roles in civil society, so their key role in the first, awareness-raising, stage is unsurprising. While public institutions such as legislatures and courts have traditionally been the primary venues for civil society seeking redress of ills, the increasingly important role played in society by large companies and transnational corporations over the past few decades has led to the emergence of what has been called “private politics,” in which the interactions of activists, firms and NGOs lead to self-regulation by industry.¹⁰⁸ NGOs can induce corporate change by imposing a societal cost on corporate bad behavior through awareness campaigns that harm a firm's reputation. If the firm perceives the reputational risk to be high, it may seek to relieve the pressure by promising – and then ultimately implementing – change. Public pressure on Nike over labor conditions in its overseas suppliers is a good example.

But what drives progression from voluntary corporate action to national government regulation, and to international cooperation and regulatory or trade agreements? The above case studies suggest several possibilities:

- In the case of illegal logging and EU consumer markets, voluntary company actions were paralleled by, and taken partly in response to, voluntary government efforts by EU member states such as the introduction of timber procurement policies, which gave companies and governments alike time to operationalize their efforts to reduce illegal imports. At the same time, a series of ministerial-level international dialogues including both producer and consumer-country participants gave the EU reason to believe that trade measures designed to close international markets to illegal products – if accompanied by assistance to producer countries to take action at the source – would be accepted as pro-development rather than protectionist.
- In the case of illegal logging and the US Lacey Act, an active policy campaign to reduce illegal imports led by NGOs was joined by the domestic wood products industry, concerned at the impact of illegal imports on the competitiveness of its own products.
- In the case of ODS in the US, as scientific evidence of the damage caused by CFCs grew, the interests of CFC producers and the more exposed consumer companies which used CFCs diverged, and the government stepped in with regulatory measures.

Together, these suggest that national regulation will be established more readily when it is supported by at least some members of the relevant domestic industries, and when there is a perception that producer-country governments will be supportive – or, at least, not object too strenuously.

A few conditions appear to have facilitated the transition from national regulation to international cooperation and international trade agreements, in the cases of ODS and conflict diamonds. In both cases, one or more national governments took a leadership role in raising the issue in international contexts and pursuing cooperation. In the case of the Montreal Protocol, special treatment for developing countries, and a financial mechanism, facilitated agreement. In the case of conflict diamonds, the diamond-producing nations themselves saw the need for action. In neither case was any substantial nation opposed, partly because the size of the industrial sectors concerned was relatively limited.

¹⁰⁸ See, for example, Baron, David P. “Private politics, corporate social responsibility, and integrated strategy.” *Journal of Economics & Management Strategy* 10, no. 1 (2001): 7-45.

While the number of case studies – and especially of success stories – is too small to draw firm conclusions about *impact*, it does appear that the evolution in action over time *may* be related to success in addressing global public bads. Efforts to address the ozone hole progressed through each of the major steps, concluding with a broad international regulatory agreement which is one of the most successful environmental protection efforts ever. The Kimberley Process largely skipped over the voluntary and national regulatory phases, with the resulting international approach initially successful if, ultimately, too narrow. On the other hand, while national regulation by a few leading consumer nations has had an impact, to date it has been insufficient to slow illegal timber production in many places, and international agreement remains lacking. In the case of modern slavery, national regulations to exclude its products are relatively new, and attempts to reach broad international regulatory agreement have so far not yet been attempted.

In brief, the key lessons on actions to get the “bads” out of “goods” from these case studies include the following:

- **The direction of progress is clear.** There is a consistent pattern in which tackling these bads advances from voluntary action by companies to regulatory action by governments.
- **Progress is messy.** It often involves multiple actions by NGOs, companies, and governments taken in parallel, in different ways and at different speeds. Cycles may emerge where the locus of progress shifts back to NGOs and voluntary action; and feedbacks are common, in which efforts by one group enables progress by others.
- **Skipping steps is possible, but risky.** There appears to be an additive value in progressing through each phase, with awareness-raising providing raw material and evidence; voluntary action by companies building confidence that change is not an economic threat and creating consumer-country constituencies for regulatory action; and national regulation providing both carrots and sticks that facilitate successful international cooperation.
- **Effective international cooperation is difficult but necessary.** A combination of action on the ground in producer countries and in the markets in consumer countries, and controls on the trade between them, is likely to be the most effective. This requires effective cooperation between producer and consumer-country governments, ideally in the context of an international (or, if necessary, bilateral) agreement. Reaching such agreement requires consumer-country leadership, but benefits to producer countries must also be evident.
- **Nations should not wait for effective international agreement to take national action.** While effective global agreements such as the Montreal Protocol are obviously ideal, their absence, or the existence of weaker agreements, such as the Kimberley Process, does not mean that action by national governments is of no value. Particularly where nations commanding a significant share of the global market act together, they can have an impact.

We also draw the following additional lessons from the case studies:

- Awareness-raising, including researching and publicizing aspects of the problem, is always the essential first step. This provides raw material for campaigning and the evidence needed for changes in business behavior and national and international policy.
- International agreements are ideal, affecting the greatest number of countries in setting common standards, but they require effective non-compliance procedures (like the Montreal Protocol but unlike the Kimberley Process) and may sometimes only be able to proceed at the pace of the slowest participants.
- The absence of international or bilateral cooperation does not preclude action by consumer countries to exclude “global public bads.” A range of measures are available, including trade measures such as licensing schemes or prohibitions and requirements on industry, including transparency and due diligence obligations.
- National regulatory efforts to restrict market access both helps to keep the products off the market and creates an incentive for producer-country action, although the availability of alternative markets may undermine the latter.
- Many of these measures require some means of identification of the products to be excluded, which also requires a clear definition of them. In principle this definition could rest on either the sustainability or the legality of production.

- Alongside trade measures, financial and technical assistance and capacity-building by donors have been helpful in improving law enforcement and encouraging improvements in governance and transparency by producer countries.
- The role of industry is important. Voluntary commitments should be encouraged, applauded and monitored, and industry should be involved in the design of any new instruments to be developed. Ambitious and progressive companies can lead the way by piloting approaches and pressing for action to ensure a level playing field with their competitors.
- Most companies, however, are likely to oppose any national or international regulation that they perceive as increasing their costs or affecting their competitiveness. Companies – and often governments – will almost invariably over-estimate the costs of transition to legal or sustainable methods of production; innovation, once started, almost invariably proceeds faster and delivers alternatives more cheaply than anticipated. (The Montreal Protocol is a strong example of this.)
- NGOs also have an important role to play in both consumer and producer contexts, in raising awareness, encouraging consumer pressure, proposing and lobbying for solutions (both to governments and industry) and monitoring action on the ground. The likely response of industry to NGO activities will vary with the sector's composition, coherence, significance to the national economy, previous experience of interacting with civil society and sensitivity to reputational risk.

8. Lessons for Agricultural Commodities Associated with Deforestation

The purpose of this paper is to draw lessons from the four case studies analyzed in Sections 3–6 for the control of deforestation linked to the illegal conversion of forests to agriculture. Sections 8.1 and 8.2 provide brief background to the issue and actions taken to date, while Section 8.3 draws lessons and conclusions.

8.1 Agriculture, Trade, and Deforestation

The linkage between agriculture and deforestation is now well known. A series of recent studies have provided evidence and estimates of scale (their precise estimates differ because of differences in the time and geographical periods covered, methodologies and difficulties in obtaining robust data):

- A 2012 report produced for the British and Norwegian governments, covering the period 2000–10, estimated that agriculture was responsible for about 80 percent of global deforestation.¹⁰⁹ This drew heavily on a detailed study, also published in 2012, using REDD+ readiness activity reports, UNFCCC national communications and CIFOR country profiles, which concluded that 73 percent of tropical and sub-tropical deforestation during the decade to 2010 was caused by agriculture, including 40 percent from commercial agriculture and the rest from local or subsistence agriculture.¹¹⁰
- A study for the European Commission, published in 2013, estimated that 53 percent of the global deforestation experienced from 1990 to 2008 was due to agricultural expansion.¹¹¹ This study included a comprehensive analysis of the deforestation associated with individual commodities, broken down by countries of production and consumption (see further below).
- A 2014 study for the Centre for Global Development looked specifically at deforestation due to the four main forest-risk commodities (beef, soy, palm oil, and wood products) produced for export in eight case countries (Argentina, Bolivia, Brazil, Paraguay, DRC, Indonesia, Malaysia and Papua New Guinea) over the period 2000–09. (The eight countries between them accounted for the vast bulk of global palm oil, soy and beef exports.) The study concluded that roughly a third of tropical deforestation, and its associated carbon emissions, could be attributed to the four commodities in these countries.¹¹²

It is not always the case that deforestation occurs directly as a result of agricultural expansion. In some cases the land may be converted to agriculture after deforestation has occurred as a result of government policies promoting economic growth or rural development – as has historically been the case, for example, in Brazil.

The study of the impact of EU consumption on deforestation (the EU’s “forest footprint”) provided a detailed analysis by agricultural activity. Of total deforestation world-wide over the period 1990–2008, 46 percent was due to livestock (mainly cattle) pasture and a further 11 percent to crops for animal feed – for pigs and poultry (8 percent) as well as for cattle (3 percent). The remaining 43 percent was due to crop production; those most heavily associated with deforestation were soybeans, accounting for 19 percent of embodied deforestation in crops, maize (11 percent), oil palm (8 percent), rice (6 percent) and sugar cane (5 percent). It is clear that meat production has the biggest overall impact, and within that category beef consumption is the single biggest component, accounting for almost 27 percent of total global deforestation over the study period. Since the end of the study period, however, palm oil and soy production have both expanded more strongly than other commodities, so will now represent higher proportions of the total.

The increasing liberalization of trade policy has clearly affected the extent and magnitude of deforestation. Globalized demand allows “the drivers of deforestation to be mobile” and the “forces of the market to move them

¹⁰⁹ Kissinger, G., Herold, M. and de Sy, V. (2012), *Drivers of Deforestation and Degradation: A Synthesis Report for REDD+ Policy-Makers*. Vancouver: Lexeme Consulting.

¹¹⁰ Hosonuma N., Herold M., de Sy V., De Fries R.S., Brockhaus M., Verchot L., Angelsen A., Romijn E. (2012). “An assessment of deforestation and forest degradation drivers in developing countries,” *Environmental Research Letters*, 7(4), 044009.

¹¹¹ European Commission (2013), *The Impact of EU Consumption on Deforestation: Comprehensive analysis of the impact of EU consumption on deforestation*. Technical Report - 2013 – 063. Brussels: European Commission.

¹¹² Persson, M., Henders, S., and Kastner, T. (2014), *Trading Forests: Quantifying the Contribution of Global Commodity Markets to Emissions from Tropical Deforestation*. Washington, DC: Center for Global Development.

around the world,”¹¹³ creating an ever-increasing incentive to convert forests into more profitable uses. Nevertheless, it is still true that the bulk of deforestation from agriculture is the result of domestic use in the producing country; in the European Commission study, about one-third of the deforestation embodied in crop production, and just 8 percent of the deforestation embodied in ruminant livestock products, was traded internationally.¹¹⁴ Oil crops such as soy and palm oil accounted for the majority (almost two-thirds) of the deforestation embodied in exported crop commodities. While South American countries had experienced approximately one-third of total global deforestation, they accounted for almost two-thirds of the global trade in crop products associated with deforestation, largely due to exports of soy, mainly to China.

As noted in Section 3, a significant proportion of clearance of forests for agriculture has been illegal in nature. A comprehensive survey published by Forest Trends in 2014 concluded that 49 percent of total tropical deforestation between 2000 and 2012 was due to illegal conversion for commercial agriculture. Nearly one-quarter (24 percent) was the direct result of illegal agro-conversion for export markets.¹¹⁵ Brazil and Indonesia together accounted for 75 percent of the global area of tropical forest estimated to have been illegally converted for commercial agriculture over this period. In Brazil, where cattle and soy had been the main drivers, at least 90 percent of deforestation for agriculture in the Amazon was estimated to be illegal. In Indonesia, at least 80 percent of deforestation for commercial agriculture – mostly palm oil – and timber plantations was estimated to be illegal.

8.2 Tackling the Issue

Both private companies and governments have responded to the growing evidence of the impacts of agriculture on deforestation, and have adopted a variety of declarations and commitments to the objective of zero deforestation or zero net deforestation. Concrete action, however, has to date largely been limited to companies.

In 2010 the Consumer Goods Forum adopted a target of achieving zero net deforestation in its membership’s supply chains by 2020 for a number of key commodities, including soy, cattle, palm oil and paper and pulp.¹¹⁶ It subsequently published sustainable sourcing guidelines for paper, pulp and packaging, palm oil and soy. It does not, however, publish data on its membership’s progress towards the overall goal.

In 2012 the Consumer Goods Forum joined with the US government to establish the Tropical Forest Alliance 2020, a global partnership with the aim of reducing the tropical deforestation associated with the sourcing of commodities such as palm oil, soy, beef, and paper and pulp.¹¹⁷ Its partners now include a wide range of governments, companies and consultancies and other organizations, including civil society and UN agencies. It does not set targets for its members, but promotes and supports multi-stakeholder initiatives in particular regions, such as the Africa Palm Oil initiative or the Southeast Asia Initiative.

The New York Declaration on Forests (NYDF) was agreed at the UN Climate Summit in September 2014.¹¹⁸ A non-legally-binding political declaration, its signatories collectively committed “to doing our part to achieve the following outcomes [among others] in partnership:”

- At least halve the rate of loss of natural forests globally by 2020 and strive to end natural forest loss by 2030.
- Support and help meet the private-sector goal of eliminating deforestation from the production of agricultural commodities such as palm oil, soy, paper and beef products by no later than 2020, recognizing that many companies have even more ambitious targets.
- Significantly reduce deforestation derived from other economic sectors by 2020.

¹¹³ Boucher, D., May-Tobin, C., Lininger, K. and Roquemore, S. (2011), *The Root of the Problem: What’s Driving Deforestation Today?* Union of Concerned Scientists, 2011), pp. 9.

¹¹⁴ Unless otherwise noted, all figures in this section: European Commission (2013), pp. 22–36.

¹¹⁵ Sam Lawson et al, *Consumer Goods and Deforestation: An Analysis of the Extent and Nature of Illegality in Forest Conversion for Agriculture and Timber Plantations* (Forest Trends, September 2014), p. 2.

¹¹⁶ <https://www.theconsumergoodsforum.com/initiatives/environmental-sustainability/key-projects/deforestation/>

¹¹⁷ <https://www.tfa2020.org>

¹¹⁸ Climate Summit, 2014: *Forests: Action Statements and Action Plans*. United Nations.

The declaration was endorsed at the time by 36 national governments and 53 companies, among others; by October 2017 the number of endorsing entities had risen to 191.

In 2015 the NYDF Assessment Coalition (now NYDF Assessment Partners) was formed, comprising an independent network of civil society groups and research institutions, with the goal of producing annual evaluations of progress toward meeting the ten goals formulated in the Declaration.¹¹⁹ It has published several detailed assessments of progress towards meeting some of the goals, and a briefer summary of progress on the others. Its website presents a concise summary of such progress, including the conclusion that “There are no signs that tropical deforestation is slowing.”¹²⁰

In September 2015 governments endorsed the UN Sustainable Development Goals. SDG 15.2 includes the ambitious goal to: “by 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.”¹²¹

In December 2015 the governments of Denmark, France, Germany, Netherlands, Norway, and the UK (later joined by Italy) agreed the Amsterdam Declaration in Support of a Fully Sustainable Palm Oil Supply Chain by 2020.¹²² The governments agreed to support the goal of a sustainable palm oil supply chain, as set out in the separate private-sector Amsterdam Commitment.¹²³ This aimed to coordinate the activities and targets of various national private-sector initiatives in achieving 100 percent sustainable palm oil in Europe by no later than 2020.

These overarching commitments have often developed from – and have also helped to stimulate – action by a wide range of individual companies producing, trading and using agricultural commodities such as palm oil, soy, beef and cocoa. Commitments to eliminate or reduce deforestation in corporate supply chains have become common in companies trading in and using palm oil and cocoa (and timber) in Europe and North America; they are less common for other key commodities such as beef, soy, maize or rubber.¹²⁴ A number of European countries have seen the emergence of industry alliances aimed at ensuring the entire national market is supplied by certified sustainable palm oil by a target date.

The implementation of these commitments rely heavily (though not exclusively) on certification schemes such as those of the Roundtable on Sustainable Palm Oil (RSPO), Round Table on Responsible Soy (RTRS), Rainforest Alliance and others. Consumer goods companies in particular, positioned at the end of the supply chain with no direct relationship to producers, often have little option but to rely on sourcing certified products as the main means of fulfilling their commitments. Uptake of certification schemes has steadily increased; market penetration is highest for timber, palm oil, cocoa, coffee, and tea, though much less well developed for beef, soy and other forest risk commodities. In turn this has focused attention on the standards used by the certification schemes and the extent to which they are enforced. Particularly in the case of for palm oil, many companies have started to adopt additional criteria on top of the RSPO standard, the most commonly used. In turn this is placing pressure on RSPO to revise its principles and criteria to more effectively tackle deforestation.

Initiatives such as these do not enjoy universal endorsement. The Indonesian and Malaysian governments in particular – whose countries produce more than 80 percent of the global supply of palm oil – have gone to some lengths to promote palm oil as an environmentally and socially beneficial product, including developing their own palm oil certification schemes, Indonesian Sustainable Palm Oil (ISPO) and Malaysian Sustainable Palm Oil (MSPO). More broadly, this underscores the fact that the vast majority of the activities described above involve mainly European and North American companies and governments and have little purchase in many key emerging economies, in particular China and India. One major exception is Brazil, where local and international companies joined together to impose, from 2006 a moratorium on the purchase of soy grown on lands deforested after July

¹¹⁹ See <http://forestdeclaration.org>

¹²⁰ <http://forestdeclaration.org/goal/goal-1/>

¹²¹ <https://sustainabledevelopment.un.org/sdg15>.

¹²² <https://www.euandgvc.nl/documents/publications/2015/december/7/declarations-palm-oil>

¹²³ <https://www.idhsustainabletrade.com/uploaded/2016/06/commitment-to-support-sustainable-palm-oil-in-europe.pdf>

¹²⁴ <http://supply-change.org/>

2006 in the Brazilian Amazon or on farms using indentured or forced labor and, from 2009, a moratorium on the purchase of cattle from ranches on recently deforested and indigenous land.

Partly because of this hostility to action on the part of producer countries, action by governments has so far been much less common than action by companies. Compared to the case of illegal logging discussed in Section 3, the economic interests at stake are higher (agriculture is usually an economically more significant sector than forestry) and the arguments have revolved mainly round the setting of criteria for sustainability, not legality, which are not, in general, under the control of the producer countries in question (hence the efforts by the Indonesian and Malaysian governments to establish their own palm oil sustainability certification schemes). The Malaysian state of Sabah is something of an exception, having committed in 2015 to achieve RSPO certification for all crude palm oil produced within the state by 2025.¹²⁵ A number of regions and districts in Indonesia are working with RSPO towards similar targets, recognizing the weaknesses in the ISPO scheme and its lack of recognition by companies and governments outside Indonesia.

Action by consumer countries has so far been limited almost entirely to development aid to support deforestation-free agriculture, both through bilateral programs such as the UK's Investments in Forests and Sustainable Land Use project, which mainly supports a series of public-private partnerships, and multilateral initiatives such as the World Bank's BioCarbon Fund Initiative for Sustainable Forest Landscapes. Action by consumer-country governments to regulate their own markets has so far been restricted to two areas of public policy: public procurement policy and sustainability criteria for biofuels.

Most countries possess public procurement policies covering food and catering, and they frequently include encouragement or requirements for organic and Fairtrade products (alongside healthy and seasonal foodstuffs, etc.), both of which have generic criteria relating to environmental protection, but no specific criteria on forests. Criteria relating explicitly to deforestation are rare. Public procurement policy in the UK includes requirements for the purchasing of sustainable palm oil in food and catering contracts; the UK is considering adopting the same approach for soy. Public procurement policy in the Netherlands and Sweden contains, respectively, requirements and encouragement for the purchase of animal products fed on animal feed containing sustainable palm oil and soy. The latest draft of the voluntary EU-wide Green Public Procurement criteria for food and catering (still under discussion) contains target percentages (yet to be specified) for the purchasing of sustainable palm oil and soy, and references to deforestation-related criteria (also unspecified) for coffee, tea, cocoa, sugar and bananas.

Government policy on liquid biofuels can have a major effect on the demand for palm oil and soybean oil. The existing sustainability criteria in the EU's existing Renewable Energy Directive, which sets targets for renewable energy use by 2020, including the use of renewable transport fuel, include a number of requirements related to deforestation. These are currently under discussion in the context of the proposed new Directive, which sets targets to 2030; proposals have included the phase-out of support for any feedstock produced from food crops, or for the ending of support specifically for palm oil, which the European Parliament voted for in January 2018.

The EU's Seventh Environment Action Programme, agreed in 2013, included the call for: "assessing the environmental impact, in a global context, of Union consumption of food and non-food commodities and, if appropriate, developing policy proposals to address the findings of such assessments, and considering the development of a Union action plan on deforestation and forest degradation."¹²⁶ In March 2018 the European Commission published a feasibility study for such an action plan, outlining twenty possible policy instruments which could be adopted by the EU and its member states.¹²⁷ Proposals included greater support for deforestation-free agriculture in producer countries, the wider use of public procurement policy in EU member states, the adoption of a due diligence regulation for forest risk commodities, and greater scrutiny of investments in agriculture in producer countries.

Table 5 contains a simple timeline of key developments.

¹²⁵ John Payne, "Introduction to Sabah Jurisdictional Approach for Sustainable Palm Oil Production" (Sabah Jurisdictional Certification Steering Committee, 2016), http://rt14.rspo.org/ckfinder/userfiles/files/PC4_4_2%20Datuk%20Dr%20John%20Payne.pdf.

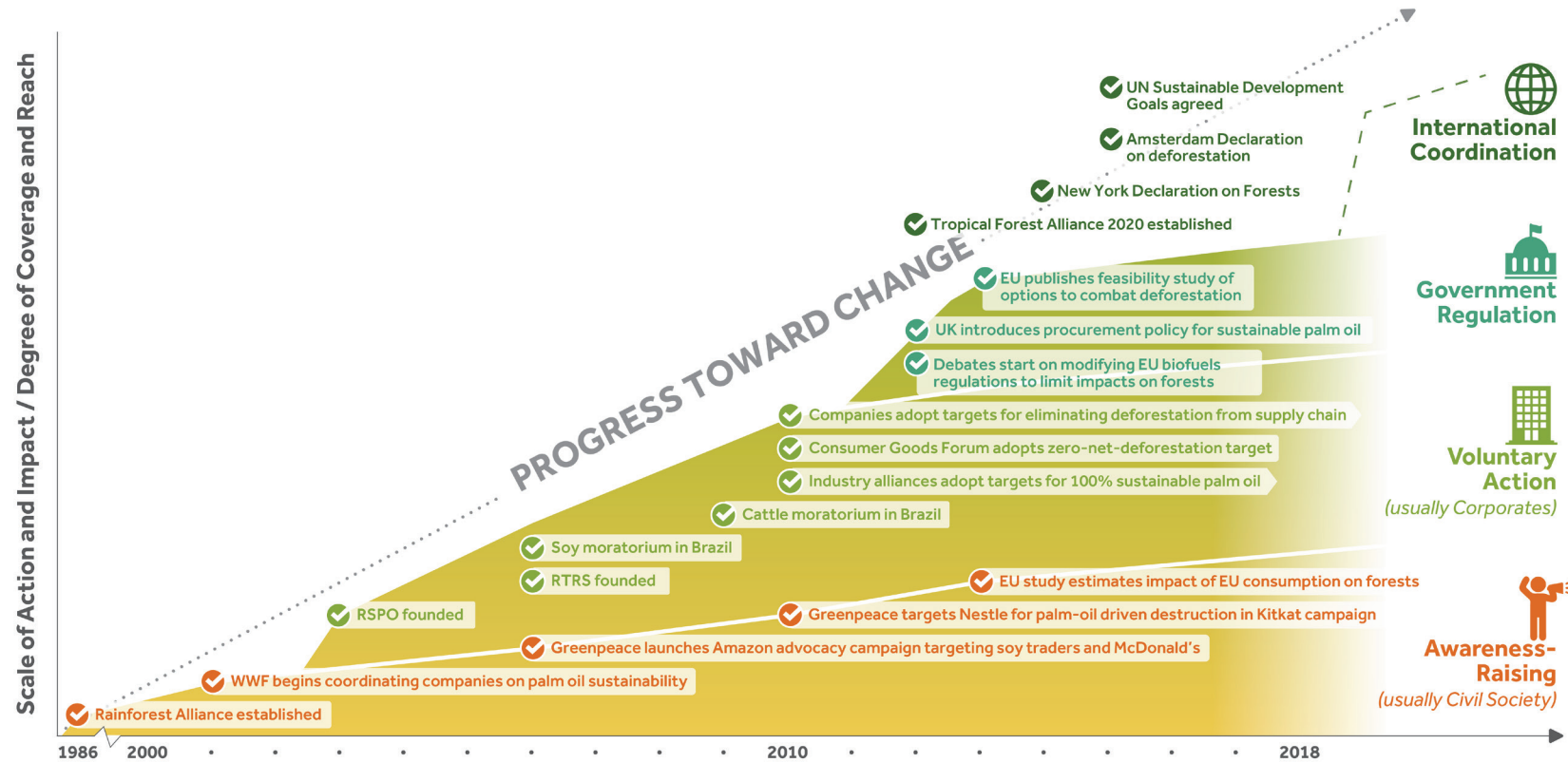
¹²⁶ Decision No 1386/2013/EU of the European Parliament and of the Council of 20 November 2013 on a General Union Environment Action Programme to 2020 "Living well, within the limits of our planet."

¹²⁷ Available at http://ec.europa.eu/environment/forests/studies_EUaction_deforestation_palm_oil.htm.

Table 5. Developments in Action Against Agricultural Commodities Associated with Deforestation

Date	Activity	Type	Actors
1986	Rainforest Alliance established	Awareness-raising	NGOs, industry
2001	WWF begins coordinating companies on palm oil sustainability	Awareness-raising	NGOs, industry
2003	RSPO founded	Voluntary action	Industry, NGOs
2006	Greenpeace publishes <i>Eating Up the Amazon</i> ; launches a corporate campaign targeting soy traders and McDonald's	Awareness-raising	NGOs
2006	RTRS founded	Voluntary action	Industry, NGOs
2006	Soy moratorium in Brazil	Voluntary action	Industry, NGOs
2009	Cattle moratorium in Brazil	Voluntary action	Industry, NGOs
2010	Greenpeace targets Nestle for palm-oil driven destruction in Kit Kat campaign	Awareness-raising	NGOs
2010	Consumer Goods Forum adopts zero-net-deforestation target	Voluntary action	Industry
2010s	Industry alliances adopt targets for 100% sustainable palm oil	Voluntary action	Industry
2010s	Companies adopt targets for eliminating deforestation from supply chain	Voluntary action	Industry
2012	UK introduces procurement policy for sustainable palm oil	Government regulation	UK government, industry
2012	Debates start on modifying EU biofuels regulations to limit impacts on forests	Government regulation	EU
2012	Tropical Forest Alliance 2020 established	International coordination	Governments, NGOs, industry
2013	EU "forest footprint" study estimates impact of EU consumption on forests	<i>Awareness-raising</i>	European Commission
2014	New York Declaration on Forests	International coordination	Governments, NGOs, industry
2015	UN Sustainable Development Goals agreed	International coordination	UN, governments
2015	Amsterdam Declaration on deforestation	International coordination	Governments
2018	EU publishes feasibility study of options to combat deforestation	(Potentially) government regulation?	European Commission

Figure 6. Evolution of Action Against Agricultural Commodities Associated with Deforestation



8.3 Conclusions: The Path Forward for Agricultural Commodities Associated with Deforestation

The effort to reduce and eliminate deforestation from agricultural supply chains by 2020, in line with the UN Sustainable Development Goals, is moving too slowly to meet its target. While the actions outlined above by NGOs, companies, and governments show progress on many fronts, the evidence from the case studies examined in this report strongly suggests that voluntary measures will be insufficient to achieve broadly agreed objectives.

The lessons identified above suggest that several of the key elements necessary for progress in addressing the “global public bads” inherent in massive-scale conversion of forests for agriculture are already in place, but also that they are insufficient. For a successful path forward:

- Continued awareness-raising and campaigning by NGOs is critical.
- Voluntary corporate zero-deforestation commitments are helpful and should continue to be encouraged, applauded, and monitored. Assessments both of the extent to which companies have adopted commitments, and the progress they have made in fulfilling them, are important.
- Ambitious and progressive companies can lead the way by piloting approaches, showing that costs and operational challenges are manageable, encouraging certification schemes to improve their standards and levels of enforcement, and discovering the challenges and barriers to effective action.
- They can also press for action, through government regulation and international cooperation, to ensure a level playing field with their competitors.
- The growing engagement of consumer-country governments and their support for action on the ground in producer countries through financial and technical assistance and capacity-building is essential.
- Voluntary measures alone, however, are insufficient to successfully address commodity-driven deforestation at the global scale.
- Consumer-country regulation and, ultimately, international cooperation will be needed if international goals are to be reached.
- Advancing from voluntary to regulatory action, either by select consumer-country nations or through international cooperative agreement, will require a greater level of consensus on common standards than currently exists, including by producer-country governments.
 - In principle, this definition could rest on either the sustainability of production, as is currently the approach for zero-deforestation supply-chain commitments; or on the legality of production, as has been the case for timber.
 - The legality approach has some advantages. A large proportion of agro-conversion is illegal; and enforcing the laws of the producer country rather than imposing an external standard may create greater support from developing countries, which has proven critical for advancing from voluntary to regulatory approaches and international cooperation.
 - An international conversation about appropriate standards for agro-conversion is needed among producer and consumer governments, informed by NGOs and leading companies.
- Leadership by NGOs, progressive companies, and consumer-country governments will be necessary to push through action against likely opposition from companies to national or international regulation that they perceive as increasing their costs or affecting their competitiveness.



Forest Trends

1203 19th Street, NW
Suite 400
Washington, DC 20036

www.forest-trends.org



Fern office UK

1C Fosseway Business Centre
Stratford Road, Moreton in Marsh
GL56 9NQ, United Kingdom

Fern office Brussels

Rue D'Edimbourg 26
1050 Brussels, Belgium

www.fern.org