

Climate Mitigation Subsidies and the WTO Legal Framework:

A Policy Analysis

By Robert Howse

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List of acronyms

GATT	General Agreement on Tariffs and Trade
GHG	greenhouse gas
OECD	Organisation for Economic Co-operation and Development
SCM	subsidies and countervailing measures
UNFCCC	United Nations Framework Convention on Climate Change
WTO	World Trade Organization

1.0 Introduction

Most of the principal agreements of the World Trade Organization (WTO) contain exceptions or limitations clauses, which allow trade-restrictive policies where necessary or appropriate to advance legitimate public objectives such as the protection of health or the environment (for example, Article XX of the General Agreement on Tariffs and Trade [GATT] and Article XIV of the General Agreement on Trade in Services). In the case of subsidies, the WTO Subsidies and Countervailing Measures Agreement (SCM Agreement) originally included a defined list of subsidies to be deemed “non-actionable,” that is, subsidies immunized from challenge in WTO dispute settlement as well as from countervailing duty action (Article 8). This list included certain subsidies for research and development and for environmental protection, as well as to disadvantaged regions. However, this provision for deemed non-actionability only applied provisionally for the first five years that the SCM Agreement was in force. Since its effective expiry, WTO members have been unable to agree to either continue with the list as it now stands or to create a different list. Therefore, today no subsidy programs are explicitly protected as non-actionable.

In many if not virtually all WTO member countries, however, subsidies are used as a tool of public policy; economists generally consider subsidies to be less trade-distortive than other measures, such as product bans, that have trade effects. It thus seems anomalous that no provision exists to allow the use of subsidies that further legitimate policy objectives but that would otherwise run afoul of WTO disciplines because of effects on trade competition.

This paper is intended to explore the possibilities for a more consistent approach in the WTO to subsidies as a policy tool, in the context of one particularly important domestic and global policy challenge: climate change. The paper begins by outlining the possible role that that subsidies might play in climate mitigation policy. Then it explains and examines existing WTO rules on subsidies; these rules, the analysis shows, create legal uncertainty with respect to a range of possible subsidies policies associated with climate mitigation schemes. However, there are strong arguments that a range of subsidies policies would not run afoul of even the existing rules, either because they are not targeted at specific domestic producers (firms or industries) or because it would be difficult, given other existing market distortions, to prove that they provide a “benefit” (an overall competitive advantage to the recipient as compared with the situation that would exist in an undistorted market). Nevertheless, I argue that clarifying which subsidies are acceptable under the WTO regime as part of good governance in climate change and which may not be could provide significant advantages, both for purposes of greater legal certainty for domestic governments and of furthering the respective global goals of the climate and trade regimes. The paper then goes on to assess the advantages, disadvantages and, especially, the feasibility of various methods of clarifying the application of WTO subsidies disciplines to climate mitigation measures, to ensure that these disciplines do not unduly hamper or chill policy action for climate mitigation objectives.

The United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol adopt an approach to the mitigation of climate change based on states binding themselves to reduce greenhouse gas emissions to agreed levels, with “differentiated responsibilities” for developing countries. The Kyoto Protocol, however, does not specify the policies that states must use to achieve the bound emission reductions, or the relative desirability of different policy instruments.

The Protocol merely provides a list of policies that states may use to achieve emission reductions. The list includes:

- Enhancing energy efficiency.
- Protecting and enhancing greenhouse gas sinks.
- Promoting sustainable agriculture.
- Promoting renewable energy, carbon sequestration and other environmentally sound technologies.
- Removing subsidies and other market imperfections for environmentally damaging activities.
- Encouraging reforms in relevant sectors to promote emission reductions.
- Tackling transport sector emissions.
- Controlling methane emissions through recovery and use in waste management.¹

Many of these policy strategies can be pursued either by regulatory measures—emissions caps, renewable energy mandates and so on—or through subsidies that provide incentives to market actors to engage in behaviour that leads, either in the short term or long term, to lower emission rates. The Intergovernmental Panel on Climate Change notes: “Direct and indirect subsidies can be important policy instruments, but they have strong market implications and may increase or decrease emissions, depending on their nature. Subsidies aimed at reducing emissions can take on different forms, ranging from support for research and development, investment tax credit, and price supports (such as feed-in tariffs for renewable electricity)” (Gupta et al., 2007, pp. 761–762). The International Energy Agency, in its database *Addressing Climate Change: Policies and Measures* (www.iea.org/textbase/pm/?mode=cc) distinguishes a range of policies that would be considered to have subsidy elements, at least from the perspective of international trade rules. These include incentives and subsidies (direct payments to market actors), public investment, and research and development. The database divides climate change policies and measures into those that support renewable energy and those that support energy efficiency. As is evident from an examination of the measures inventoried in the database, a wide range of International Energy Agency members and other states have implemented a variety of policies with subsidy elements. The pervasiveness and diversity of such policies as means of implementing Kyoto obligations lead to important consequences both for global governance of climate change and for the international trading system, especially the WTO.

¹ Derived from the Kyoto Protocol’s Article 2.1(a). Also see UNFCCC (n.d.).

2.0 WTO disciplines on subsidies: An overview

Prior to the Uruguay Round, the multilateral trading system did not contain any enforceable legal disciplines on domestic subsidies. The treatment of such subsidies in the GATT was ambiguous: on the one hand, their legitimacy as tools of public policy was affirmed while their capacity to distort trade was also acknowledged.² On the other hand, self-help against such subsidies was permitted in the form of countervailing duties, provided that the subsidies caused “material injury” to domestic industry in the importing country.

The Uruguay Round’s SCM Agreement placed export subsidies and domestic content requirements in the category of “prohibited” measures.³ The agreement introduced a category of domestic subsidies termed “actionable,” which can be challenged in WTO dispute settlement; thus it provided, for the first time, a multilateral legal remedy against subsidization. In order for a subsidy to be challenged in WTO dispute settlement as “prohibited” or “actionable,” it has to fall within the definition of “subsidy” in Article 1 of the SCM Agreement, which means it must entail a “financial contribution”: governmental financial assistance to firms, from cash payments to equity infusions to the provision of goods and services below market prices. It must also confer a “benefit” on an enterprise. And it must be “specific,” either *de jure* (legally targeted at a particular industry or enterprise or group of industries or enterprises) or *de facto* (in fact used only or disproportionately by a particular industry, enterprise, or group of industries or enterprises). Article 2.1(b) of the SCM Agreement refines the concept of specificity:

Where the granting authority, or the legislation pursuant to which the granting authority operates, establishes objective criteria or conditions governing the eligibility for, and the amount of, a subsidy, specificity shall not exist, provided that the eligibility is automatic and that such criteria and conditions are strictly adhered to. The criteria or conditions must be clearly spelled out in law, regulation, or other official document, so as to be capable of verification.

In the case of “prohibited” subsidies, for example export subsidies, specificity is presumed and does not have to be proven by the claimant.

² See, for example, Trebilcock (1990), discussing examples of legitimate subsidies in the GATT.

³ These sorts of subsidies raise somewhat different economic and political economic issues, including the issue of subsidy wars for market share in third countries. There may be good reasons to reconsider the prohibition on such subsidies in the SCM Agreement, but a different analysis is required, and I have left that analysis for another paper. I would only note that the analysis in this paper cannot simply be applied to the case of export subsidies. See, for example, Bagwell and Staiger (1997).

If a subsidy meets the above criteria for actionability, a WTO member may either challenge the subsidy in WTO dispute settlement, seeking the remedy of removal of the offending measure, or it may countervail the subsidy. If a member pursues the first option, it must show the existence of certain “adverse effects” on WTO members other than the subsidizing member, including the complaining member. These adverse effects are listed in Article 5 of the SCM Agreement, and include:

- Injury to domestic producers of a like product in competition with the imported subsidized product (injury in this sense must exist if countervailing duties are to be imposed).
- Nullification or impairment of benefits accruing “directly or indirectly” under the GATT, in particular tariff concessions.
- Serious prejudice to the interests of another member.

“Serious prejudice” is further defined in Article 6.3. To show “serious prejudice,” the complaining WTO member must show that the effect of the subsidy is:

- To displace imports of a “like” product into the market of the subsidizing member.
- To displace exports of the complaining member to a third-country market.
- To significantly suppress or undercut prices in the same market with respect to like products.
- To create “an increase in the world market share of the subsidizing Member in a particular subsidised primary product or commodity [footnote omitted] as compared to the average share it had during the previous period of three years and this increase follows as a consistent trend over a period when subsidies have been granted.”

Where the member instead chooses the option of imposing a countervailing duty, it must comply with the various procedural and substantive criteria in the SCM Agreement that apply in the case of such actions, including the requirement of showing “material injury.” These criteria apply also where a member is countervailing a “prohibited” subsidy. The SCM Agreement (Article 8) originally included a defined list of subsidies to be deemed “non-actionable,” that is, subsidies immunized from challenge in WTO dispute settlement as well as countervailing duty action, even if they were found to meet the criteria discussed above. This list included certain subsidies for research and development and environmental protection, and to disadvantaged regions. However, this provision for deemed non-actionability applied provisionally, for only the first five years that the SCM Agreement was in force. Since its effective expiration, WTO members have been unable to agree to either continue with the list as it now stands or create a different list. Therefore, today no subsidy programs are explicitly protected as non-actionable.

3.0 Subsidies, good environmental governance, and WTO rules

Hufbauer and Erb (1984) articulate the logic for disciplining domestic subsidies under WTO rules:

[U]nbridled and competing national subsidies can undermine world prosperity. Whatever the analytic merits of a purist free trade, turn-the-other-cheek approach, the Great Depression taught the world that protective policies can quickly and destructively spread from nation to nation. Because the concentrated interests of producers command greater political support than the diffuse interests of consumers, national governments find it much easier to emulate the vices of protection than the virtues of free trade. This lesson has prompted the international community to fashion guidelines that distinguish between acceptable and unacceptable national subsidy measures and to codify these guidelines both in bilateral treaties and in multilateral agreements.

Nevertheless, many leading trade economists and lawyer-economists are very skeptical about the actual disciplines on subsidies that have been arrived at in the WTO. Subsidies can be used to correct market failures, capturing, for example, the public-goods dimensions of research and development or, in the case of subsidies for renewable energy, reflecting positive externalities (the gains to society as a whole from reduced emissions) that would not otherwise be reflected in the choices of market actors deciding between renewable and other forms of energy that are more costly, at least when not taking into account the positive externalities. According to economists such as Kyle Bagwell and Robert Staiger (2006) and Alan Sykes (2009), the criteria in the SCM Agreement for distinguishing permissible subsidies from those that are “prohibited” or “actionable” do not make sense in economic terms. For instance, there is no reason why a policy intervention that is specific is less likely to be an effective means of addressing a market failure than one that is targeted at particular industries or even firms.

As interpreted by the WTO Appellate Body, the concept of “benefit” in the SCM Agreement is aimed at determining whether a subsidy gives an advantage to the recipient measured against the benchmark of a normal competitive market. Yet, as Sykes suggests, and as the Appellate Body itself seems to have come to realize in the softwood lumber case (discussed below), the market may well be distorted already, quite absent the particular subsidy being scrutinized, either due to other past government interventions or because of imperfect competition. According to Sykes (2009, p. 23):

Because the analytical process is myopic, focused only on the details of the particular program being evaluated, a finding that a “subsidy” or “state aid” is present does not establish that the government has done anything...to afford the industry a competitive

advantage. It is entirely possible that the balance of benefits and burdens may actually impair the competitive position of the industry relative to foreign competitors (whose position is of course affected by the balance of benefits and burdens associated with their own government's actions). Programs that appear to confer "subsidies" therefore may actually offset other disadvantages and serve as useful corrective measures. This observation is nothing more than an application of the familiar theory of the second best, which implies, *inter alia*, that an action which would distort resource allocation in an otherwise first-best setting may well be constructive in the presence of other offsetting distortions.

This insight from Sykes is central for comprehending the complexity of the interface between WTO disciplines on subsidies and policies to address climate change. The "market" into which subsidies to address climate change are intervening is one that has historically been pervasively distorted by subsidies, including fiscal advantages, provided to producers and consumers of (greenhouse gas-emitting) fossil fuels. It is also a market in which existing networks for the distribution and retailing of energy—whether electricity grids or chains of service stations—have been largely designed to favour fossil fuels. In addition, subsidies schemes and tax systems have often, apart from distorting choices among energy sources, led to a reduction in incentives for energy efficiency in that they relieve users from paying the full marginal cost of an additional unit of energy. These circumstances have been acknowledged in the Kyoto Protocol itself, which, as noted, lists removing subsidies and other market imperfections for environmentally damaging activities as measures that may be used to implement Kyoto obligations.

Yet even if all these measures were removed at once (and, as discussed below, there is a good argument that loosening WTO disciplines on environmentally desirable subsidies should be linked to removal of environmentally undesirable ones), the market distortions and consequent environmental harm flowing from past investment decisions and established patterns of producer and consumer behaviour based on these decisions could hardly be eliminated in the short term. Thus, there is a clear need for proactive interventions to correct market failures, such as subsidies that *favour* the use of alternative energy sources. An even deeper point is that the failure to internalize the social costs of emissions is itself arguably a market distortion, leading to suboptimal allocation of productive resources as market actors make decisions that are not based on the full social cost of their activities. Thus, noted economist Joseph Stiglitz has characterized the absence of emission controls or carbon taxes as a "negative subsidy" with implications for trade rules—an argument that is explored below.

In the end, considerable uncertainty exists as to what subsidies can be challenged as market distortions—a situation that arises from the inherent instability of the concept of "benefit" or competitive advantage in the WTO rules on SCM subsidies. On the one hand, it is not clear how to

characterize environmentally harmful subsidies or “negative” subsidies that stem from failure to charge the environmental costs of economic activities. On the other hand, even where a subsidy corrects a market failure, it still might be considered “actionable” in the WTO to the extent that, as Sykes notes, the concept of “benefit” in the SCM Agreement appears in large measure to abstract from the effects of the full range of government activities in the market into which the subsidy intervenes.

While it may be that the rules of the SCM Agreement do not provide an adequate legal framework for distinguishing subsidies that correct versus those that further distort markets and have protectionist effects, this does not mean that such possible effects of subsidies can be simply ignored, even where the measures are aimed, or purportedly aimed, at addressing climate change. This is true from an environmental as well as a trade perspective. For instance, U.S. subsidies to corn-based ethanol, combined with a special border measure—a tariff designated under the WTO as an “other charge or duty,” have served to protect a method of production for ethanol that both is inefficient, with a higher cost per gallon than using, for instance, sugar cane as a feedstock, and has a larger carbon footprint than alternative production methods.

Research and development and commercial deployment subsidies that are aimed at creating national winners in alternative energy technologies or products can, of course, help to capture the public goods from innovation, but can also impede technology transfer. Indeed, if they fuel races between different national industries to be first to make a breakthrough and win monopoly rents from patenting it, they can undermine gains to innovation from cooperative research and exchange of information. Thus, if one were alter or make exceptions to WTO rules for subsidies to research and development, it might be desirable to set a condition that such subsidies be consistent with cooperative research and that the recipients be open to technology transfer. At the same time, simply excluding subsidies from WTO compatibility because they have industrial policy as well as environmental goals is unrealistic, especially in the current economic and financial crisis, where support for climate measures may be inadequate unless such measures also serve economic recovery or reconstruction goals.

4.0 Specific WTO subsidy issues related to climate change measures and policies

This section draws freely from Eliason and Howse (2009).

4.1 Free “rights to pollute” or allowances to emit carbon

As noted above, Joseph Stiglitz has suggested that the failure, especially by the WTO members not participating in the Kyoto Protocol, to internalize the climate change costs caused by carbon emissions from the production of products is a “subsidy” to the producers of such products, resulting in a distortion of international markets in the trade in goods. Most experts in WTO law who have commented on Stiglitz’s proposal have dismissed it as clearly not supported under the WTO rules in the SCM Agreement, arguing that the policy failure he describes doesn’t meet one or another of the agreement’s criteria. According to Bhagwati and Mavroidis (2007, p. 302), “a subsidy exists only if a government has made a financial contribution or has incurred a cost... The argument that the United States policy [of not participating in Kyoto] is a ‘hidden subsidy’ is irrelevant and cannot justify an EU action under the SCM Agreement.”

Nevertheless, among the meanings of “financial contribution” in the SCM Agreement is the government provision of goods or services other than general infrastructure. There are no preassigned property rights to the atmosphere; instead, states are generally thought to have prescriptive jurisdiction over this “commons,” subject to international obligations by treaty (such as the Kyoto Protocol) or custom. Thus, where a firm is allowed to emit carbon into the atmosphere up to a certain ceiling, this is not a consequence of some pre-existing property right in the atmosphere that is being exercised by the firm, but rather of the assignment of such a right or entitlement by the state to the firm in question. Such a right or entitlement is a valuable asset; indeed, where carbon markets exist, it is an asset that can be bought and sold in the marketplace. The question thus arises as to whether the failure to charge a market price for the asset in question constitutes the provision of goods or services and therefore a financial contribution within the meaning of Article I of the SCM Agreement. In this context, note that Article 14(d) of the SCM Agreement provides that

The provision of goods or services or purchase of goods by a government shall not be considered as conferring a benefit unless the provision is made for less than adequate remuneration, or the purchase is made for more than adequate remuneration. The adequacy of remuneration shall be determined in relation to prevailing market conditions for the good or service in question in the country of provision or purchase (including price, quality, availability, marketability, transportation and other conditions of purchase or sale).

In the *US—Lumber* case, Canada challenged the United States’ countervailing duties in respect to softwood lumber imports from Canada; the basis for imposing the countervailing duties was Canadian federal and provincial government practices concerning the provision of access to an exhaustible natural resource: raw timber. The United States argued that access to the resource in Canada was being priced in such a way that the timber users were not paying adequate remuneration to the government, and maintained that the appropriate benchmark for adequate remuneration was the price that access rights to the resource would fetch in an auction conducted on an arm’s-length basis. The United States insisted that, contrary to the express terms of Article 14(d) of the SCM Agreement, the benchmark should be auction prices in the United States and not in the Canadian market, on the grounds that there was no private market in Canada not influenced by government resource-access practices. The Appellate Body held that the United States could not simply use U.S. prices as a benchmark; nevertheless, in a case where there was no adequate private market in the exporting country, alternative methodologies could be considered to determine whether there was “adequate remuneration.”

In cases where there is a liquid emissions trading market in the country to whose exports countervailing duties are applied, the price of carbon *in that market* might be used to determine the “benefit”—within the meaning of Article 14(d) of the SCM Agreement—that is conferred on firms by a given allowance or permission to emit carbon. In other cases, a market price might need to be constructed based on the observed price in functioning markets such as the European Union’s Emission Trading System, with due adjustment for differences in market and regulatory conditions affecting prices. Especially where the subsidizing jurisdiction is a developing country, any such constructed price must take into account that governments in the Kyoto Protocol have agreed (and will probably agree in the post-2012 context) that developing countries should be subject to different commitments and thus should be expected to attain a less stringent regulatory goal.⁴

As a general matter, however, there is no intrinsic reason why the provision of a right or entitlement to emit carbon up to a certain ceiling would not constitute a financial contribution within the meaning of the SCM Agreement; this constitutes access to an exhaustible natural resource (in this case the atmosphere) just as much as did access to timber in *US—Lumber* (2004). And to the extent that the market price for carbon is not being charged by the government for this allowance or entitlement, there is, again, a “benefit” conferred within the meaning of the SCM Agreement.

Whether in a given case the subsidy was specific would be a matter of interpretation; certainly in the case of some if not most countries, energy-intensive industries would likely be highly disproportionate users of such subsidies. This situation suggests at least a *prima facie* case of *de facto* specificity.

⁴ In both the Kyoto Protocol and the UNFCCC this understanding is embodied in the core principle of common but differentiated responsibility.

4.2 Carbon leakage

Various policy measures have been proposed to address the problem of carbon leakage, defined as an increase in emissions outside a jurisdiction that results from policies within that jurisdiction. The dynamic, as it is feared by many firms and policy-makers in developed countries, is that high standards domestically will simply result in firm relocation or in new greenfield investment going to countries with less stringent standards. This is the old “pollution haven” argument, with a new, added twist: the result of leakage is that the environmental regulations in question are less effective, since greenhouse gases are a truly global pollutant, inflicting the same damage no matter what their provenance. Thus, genuine concerns over the environment, not only competitiveness, arise from carbon leakage.

A study by the International Energy Agency examines the ways in which different countries are attempting to address the issue of carbon leakage—both the short-term consequence of loss of market share and the longer-term effect of relocation of production (Reinaud & IEA, 2008). One approach is to use border adjustment measures, which would require that a tax, the purchase of a carbon allowance or some similar regulatory burden be imposed on imports from jurisdictions that are not capping or otherwise effectively limiting emissions. Another is to lower the level of efforts to reduce greenhouse gas emissions. “This could be done by setting less stringent emission-reduction objectives for a sector and by granting partial exemption from the emission trading scheme or from other mitigation policies” (Reinaude & IEA, 2008, p. 71). Alternatively, where there is a cap-and-trade scheme, the regulating jurisdiction could provide free allowances to firms threatened with competitiveness pressures.

In the case of the European Community, for example, the European Commission has suggested that the European Community might relax or reduce the emission reduction burden faced by its industries where failure to price emissions elsewhere could lead to production being shifted from the European Community to less carbon-stringent jurisdictions. According to the commission document setting out proposals on climate policy for the European Community:

the Commission will identify by 30 June 2010 which energy intensive sectors or sub-sectors are likely to be subject to carbon leakage. It will base its analysis on the assessment of the inability to pass through the cost of required allowances in product prices without significant loss of market share to installations outside the EU not taking comparable action to reduce emissions. Energy-intensive industries which are determined to be exposed to significant risk of carbon leakage could receive up to 100% of allowances free of charge, or an effective carbon equalization system could be introduced with a view to putting installations from the Community which are at a significant risk of carbon leakage and those from third countries on a comparable

footing. Such a system could apply requirements to importers that would be no less favourable than those applicable to installations within the EU, for example by requiring the surrender of allowance. Any action...would...need to be in conformity with the international obligations of the Community including the WTO agreement. (Commission of the European Communities, 2008, p. 8)

Based on the analysis in the section above, derived from Stiglitz's negative subsidy theory, *both* an increase in emissions caps and the provision of free allowances to selected industries would raise issues under the SCM disciplines. Since rights to pollute constitute provision of a valuable good by the government (access to an exhaustible natural resource) and thus a "financial contribution," whether these are provided in the form of basic entitlements up to a certain level or as free allowances, they may well be actionable subsidies if they are specific (targeted at particular industries facing competitiveness pressures) or *de facto* (disproportionately or predominately used by certain industries). Environmentalists might consider it unfair that SCM disciplines along these lines should apply to jurisdictions that are attempting to address the effects on competitiveness and related issues of having an emission control regime while trading with jurisdictions that do not. But recall that Stiglitz's "negative subsidy" theory would also permit such jurisdictions to countervail the provision of an unfettered right to pollute in jurisdictions that do not have emission controls, provided they could show that certain particular industries or firms were disproportionate or predominate users of such a right to pollute. The latter would be relatively easy to demonstrate, as the entire problem of carbon leakage focuses on competitiveness in a handful of energy-intensive, trade-exposed industries.

4.3 Renewable energy subsidies

A wide range of subsidy programs purport to address climate change by reducing the cost of producing or consuming energy from non-carbon-emitting sources relative to conventional, carbon-emitting energy sources. According to the Intergovernmental Panel on Climate Change (2007):

One of the most effective incentives for fostering GHG reductions are the price supports associated with the production of renewable energy, which tend to be set at attractive levels. These price supports have resulted in the significant expansion of the renewable energy sector in OECD countries due to the requirement that electric power producers purchase such electricity at favourable prices. (Gupta et al., 2007, p. 762)

In *PreussenElektra AG v. Schleswag* (2001), the European Court of Justice held that under German law, minimum price purchase requirements for renewable electricity, known as feed-in tariffs, could not be considered “state aid” in European law because of the absence of any direct or indirect transfer of state resources (*PreussenElektra AG v. Schleswag*, 2001, I-2099). In the WTO SCM Agreement, by contrast, a “financial contribution” includes a situation where

a government makes payments to a funding mechanism, or entrusts or directs a private body to carry out one or more of the type of functions illustrated in [SCM Agreement Article 1.1(a)(1)] (i) to (iii)...which would normally be vested in the government and the practice, in no real sense, differs from practices normally followed by government.⁵

Since SCM Agreement Article 1.1(a)(1)(iii) includes “purchasing goods,” the argument is that a situation where the government directs a private actor to purchase goods at a higher-than-market price is included within the meaning of “financial contribution” even if the government does not incur any cost *itself*. In the *Canada—Aircraft* case (Paragraph 160), the Appellate Body observed that a financial contribution could include those situations where a private body has been directed by the government to engage in one of the actions defined in SCM Agreement articles 1.1(a)(1)(i)–(iii), even if the government does not bear the cost of such delegated action.

However, the German minimum price purchase requirements do not necessarily constitute a financial contribution within the meaning of the SCM Agreement, because where the government entrusts or directs a private body, the SCM Agreement *also* requires that the function entrusted or delegated to the private body be one that is *normally* performed by the government. The German minimum price purchase requirements do not represent the delegation of a governmental function to any private body; rather, they represent a *regulation* of the electricity market, and their directive

⁵ SCM Agreement, Article 1.1(a)(1)(iv).

character is in regulating market behaviour and transactions, not imposing a governmental function on a private body. Here, the observations of the panel in *US—Export Restraints* are relevant:

[I]t does not follow...that every government intervention that might in economic theory be deemed a subsidy with the potential to distort trade is a subsidy within the meaning of the SCM Agreement. Such an approach would mean that the “financial contribution” requirement would effectively be replaced by a requirement that the government action in question be commonly understood to be a subsidy that distorts trade. (Paragraph 8.62)

The requirement that a private body be performing a function normally done by government guards against the possibility that *all* command-and-control regulation, which directs private bodies and which always has *some* distributive effect by transferring wealth from one private economic actor to another, could be deemed a subsidy.⁶

We have already alluded to some of the complexities of ascertaining whether the subsidy has conferred a benefit on the recipient, that is, a competitive advantage over and above general market conditions. Some programs for renewable energy may not confer a benefit in this sense. Measures that merely defray the cost of businesses acquiring renewable energy systems or that compensate enterprises for providing renewable energy in remote locations do not necessarily, for instance, confer a benefit on the recipient enterprise. They simply reimburse or compensate the enterprise for taking some action that it would otherwise not take, and the enterprise has not necessarily acquired any competitive advantage over other enterprises that neither take the subsidy nor have to perform these actions.

With respect to the requirement of *specificity*, subsidies that are provided to *users* of renewable energy may well not be specific if they are available generally to enterprises in the economy.

Finally, renewable energy subsidies could be challenged based on their “adverse effects,” not on imports of competing renewable energy products, but on foreign *non*-renewable energy products. Here we note that, generally speaking, the adverse effect in question must be on a *like* product from another WTO member. The meaning of likeness for the purposes of the SCM Agreement has been addressed only once so far in jurisprudence, in *Indonesia—Autos*. In that case, the panel did not

⁶ Sadeq Bigdeli (2009) raises the possibility that such measures could be considered “price support” within the meaning of Article 1.1(a)(2) of the SCM Agreement. In my view, price regulation by government, in the context of utilities as well as network industries more generally, ought not to be considered price support under Article 1.1(a)(2). Because such utilities are often characterized by elements of monopoly provision, and price regulation reflects a variety of public policy goals, including universal service and incentives for appropriate investment in infrastructure, it would be difficult and very intrusive into the operation of the democratic regulatory state for the WTO dispute settlement organs to assess whether, against some hypothetical model of a perfect market, the tariffs in question constitute price support.

delineate very clearly the concept of “like products,” instead evoking a very broad notion that entails considering the kinds of factors that are at issue under Article III of the GATT as well as other factors, perhaps, such as the way the industry had segmented itself. In *Indonesia—Autos*, the panel emphasized physical characteristics in its likeness analysis, but largely because, as it said, in the case of automobiles physical characteristics were closely linked to consumer-relevant criteria such as brand loyalty, brand image, reputation and resale value (Paragraphs 14.173–14.174) (Beeby, 1998).

Where the harm alleged is “serious prejudice” within the meaning of Article 6 of the SCM Agreement, the requirement to identify a like product exists explicitly with respect to serious prejudice due to price undercutting, but not with respect to the other kinds of effects identified in Article 6.3(c), notably significant price suppression, price depression or lost sales. In *US—Cotton*, in footnote 453, the Appellate Body held that it did not have to decide on the interpretative issue of whether a comparison with like products should nevertheless be inferred in the case of significant price suppression, price depression or lost sales.

Related issues would arise if a WTO member were to challenge subsidies on renewables aimed at shifting energy consumption from non-renewable to renewable sources. Here the claim might be that of adverse effects on producers of non-renewable inputs such as fossil fuels. The complex set of considerations that determine the price and supply of fossil fuels in domestic and world markets (including futures and derivatives trading, political events and, in the case of petroleum, cartel-like behaviour) could make it very difficult to attribute the kinds of adverse effects contemplated in Article 5 of the SCM Agreement to subsidies on renewables (see Appendix).

With respect to serious prejudice, the Appellate Body has held in *US—Cotton* (paragraph 437) that “it is necessary to ensure that the effects of other factors on prices are not improperly attributed to the challenged subsidies.” The Appellate Body further observed (paragraph 458): “We underline the responsibility of panels in gathering and analyzing relevant factual data and information in assessing claims under Article 6.3(c) in order to arrive at reasoned conclusions.” These considerations go back to the complexity of understanding climate-related subsidy measures in the context of heavy past subsidization of fossil fuel-based energy.

The use of taxation measures to provide incentives for the production or use of renewable energy raises a complex issue of interpretation regarding the SCM Agreement, which the Appellate Body explored in *US—Foreign Sales Corporations*. The SCM Agreement defines a “financial contribution” as including a situation where the government forgoes revenue “otherwise due.” This supposes that there is a baseline established by normal or general taxation principles and that a subsidy can be identified where there is a deviation from that baseline in favour of particular economic actors or sectors. However, most tax systems have multiple rules and principles that apply to different situations. From an economic perspective, it makes sense to tax environmental externalities. This is,

of course, consistent with giving relief from taxation where these externalities are not present. But based upon the manner in which the Appellate Body has interpreted the SCM Agreement, there is some possibility that this could be interpreted as forgoing revenue “otherwise due.” The possibility arises because the Appellate Body supposes a normative baseline in tax law and policy against which “exceptions” can be identified as subsidies, but at the same time cannot articulate such a baseline on its own and thus has to discern or construct it from the multiplicity of rules and policies in any given taxation system, leading to considerable instability and uncertainty.

In addition to the SCM Agreement, some subsidies for renewables (such as biofuels) may raise issues concerning the application and interpretation of the provisions of the WTO Agreement on Agriculture, which contains independent disciplines on domestic support measures for agriculture. The Agreement on Agriculture explicitly exempts certain environmental and conservation subsidies from the requirement to reduce domestic support (Annex II, Paragraph 12); if a measure falls within these provisions, the agreement permits its retention at current levels.

The way in which a biofuel is classified is not only important as far as tariffs are concerned (see Section I) but, importantly, also determines which set of WTO disciplines on domestic subsidies are applicable. Whether a given biofuel falls within the Harmonized Commodity Description and Coding System classifications listed in Annex 1 of the Agriculture Agreement will determine if the rules of that agreement apply in addition to those of the SCM Agreement. The Agriculture Agreement contains disciplines on subsidies that are in addition to those that apply to all products under the SCM Agreement. For instance, trade-distorting domestic subsidies that fall into the so-called amber box (those that are not subject to the so-called green box carve-out) must be notified to the WTO and must fall within certain quantitative ceilings. Thus, whether a particular product falls under the agreement can have important implications for disciplines on government supports for that product. For instance, ethanol is classified as an agricultural good according to the Harmonized System nomenclature, and therefore the Agreement on Agriculture applies, whereas biodiesel is classified as an industrial chemical and is thus outside the defined scope of the agreement.

The agreement imposes disciplines on domestic subsidies provided to agricultural products (and other products specifically listed in Annex 1), requiring their reduction over time at prescribed rates, with exceptions for certain defined categories of subsidies (including some environmental subsidies). In the case of biofuels, the market has been pervasively shaped in all the major producer nations by a variety of government interventions. In this context, the Appellate Body would raise the question, in the event of a case brought before it, of whether a workable “market” benchmark exists against which one can isolate a given instance of financial support and determine whether a competitive benefit has been conferred—that is, an advantage in relation to normal market conditions.

4.4 Energy efficiency

Energy efficiency subsidies typically provide loans or grants either to consumers or to businesses to acquire or adapt technology that increases energy efficiency. Where these measures are offered generally and not targeted at any particular sector or activity, they are unlikely to be regarded as specific within the meaning of the SCM Agreement, and therefore they will be non-actionable. Of course it is arguable that, in fact, firms for which energy use is a large part of production costs will benefit disproportionately from the shift to energy-efficient technologies, and these, in a particular country, may be concentrated in a few sectors of the economy. In any case, given scarce resources, a government might entirely rationally want to target sectors or even firms where enhancing energy efficiency will lead to the largest reductions in greenhouse gas emissions; this simply illustrates why the specificity concept in the SCM Agreement is not necessarily in accord with sound public policy.

Conditioning subsidies on the purchase of domestically produced energy-efficient goods would violate the national treatment provisions of the GATT (there is a limited exception from national treatment for *production* subsidies that allows the subsidies themselves to be granted to domestic but not foreign products, but this exception does not apply to conditions on such subsidies that favour the purchase of domestic products by recipients). Moreover, as noted earlier, some domestic content requirements are themselves prohibited subsidies under the SCM Agreement. While energy-efficiency subsidy programs are unlikely to explicitly require the use of domestic goods, a more complex issue arises where there is a requirement that the purchased goods carry a particular certification as “energy efficient” and conform to a particular standard. Such requirements may disadvantage imports, particularly from developing countries, depending on the nature of the certification process, the standards, and how they are set.

5.0 Alternative approaches to rethinking WTO subsidies disciplines in the context of climate change

The analysis above makes it clear that there are a number of potential conflicts between WTO rules (particularly the SCM Agreement) and subsidies that could be usefully employed to avoid climate change. This section explores four approaches that could help avoid those conflicts.

5.1 The GATT Article XX general exceptions approach

Article XX of the GATT allows a WTO member to maintain otherwise GATT-illegal measures for the purposes of, among other things, protecting public morals and human and animal life and health, where the measures are “necessary” for the achievement of these purposes. The SCM Agreement contains no analogous exceptions. The 2006 *World Trade Report* of the WTO Secretariat, in its legal analysis, suggests: “While Article XX in principle would apply to subsidies, the more specific rules of the SCM Agreement in any case are explicitly geared to remedying trade distortions arising from subsidization” (p. 201).

It is not easy to puzzle out what exactly this statement means. It could appear to suggest that since the SCM Agreement is simply a *lex specialis*⁷ to the GATT provisions on subsidies, Article XX can be used as a defence against any claim of violation of the more specialized rules in the SCM Agreement. Such an interpretation would also take account of the apparently illogical result of not applying Article XX: WTO members would have more policy space to enact much more obviously and severely trade-distorting measures, such as import bans and quotas, than what are generally understood to be less distortive measures, namely domestic subsidies. The lack of textual support for such a reading, however, makes it unlikely that the Appellate Body would accept an Article XX defence to a claim under the SCM Agreement.

In a 2006 article, Andrew Green argues that the best approach to enabling subsidies that address climate change under WTO rules is through extending the Article XX GATT exception to such subsidies. According to Green (2006, p. 409),

There should be an explicit environmental exception along the lines of Article XX of GATT.... The only difference should be that the exception for subsidies should relate to environmental protection, broadly defined, rather than the existing Article XX categories. There is no reason why environmental measures should have to squeeze within one of the existing exceptions under Article XX (such as human, animal or plant life or health). These exceptions are likely broad enough to cover most

⁷ A legal term referring to a law that covers a specific case, which overrides a law that applies more generally.

environmental measures but it is not clear why there should be the risk of a measure legitimately aimed at environmental issues not falling within these provisions.

Since the publication of Green's article, the Appellate Body of the WTO, in *Brazil—Tyres*, has indicated an approach that would read Article XX(b) as broadly applying to environmental measures. Indeed, in this ruling the Appellate Body explicitly mentions climate change. Thus, it would seem that it would be sufficient to simply clarify through an interpretative understanding that the existing Article XX applies to the SCM Agreement, given its status as a *lex specialis* of the GATT. Thus, one would not need to amend either the SCM Agreement or the GATT in order to accomplish this result.

Consider the text of paragraph 151 in *Brazil—Tyres*:

We recognize that certain complex public health or environmental problems may be tackled only with a comprehensive policy comprising a multiplicity of interacting measures. In the short-term, it may prove difficult to isolate the contribution to public health or environmental objectives of one specific measure from those attributable to the other measures that are part of the same comprehensive policy. Moreover, the results obtained from certain actions—for instance, measures adopted in order to attenuate global warming and climate change, or certain preventive actions to reduce the incidence of diseases that may manifest themselves only after a certain period of time—can only be evaluated with the benefit of time. In order to justify an import ban under Article XX(b), a panel must be satisfied that it brings about a material contribution to the achievement of its objective. Such a demonstration can of course be made by resorting to evidence or data, pertaining to the past or the present, that establish that the import ban at issue makes a material contribution to the protection of public health or environmental objectives pursued. This is not, however, the only type of demonstration that could establish such a contribution. Thus, a panel might conclude that an import ban is necessary on the basis of a demonstration that the import ban at issue is apt to produce a material contribution to the achievement of its objective. This demonstration could consist of quantitative projections in the future, or qualitative reasoning based on a set of hypotheses that are tested and supported by sufficient evidence.

This passage clearly signals that in the case of measures to address climate change, even highly restrictive ones such as import bans, the Appellate Body will be prepared to be relatively deferential in applying the necessity test in Article XX, at least with regard to a regulating member's determination that the measure actually contributes to the goal of addressing climate change. This would be important in the case of subsidies, because there is considerable uncertainty about the

actual effects of particular subsidies on carbon emissions or on mitigation strategies. In addition, in recent cases such as *Brazil—Tyres*, the Appellate Body has relaxed somewhat the least restrictive means test traditionally associated with the concept of necessity under Article XX, emphasizing that a measure need not be “indispensable” to be justified as “necessary” (*Korea—Beef*), and that a member can choose among various possible measures with different levels of cost, feasibility and predicted effectiveness, as long as its choice is reasonable, taking into account not only the achievement of its objective but the need to minimize trade restrictiveness (*Brazil—Tyres*).

As we have noted, many subsidies measures may combine elements of industrial policy—the effort to create national winners or enhance the competitiveness of existing national industries—with climate change goals. According to the chapeau of Article XX, measures must not be applied so as to constitute unjustified or arbitrary discrimination or a disguised restriction on international trade. Any defence of such measures under Article XX would provoke the question of whether and in what circumstances subsidies that pursue both industrial policy and environmental goals would run afoul of these requirements. Whether one thinks of Brazil’s early measures to create the ethanol industry as a national winner, or the current U.S. administration’s interest in linking restructuring assistance for the auto industry to the production of cleaner vehicles, or China’s recently announced intention to create the world’s leading electric car industry, it is clear that climate measures are more politically attractive if they also serve industrial policy purposes. As already suggested, in the current climate of economic and fiscal crisis, it may in practice be difficult to sustain political support for costly climate policies unless they are also seen as serving rather than undermining domestic reconstruction and development.

Arguably, one hypothetical limit of an Article XX approach to climate subsidies is that allowing an Article XX exception would not in itself preclude unilateral action against such subsidies in the form of countervailing duties. Yet, as Alan Sykes points out, recourse to such duties is relatively rare as a trade remedy (relative, for example, to the use of anti-dumping duties). Moreover, by allowing the continued use of countervailing duties, an Article XX approach might have a certain political feasibility, as such a possibility would allow recourse against the use of subsidies to protect imports from foreign competition.

5.2 Reviving non-actionability

Another strategy for enabling climate-related subsidies under WTO rules would be to revive the concept of non-actionable subsidies. Here it is worthwhile to recall two of the now-expired non-actionable categories in the SCM Agreement: research and development and costs of environmental regulation. The research and development exception reads as follows (footnotes omitted):

- (a) assistance for research activities conducted by firms or by higher education or research establishments on a contract basis with firms if: the assistance covers not more than 75 per cent of the costs of industrial research or 50 per cent of the costs of pre-competitive development activity; and provided that such assistance is limited exclusively to:
 - (i) costs of personnel (researchers, technicians and other supporting staff employed exclusively in the research activity);
 - (ii) costs of instruments, equipment, land and buildings used exclusively and permanently (except when disposed of on a commercial basis) for the research activity;
 - (iii) costs of consultancy and equivalent services used exclusively for the research activity, including bought-in research, technical knowledge, patents, etc.;
 - (iv) additional overhead costs incurred directly as a result of the research activity;
 - (v) other running costs (such as those of materials, supplies and the like), incurred directly as a result of the research activity.

The environmental category of non-actionable subsidies is defined as follows:

- (c) assistance to promote adaptation of existing facilities to new environmental requirements imposed by law and/or regulations which result in greater constraints and financial burden on firms, provided that the assistance:
 - (i) is a one-time non-recurring measure; and
 - (ii) is limited to 20 per cent of the cost of adaptation; and
 - (iii) does not cover the cost of replacing and operating the assisted investment, which must be fully borne by firms; and
 - (iv) is directly linked to and proportionate to a firm's planned reduction of nuisances and pollution, and does not cover any manufacturing cost savings which may be achieved; and
 - (v) is available to all firms which can adopt the new equipment and/or production processes.

The detailed nature of the conditions and criteria in these provisions reflect the great difficulty in ensuring that subsidies are effective for “legitimate” goals, for example capturing public goods in the case of research and development, while not providing any real competitive advantage to particular domestic industries. There is a large element of arbitrariness or contingency in such an exercise. One illustration is the limit of environmental subsidies to 20 per cent of the cost of adaptation. On what principled basis could such a limitation be justified? Another rather arbitrary, indeed puzzling

requirement is that the environmental subsidy “not cover any manufacturing cost savings which may be achieved.” While the exact meaning of this provision is rather unclear, it would seem to suggest that the government is required to reduce the amount of the subsidy to reflect the extent to which the new or adapted technology lowers the manufacturing costs of the firm. Even assuming one could estimate this *ex ante*, it would seem very easy to manipulate such a test through results-driven accounting. Generally these kinds of criteria would require micromanaging of government programs by the WTO adjudicator; they do not seem to give much useful policy space to WTO members, and it is perhaps in part for this reason that the expiration of these categories occurred without much fanfare or intense interest in renewal.

Would it be possible to think about a new approach to “non-actionability” in the climate change context? In my view, a much simpler, principle-based approach is indeed possible here. First of all, the range of subsidies eligible for non-actionability status could be defined in terms of the policies listed in the Kyoto Protocol as possible appropriate policies for implementation of Kyoto commitments.⁸ This is a principled basis of selection since it derives from an existing multilateral agreement that is of central importance to global governance of the climate change issue. Second, the subsidies should, on the basis of available evidence and sound scientific and economic principles, contribute to the goals of the Kyoto Protocol, including technology transfer and equitable allocation of responsibilities. Third, to the extent possible given their climate change-related purposes, the subsidies should be consistent, including in their application, with the basic principles of the GATT/WTO system, including non-discrimination and transparency. In contrast with reliance on notions such as “benefit” and “specificity,” which are inherently unstable and have no real foundation in the structure of international economic law, this third requirement is workable, because it allows for drawing on a large body of case law and practice in applying the basic principles of the GATT/WTO system.

⁸ See Article 2.1(a) of the Protocol.

5.3 A negotiation-based approach to environmental goods and services

The long-stalled Doha Round negotiations on liberalization of trade in environmental goods and services have focused almost exclusively on reduction or elimination of tariffs on goods and services with positive environmental properties (though the selection of which goods and services to include has been one of the issues over which the negotiations have stalled), in a process that mimics the negotiations on non-agricultural market access. As Petrus van Bork and I have argued in earlier work (Howse & van Bork, 2006), limiting these negotiations to tariffs makes little sense, as non-tariff measures may have equally important impacts on the extent of trade liberalization for environmental goods and services. Paragraph 31(iii) of the 2001 WTO Doha Ministerial Declaration calls for “the reduction or, as appropriate, elimination of tariffs and non-tariff barriers to environmental goods and services.” This language makes it obvious that the parties never intended the negotiations on environmental goods and services to focus exclusively on tariffs or to address tariff barriers before tackling other issues.

Stanford economists Kyle Bagwell and Robert Staiger (2006) have suggested that subsidy disciplines may affect WTO members’ willingness to make market access commitments. Furthermore, subsidies to fossil fuels will make investment in alternative energy uneconomical and will therefore constitute an important barrier to trade and dissemination of cleaner-energy goods.⁹ At least conceptually, there is something attractive in dealing with the issue of subsidies and climate change through a broadening of the negotiations on environmental goods and services to include non-tariff measures. This could be premised on a re-focusing of the negotiations on climate change as an agreed priority of highest urgency. Why should WTO members not be able to offer, for example, bound reductions on fossil fuel subsidies in these negotiations, not just bound reductions or limitations on tariffs? In the case of developing countries, there would need to be special treatment of the issue to ensure affordable access to energy for the poor. But this could be accommodated through conversion of fossil fuel energy subsidies into income assistance for people in need, which could be coupled with a certain reorientation of development assistance, including the energy-related programs of institutions such as the World Bank, to providing poor people with affordable access to clean energy sources (including distributed power such as solar and wind). Through the same negotiations, certain climate subsidy programs could be “bound” as WTO consistent, with WTO members undertaking not to challenge them under the SCM Agreement or to countervail them. It would be entirely logical to expect members seeking to have their climate subsidy programs “bound” as non-challengeable by WTO members to make corresponding offers to reduce their fossil fuel subsidies. After all, such subsidies directly undermine the positive impact of renewable energy or energy-efficiency subsidies.

Based upon experience to date with the difficulties in the environmental goods and services negotiations in defining what is an “environmental” good or service, whether certain subsidy

⁹ See, for example, El Sobki, Wooders & Sharif (2009).

programs merit being bound as WTO consistent or at least non-challengeable is likely to be controversial. In the case of biofuels and nuclear energy, to take two examples where there is a very high incidence of government subsidization, while these energy sources do not emit carbon in their consumption, they raise other serious environmental issues, as already noted in the discussion above concerning Article XX. In the case of first-generation biofuels, when one takes into account not just consumption but also production, serious doubts arise about whether there is a net carbon savings, depending on the production method. In addition, the land-use implications of these biofuels present other sustainability issues. Many environmentalists consider the risks of nuclear energy to be extremely serious. It is questionable whether WTO negotiations provide an appropriate global governance forum for making trade-offs between environmental risk and other risks.

5.4 A Kyoto-driven waiver-based approach

A different way of conceiving of the issue of subsidies and climate change would be not to focus on policy space for domestic governments within the WTO rules, but to consider the issue of subsidies from the perspective of *global* governance to address climate change. As a general matter, the challenge of how competitiveness and economic development concerns can be balanced with mitigation of climate change is central to the further evolution of the Kyoto regime. If domestic policies, including subsidies policies, cannot be integrated or harmonized with that regime, then its legitimacy and effectiveness are likely to be undermined or hampered. Arguably, then, the most adequate basis for exempting climate change subsidies from WTO disciplines is to address them in the context of global governance of climate change, that is, through a Kyoto-based multilateral regime. The implication would be a two-track approach. A mechanism for global governance of policies with climate change implications would be established within the UNFCCC. (Currently, policies and measures are considered in the Subsidiary Body for Scientific and Technological Advice). For a number of years, efforts have been made to make progress on understanding of good practice in domestic policies aimed at implementing Kyoto obligations; these efforts have not borne fruit so far, though there has been an exchange of information and experience with policies, and reporting of policies and measures is now more adequate and comprehensive.

Under the waiver-based approach, where subsidies are reported to a UNFCCC governance mechanism and subject to its surveillance (and perhaps eventual disciplines), they would benefit from a waiver from WTO rules. A waiver could be conditional upon certain principles being respected to the extent possible, for example, non-discrimination. A waiver would need to be agreed to among the WTO membership. As an example, a waiver was granted several years ago in order to facilitate the operation of the Kimberley Protocol, which includes measures to control trade in “conflict diamonds.” The measures in question could have in all likelihood been justified under Article XX of the GATT as necessary for the protection of either public morals or of human life and health. The waiver simply provided greater certainty and clarity, as well as the value of an explicit endorsement by the WTO membership of an important multilateral initiative. It is important in the subsidies context that the waiver be constructed so as not to imply that the subsidies would necessarily be actionable but for the waiver. Otherwise they might be seen as countervailable.

6.0 Conclusion

Significant legal uncertainty surrounds the application of existing WTO rules on subsidies to climate policies. Unlike other important WTO treaties, the SCM Agreement does not contain an explicit general exceptions or “savings” clause for legitimate public policy measures. One way of reducing the risk that legitimate climate policies would be challengeable under WTO subsidies rules is to make clear, through an interpretative understanding not requiring treaty amendment, that the general exceptions provision in the GATT (Article XX) applies also to the SCM Agreement in as much as the SCM Agreement is a *lex specialis*, or specialized legal regime, derived from the GATT itself (notably GATT Article VI, which deals with subsidies). More innovative and ambitious approaches could include bringing subsidies measures into the framework of the environmental goods and services negotiations in the WTO, which would have the advantage of also addressing fossil fuel subsidies that are harmful to climate mitigation objectives, or alternatively combining a waiver from WTO subsidy rules with a new oversight function for domestic policies to be performed by institutions within the climate change regime.

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Appendix

Article 5 provides: “No Member should cause, through the use of any subsidy referred to in paragraphs 1 and 2 of Article 1, adverse effects to the interests of other Members, i.e.:

“(a) injury to the domestic industry of another Member (footnote omitted)

“(b) nullification or impairment of benefits accruing directly or indirectly to other Members under GATT 1994 in particular the benefits of concessions bound under Article II of GATT 1994 [footnote omitted]

“(c) serious prejudice to the interests of another Member.”

Article 6 defines “serious prejudice” as follows:

“(a) the total ad valorem subsidization of a product exceeding 5 per cent;

“(b) subsidies to cover operating losses sustained by an industry;

“(c) subsidies to cover operating losses sustained by an enterprise, other than one-time measures which are non-recurrent and cannot be repeated for that enterprise and which are given merely to provide time for the development of long-term solutions and to avoid acute social problems;

“(d) direct forgiveness of debt, i.e. forgiveness of government-held debt, and grants to cover debt repayment.

“6.2 Notwithstanding the provisions of paragraph 1, serious prejudice shall not be found if the subsidizing Member demonstrates that the subsidy in question has not resulted in any of the effects enumerated in paragraph 3.

“6.3 Serious prejudice in the sense of paragraph (c) of Article 5 may arise in any case where one or several of the following apply:

“(a) the effect of the subsidy is to displace or impede the imports of a like product of another Member into the market of the subsidizing Member;

“(b) the effect of the subsidy is to displace or impede the exports of a like product of another Member from a third country market;

“(c) the effect of the subsidy is a significant price undercutting by the subsidized product as compared with the price of a like product of another Member in the same market or significant price suppression, price depression or lost sales in the same market;

“(d) the effect of the subsidy is an increase in the world market share of the subsidizing Member in a particular subsidized primary product or commodity as compared to the average share it had during the previous period of three years and this increase follows a consistent trend over a period when subsidies have been granted.”