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Introduction

Brent Sohngen, AED Economics, Ohio State University

This issue of the *Ohio Environment Report* tackles two important issues of interest to Ohioans. Dr. Ian Sheldon, Andersons Professor of International Trade at Ohio State University, provides an overview of the relationship between environmental regulations and trade. Trade and the environment has become one of the central issues in negotiations over NAFTA (North American Free Trade Agreement), the WTO (World Trade Organization), and just about any trade negotiation. Given widespread interest both in expanding free trade and enhancing environmental outcomes, understanding whether freer trade reduces or improves the environment is one of the most important policy debates of our time. Dr. Sheldon is an internationally recognized scholar on trade policy, and has written extensively on economic policy and trade. Here he reports on research he and others have conducted focusing environment and trade.

The second article considers proposals for the 2007 Farm Bill. The next Farm Bill is currently under consideration, and will likely be passed by Congress by the end of this year or next. There has been a far-ranging discussion about the growing importance of conservation provisions (Title II) in this Farm Bill – particularly with recent concern about high energy prices and the role that the agricultural community could play in the future picture of U.S. domestic energy production. The article on the 2007 Farm Bill highlights a few key issues to consider based on current ideas floating out there about the shape the next Farm Bill will take.

I apologize that it has been a number of months since the *Ohio Environment Report* was last published. Despite the lack of written output, I would like to report on several important conferences that have taken place since last summer. First, last September, Ohio State University hosted a conference titled "Ohio Responses to Federal Environmental Regulation." The sessions focused on water quality, air quality, climate and energy policy, and the business strategy. Presentations from the conference can be found at:

<http://aede.osu.edu/ohenvconf06/>

Second, in March, 2007, AED Economics hosted a conference titled "The Future of Renewable Energy in Ohio: An Economic Update." This conference addressed the economic potential for a range of renewable energy options. Presentations from this conference can be obtained at:

<http://aede.osu.edu/resources/special/2007update/index.htm>

Several additional volumes of the *Ohio Environment Report* are planned for this year. If you have comments or ideas for future articles this year or next, please contact me at Sohngen.1@osu.edu.

Trade and the Environment: Will there be a Race to the Bottom?

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Introduction

Over the past fifteen years, there has been heated debate between the trade policy community and environmentalists over the link between trade and the environment. This debate was given considerable prominence during negotiations over the North American Free Trade Agreement (NAFTA), and has become more intense with formation of the World Trade Organization (WTO). Two key questions arise from this debate: what is the connection between trade and the environment, and why is that connection so controversial?

Three factors link trade and the environment. First, if the pattern of economic activity across countries is affected by trade, and this activity negatively impacts the environment, then by extension trade will also affect the environment. Second, economic activities in one country may result in global environmental effects either in the form of trans-boundary pollution such as acid rain, or other spill-over effects such as depletion of the ozone layer due to the use of chlorofluorocarbons (CFCs). As a consequence, trade policy may be used by the affected countries to reduce the damage they incur, if they trade with the offending country. Third, and linked to the latter point, trade policies often form part of a package of sanctions designed to enforce international environmental agreements. For example, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) prohibits the import and export of endangered species, including trade with non-parties to the convention.

Why then has the connection between trade and the environment stirred up so much controversy? First, environmentalists argue that any benefits from increased trade liberalization will be outweighed by damage caused to the environment, i.e., more trade will result in increased consumption and production, which in turn will cause more environmental degradation. Counter to this, economists argue that trade and economic growth may be good for the environment. Specifically, increased national incomes resulting from trade liberalization will eventually generate an increased demand for environmental improvement. Support for this argument draws on what is termed the environmental Kuznets curve which hypothesizes an inverse-U-shaped relationship between per-capita incomes and environmental quality, i.e., increased incomes are linked to increased pollution in poor countries and lower pollution in rich countries.

The second aspect of the controversy is the concern that with increased trade liberalization, governments will not set optimal environmental policies, due to the fact that they are now constrained in their use of trade policies. Specifically, environmentalists are worried that, with the process of international economic integration come additional competitive pressures. These pressures will result in lobbying for less stringent environmental policies. This argument is typically applied to developed countries where international competition may be expected to hurt domestic industries either through loss of market share or movement of those industries from developed countries with tough environmental policies to less developed countries with weaker environmental policies, i.e., what has been termed the *pollution haven hypothesis*.

As a result, environmentalists worry that developed country governments will either resist implementing tough environmental policies through *regulatory chill* or they will reduce the stringency of existing environmental policies in a *race to the bottom*, which in turn can create a process of *ecological dumping* where all governments relax their environmental policies (Bagwell and Staiger, 2002). These fears have led to calls for individual governments to be allowed to use trade policies to countervail ecological dumping, and pressure on international bodies such as the WTO to push for harmonization of environmental policies across countries.

Traditional Economic Analysis

What does standard economic analysis offer in response to the arguments of environmentalists? If an economic activity generates environmental damage, it is quite possible this will outweigh any benefits of increased trade. In such a setting, economists typically argue that the appropriate regulatory policy is to

target the environmentally harmful activity directly with either a tax or standard, in which case the usual gains from trade will apply.

In order to develop this argument, it is useful to distinguish between small and large countries. When a country is small, it cannot influence its terms of trade, the price of its imports and exports being set in the world market. As a result, a small country has no incentive to set weak environmental policy otherwise it would simply reduce its economic well-being. On the other hand, when a country is large, it can influence its terms of trade by using tariffs to lower the price of its imports and raise the price of its exports. However, even if a large country uses tariffs, it will still set the appropriate environmental policy. Consequently, in neither the small nor large-country case will there be regulatory chill or a race to the bottom. Importantly, if all countries adopt the appropriate environmental policies, depending on their preferences and level of economic development, then there is no reason why environmental policies will be the same across countries, and as a consequence, attempts to harmonize environmental policies will likely reduce world economic welfare.

These arguments would seem to suggest that the environmentalists have no case. However, the analysis rests on two key restrictive assumptions: first, in the face of environmental regulation, factors of production such as capital are assumed to be immobile. However, regulatory chill and race to the bottom arguments only make sense if there can be *capital flight*, foreign investment being targeted at pollution havens, presuming of course cross-country differences in the stringency of environmental policy.

Second, it is assumed that there is no retaliation when individual large countries use trade policies to influence their terms of trade. This relates to the notion of *tariff substitution*, i.e., with multilateral trade liberalization, governments will weaken their environmental policy as a substitute for trade policy. As noted above, it is optimal for a large country to try to influence world prices through its use of tariffs. However, other countries will also have this incentive, resulting in an outcome that is worse than the situation where no country uses tariffs. Countries can avoid this outcome by entering a binding multilateral trade agreement to remove tariffs. However, unless the trade agreement also places restrictions on the use of environmental policies, these will of course be used as alternative policy instruments to manipulate countries' terms of trade.

Pollution Havens

In recent years, a considerable amount of research has been spent on analyzing which countries might attract dirty industries with freer international trade. Importantly, the focus has been on whether dirty industry location is due to comparative advantage, or whether dirty industries relocate from countries with tough environmental policies to pollution havens in countries with weak environmental policies. To give a flavor of this analysis, imagine that there are two regions in the world, the North (high income) and South (low income), the only difference between them being differences in their resource base and/or their environmental policies. Each region produces two goods: a dirty good which requires a lot of capital in production; a clean good which requires a lot of labor in production.

At one extreme, suppose each region has the same environmental policy, but the North has relatively more capital in its resource base than the South. In this case, the North has a comparative advantage in producing the dirty good, exporting it to the South in exchange for imports of the clean good. Pollution increases in the North and decreases in the South, the latter being better off with free trade. At the other extreme, suppose each region has the same resource base, but the North has more stringent environmental policy than the South. In this case, the North imports the dirty good from the South in exchange for exports of the clean good, i.e., the South is a pollution haven, and it may actually be worse off from trade in the short-run. Of course in the long-run, as its income increases with trade, it may actually strengthen its environmental policy.

In reality, rather than either of these two extremes, the more likely case would be one where the North is both abundant in capital and has more stringent environmental policy relative to the South. In this case, the pattern of trade will depend on whether the North's comparative advantage in exporting the dirty good is outweighed by its tougher environmental policy. If comparative advantage dominates, there is a reversal of the pollution haven hypothesis, global pollution actually being reduced because of the North's tougher environmental policy.

In terms of empirical work, the overall conclusion on the pollution haven hypothesis is that there is evidence for both trade and investment flows being affected by environmental policy. The evidence

though is more in favour of a *pollution haven effect* whereby environmental policy impacts the net exports of dirty goods as opposed to causing complete relocation of dirty goods' production, i.e., environmental policy is not the only factor affecting trade and investment patterns (Copeland and Taylor, 2004).

What are the implications of these findings for regulatory chill/race to the bottom arguments? Essentially, if either some pollution-intensive industries relocate to countries with weak environmental policies following trade liberalization, or if the latter increase their net exports of dirty goods, then there will be incentives for regulatory chill and a race to the bottom in environmental regulation in those countries that would otherwise have had a preference for strict environmental policies.

Tariff Substitution and Environmental Policy

As noted above, absent multilateral cooperation, countries often have a unilateral incentive to implement tariffs in order to improve their terms of trade. The only way for countries to avoid this is to enter a binding multilateral trade agreement such as that offered by the WTO. By cooperating to lower tariffs and giving up access to their own markets, countries benefit by gaining market access to other countries' markets.

The problem with this is that it would seem that each country has an incentive to distort their environmental policies in order to claw back some of the increased access to their market they have exchanged for increased access to other countries' markets. One country, believing that other countries will stick to their environmental policies will reduce their environmental standard in the import competing sectors in order to substitute for their bound tariffs. Of course, other countries also have this incentive, in which case we get a race to the bottom. This follows from countries agreeing to bind their tariffs, but retaining complete sovereignty over their choice of environmental policies. Is there any way out of this?

The WTO's position on domestic policies such as environmental standards is that they are the legitimate domain of each country. In other words, an individual country is allowed to set its own policies, as long as they are non-discriminatory, and weak environmental policies are not considered a violation of a country's obligation under the WTO. However, countries with tough policies are not exempted from their commitments on market access, and, therefore, are not allowed to respond to less stringent policies of other countries.

Given this general presumption, how do countries proceed if they believe the environmental policies of another country are affecting their rights to market-access? Under Article XXIII of GATT/WTO, situations are described where actions taken by one country may be expected to "nullify or impair" the market access benefits expected by other countries.^[2] As a result, complaints may take two forms: a *violation* complaint can occur if a country fails to meet its WTO obligations, e.g., it breaks a tariff binding; a *non-violation* complaint occurs in the case where a country's commitments to market access are being offset by an unanticipated policy change such as their setting tougher environmental policies, even if these policies do not violate any WTO rules. Under a successful non-violation complaint, the affected countries are entitled to a re-balancing of market commitments which can take the form of compensation for the domestic policy change in the form of other policy changes. In other words, the sovereignty of countries over their choice of environmental policies is constrained by WTO rules insofar as they have to meet their existing market-access commitments.

Due to the fact that the ability of countries to weaken their environmental policies following commitments to lower tariffs is constrained by the threat of a non-violation complaint, there should be no race to the bottom. However, this only works if weakening of environmental policy by one country reduces market access of other countries. It may be the case that after tariffs have been bound, a country may choose to set more stringent environmental policies, which will then increase market access of other countries, but under WTO rules it is not able to unilaterally increase its tariff above the bound level in order to maintain market access at the previously negotiated level. As a consequence there may be regulatory chill, an outcome that appears to support some of the fears of environmentalists over trade liberalization.

A solution to this problem might be to allow a country to renegotiate their bound tariffs if unilateral changes in their environmental policies would increase access to their market. Do the existing WTO rules allow for this flexibility, or would they have to be changed? Roessler (1998) argues that under GATT/WTO Article XXVIII, a unilateral increase in the bound tariff by one country can be met by the other country withdrawing an equivalent amount of market access. Such renegotiation would leave the terms of trade unchanged, and would also satisfy the WTO principle of reciprocity. Alternatively, Bagwell

and Staiger (2002) argue that the renegotiation provisions of GATT/WTO Article XXVIII could be changed such that any change in a country's domestic environmental policies would be offered to the other country in compensation for raising the bound tariff. In other words, even though the terms of trade have changed, market access is maintained at the negotiated level due to the impact of the tougher environmental policies on domestic firms.

Border Tax Adjustment for Environmental Excise Taxes

In a specific sense, the principle of this argument is already applied in WTO rules relating to border tax adjustments for environmental excise taxes (Enders, 1996). Such policy instruments are being used widely in many countries to improve the environment. In the US, excise taxes are levied on products that adversely affect the environment, e.g., CFCs, while others have been and are used as a source of revenue to deal with (potential) environmental hazards. Several European countries (Denmark, Finland, the Netherlands, Norway and Sweden) introduced carbon taxes in the 1990s. In addition, the European Commission has considered the use of carbon taxes throughout all members of the European Union (EU), although eventually it chose to implement a scheme for trading carbon emission permits starting January 2005.

The use of excise taxes for environmental purposes, however, is likely to impact on trade flows and the competitiveness of firms to which the environmental tax applies. Clearly, firms in an importing country faced with the imposition of an environmental excise tax may argue that the resulting cost will improve the market access of imported goods. In such circumstances, there are likely to be demands for a corresponding border tax adjustment to offset the impact of the environmental tax. In addition, where the environmental excise tax is applied to an intermediate input but it is the final good that is imported, the market access issue will arise because domestic producers of the final good face an increase in the cost of intermediate inputs which places them at a disadvantage vis-à-vis final imported goods where the cost of intermediate inputs is lower in the absence of the environmental tax. In such cases, demands for any border tax adjustment would relate to the final derivative imported good.

In principle, border tax adjustments do not contravene WTO guidelines: Articles III and XVI of GATT/WTO allow contracting parties to adjust excise taxes on imported goods up to the same level as those applied on domestic goods, i.e., taxes on imported goods imposed on the same basis as domestic excise taxes are not regarded as being discriminatory (WTO, 1997).^[3] In addition, WTO rules extend to border tax adjustments of imported derivative goods when the environmental excise tax is imposed on intermediate inputs.^[4] In light of the arguments outlined above, this looks like a specific method for dealing with regulatory chill in environmental policy: countries are permitted to set border tax adjustments to offset the impact of increased market access arising from higher domestic environmental taxes.

Conclusions

This article has focused on the connection between trade and the environment. In particular, it asked whether there will either be regulatory chill or a race to the bottom in environmental policy as trade is further liberalized. Traditional economic analysis suggests that this is unlikely to happen as appropriate policies will be targeted at environmentally harmful economic activities. However, this assumes no tariff retaliation and immobile factors of production.

Relaxing the latter assumption allows for the possibility of capital flight from rich developed countries with tough environmental policies to poorer less developed countries with weaker environmental policies, creating pollution havens. The empirical evidence supporting a pollution haven effect gives some credence to the fears of environmentalists that freer trade may encourage developed countries to either weaken their environmental policies in a race to the bottom or at least not make them any tougher, through regulatory chill, in order to maintain their competitiveness as tariffs are lowered.

Perhaps the most convincing argument for either a race to the bottom or regulatory chill comes when countries have a unilateral incentive to implement tariffs. Even though the WTO is a means to resolving this through tariff bindings, it is also necessary that countries do not retain complete sovereignty over their environmental policy. This is because they have an incentive to weaken it in order to claw back some of the increased market access they have granted through lower tariffs. The solution to this though, lies in the WTO rules, i.e., countries will be constrained from relaxing their environmental policies after tariffs have been bound due to the threat of non-violation complaints being made by their trading partners

who stand to suffer a loss of negotiated market access. However, if a country wishes to have tougher environmental policy after tariffs have been bound, the threat of either a violation or a non-violation complaint will induce regulatory chill.

The suggested way out of this problem is through the provision of more flexibility in the current WTO rules, allowing country's to renegotiate their bound tariffs if unilateral changes in their environmental policies would increase access to their market. It turns out that the principle of this argument is already being applied in WTO rules as they relate to border tax adjustment for environmental excise taxes on either intermediate or final goods. In addition, there may be some potential for extension of this type of WTO rule to other types of environmental policy such as carbon taxes.

Notes

^[1] This discussion draws extensively on Sheldon (2006).

^[2] The GATT Articles were absorbed into the WTO on the latter's formation in 1995.

^[3] WTO provisions on border tax adjustment are based on the destination principle for indirect taxes, i.e., the tax is imposed at the border on an imported good at the rate applied to like domestic goods, the idea being that the indirect tax is shifted forward by the taxpayer to the consumer. In contrast, direct taxes on producers are ineligible for border tax adjustments (WTO, 1997).

^[4] In the case of the US legislation dealing with the tax on CFCs, imported products containing CFCs are taxed on the basis of the weight of CFCs contained in the product with the extent of CFC used determined by the predominant method of US production.

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It's the Process, Isn't It? Reflections on the 2007 Farm Bill Debate.

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This article is about the debate and discussion on the 2007 (or 2008) Farm Bill. The President has made a proposal, several congressional representatives have made proposals, and the discussion is now well under way. Actually it has been underway for several years now. But the real discussion is taking place now, in the context of high energy prices, high food prices, and concern about climate change. What more needs to be said? I think a lot.

I am concerned about several key issues in the salvos that have so-far been fired about the conservation components of the Farm Bill (Title II). Briefly, these issues are:

- National environmental groups are focusing on the appeal for more money in the conservation title.
- CRP could end up looking more like an energy program.
- EQIP and other working lands programs need more than just a combining of programs.

Let me discuss each of these in turn, and provide some thoughts on how the 2007 Farm Bill could be adjusted to address these points.

National environmental groups are focusing on the appeal for more money in the conservation title.

Groups like Environmental Defense, Environmental Working Group, National Wildlife Federation and others are wielding this thing called the "conservation backlog" to try to increase overall expenditures for the conservation titles in the Farm Bill (see, for example, "Losing Ground: A State-by-State Analysis of America's Growing Conservation Backlog"). The so-called "conservation backlog" is the list of unfunded requests by landowners to do something on their land. For whatever reason, the requests have so far not been met. We've seen this frequently over the years in Ohio, where more people request money from EQIP or some other program, than the money available.

I have no doubt that the conservation backlog is real and that some very good proposals to improve conservation are not funded. But in the real world, is having proposals that go unfunded a bad idea? In the business world if you bid on a contract and have the high bid or don't have as high quality a proposal as your competitor(s), you don't get the contract. In marketing, if your product is not as good as its substitutes, your sales decline no matter how good your advertising is. In education, if your school lags behind in test scores, your district's funding declines. In academics if you write a bad proposal, the reviewers will write bad reviews and you don't get funded. Not all proposals should be funded. The concept of a "conservation backlog" is a good thing. The more important question is what process is used to decide which proposals get funded and which do not.

Environmental groups should be focusing on the process! How are decisions made for funding, and how could the federal Farm Bill be changed to ensure that only the best proposals are funded (where best is measured in terms of the environmental or conservation improvements provided)? I talk a bit more about this in the next two sections, but first, consider the following example illustrating why simply increasing the subsidy does not equal better environmental outcomes.

According to David Baker, one of Ohio's premier water quality specialists, and the person responsible for long-term water quality monitoring in the Lake Erie basin, dissolved phosphorous loads declined in Ohio tributaries to Lake Erie between 1975 and 1995. Since 1995, according to Dr. Baker, phosphorous loads have increased substantially (Baker, 2006). Over the same time period, since 1996, conservation payments for all programs in Ohio increased by around 200% (see Sohngen, 2005a).

I am not going to claim any causal relationship between expenditures and water quality improvements. But phosphorous has historically been **the story** in Lake Erie, and whatever money we are spending on conservation, much of it has directly or indirectly focused on phosphorous. The data, however, do not indicate that we are spending it in a way that has reduced phosphorous outputs.

This to me is a process problem, not a question about the overall amount of money available for conservation practices in the U.S. or Ohio. The major environmental groups and others should focus more heavily on finding ways to re-write the Farm Bill to introduce performance criteria and good processes into

deciding how the funds are allocated, rather than on simply shifting resources from the other Titles to Title II.

CRP could end up looking more like an energy program.

Early proposals indicate momentum is building to convert the CRP program at least partly into an energy program. Farmers would be able to get CRP funds to grow, harvest, and sell biomass crops. Congress or future administrations would likely cap the quantity of acres in the energy crop arena.

I have serious concerns with this proposal, not because of nostalgia for CRP (it has, after all, changed a lot over the many years it has been around), and not because of the harvesting (some limited harvesting and cutting activities are already allowed on CRP land). My concern relates to nostalgia for the CRP program that never was. There is a place for a program that pays landowners roughly \$1 billion per year to preserve and protect resources on land that would otherwise contribute to water quality problems, wildlife habitat problems, or other environmental issues. We almost have this with the current CRP program, although we still appear to spend too many resources on low value activities in the upper Great Plains. Why don't we improve or fix the CRP program before changing it to something else?

The question here is not whether energy crops should be subsidized, but rather, how they are subsidized. Energy crops could be incorporated into other areas of the Farm Bill with the other commodities because the crops and energy are commodities. Environmental outputs have not been fully turned into commodities, so it makes sense that they are treated in the conservation title for the time being. Other than the potential gains associated with climate change (gains that are tenuous at current prices and technologies anyways), intensive management of energy crops could cause water quality problems downstream.

With CRP, rather than having acreage goals, why not drop the acreage goals, cap the annual expenditures, and then empower USDA along with the state and local agencies and NGOs to go out and find the "best" land to reserve from production for a time. The Environmental Benefits Index (EBI) could be re-tooled to do a better job of helping decision-makers determine which plots are best suited for protection. Contracts could remain 10-15 years, or one could focus on 5 year contracts. To get around the current problem of high opportunity costs of land (e.g., difficulties getting enrollment when crop prices are so high), rental rates can be tied to commodity price indices or land rental value indices so the rental rates can be adjusted during the term of the contract (just like other long-term rental arrangements).

EQIP and other working lands programs need more than just a combining of programs.

The NRCS seems to be at a breaking point with too much work and too few people to get the job done. State personnel in Ohio have been clear that they don't have enough people-power. Combining programs in a way that reduces the bureaucracy of carrying out the programs could help this problem.

But simply combining programs does not address the fundamental issue raised above – whether the funds being spent are actually helping to improve the environment. If we could spend less money and have more of an impact on the environment, wouldn't that seem like the **win-win** we are always seeking? Rather than challenging Congress to increase the overall funds available for conservation, why not challenge Congress to make the most with what we have? This is the process question, and working lands programs, like EQIP and CSP, have focused precious little time on process (well, to be fair, they have caused many farmers heartache with the mountains of paperwork to be filled out, but this bureaucracy isn't the process I'm really after). Mostly, rules are written in D.C., pushed out to the states, tweaked at the margins, and then implemented. The 2007 Farm Bill would do well to help ensure better process, like meaningful attention to the goals of improving the environment, when deciding what proposals are funded.

The Environmental Benefits Index (EBI) used for the CRP program is a good example of an idea that has worked to improve environmental outputs in that program (see Sohngen, 2005b). Why not adopt something like it for EQIP and CSP? If the idea is to find the best quality projects for improving the environment, we ought to put substantial resources into defining those improvements, and designing a system to measure them. The "conservation backlog" discussed above makes little sense without some measures to evaluate what types of benefits society is missing.

To be sure, states like Ohio do have ranking sheets to evaluate proposals. These ranking sheets are a good starting point. However, state NRCS offices should be required to undertake evaluations of historical spending to determine whether they met earlier priorities with their spending. The conservation

title should require that states develop their priorities for conservation spending (states likely have legitimate differences in their priorities that should be recognized), and update these priorities every 3-5 years using the data from the evaluations. The priorities should focus on environmental outcomes, not specific practices. For example, weighting should not be done to ensure that certain kinds of practices (e.g., manure storage facilities) get funded, but instead, weighting should be done to ensure that environmental improvements will be made (e.g., water quality in stream or ditch X will improve from A to B, or bird Y will flourish in this region).

There is substantially more room for local involvement in setting criteria. In Ohio, the state is endorsing watershed plans. Extra points are awarded to proposals from farmers in regions with state endorsed watershed plans or within TMDLs. However, the real question is whether the key findings of the watershed plans or TMDLs are actually influencing the local criteria used in judging plans. Quite a bit of work has gone into developing local watershed plans, and those efforts should influence how federal funds are spent in the local watershed. I do not believe we make this step adequately today, but the 2007 Farm Bill can make this a future requirement.

The key issue with respect to the working land programs in the 2007 Farm Bill is that it is all well and good to reduce duplication and streamline programs, but putting more emphasis on the process of allocating money is more important. Although we have made great strides in allocating funding in recent years, it is less clear whether environmental quality improvements have followed. More emphasis on the process could help us develop better metrics to identify proposals and practices that truly measure up and deliver the environmental outputs that are valued the most by society.

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Websites

Trade and the Environment

WTO Trade and Environment Page

http://www.wto.org/english/tratop_e/envir_e/envir_e.htm

Greenpeace Trade and the Environment Page

<http://www.greenpeace.org/international/campaigns/trade-and-the-environment>

The Trade and Environment Database (TED) at American University

<http://www.american.edu/TED/ted.htm>

United Nations Environment Program (UNEP) Economics and Trade Branch

<http://www.unep.ch/etb/index.php>

GETS: Global Environment and Trade Study

<http://www.gets.org/>

2007 Farm Bill Information

Environmental Working Group Farm Bill Goals

<http://www.ewg.org/reports/CombestMay2001/farbillgoals.html>

American Farmland Trust Farm Bill Policy Recommendations

http://www.farmland.org/programs/campaign/Recommendations/top_recommendations.asp

US Department of Agriculture Farm Bill Page

<http://www.usda.gov/wps/portal/!ut/p/ s.7 0 A/7 0 1UH?navid=FARM BILL FORUMS>

American Farm Bureau Policy Statement on the 2007 Farm Bill (pdf document)

<http://www.fb.org/issues/docs/farbill07301.pdf>

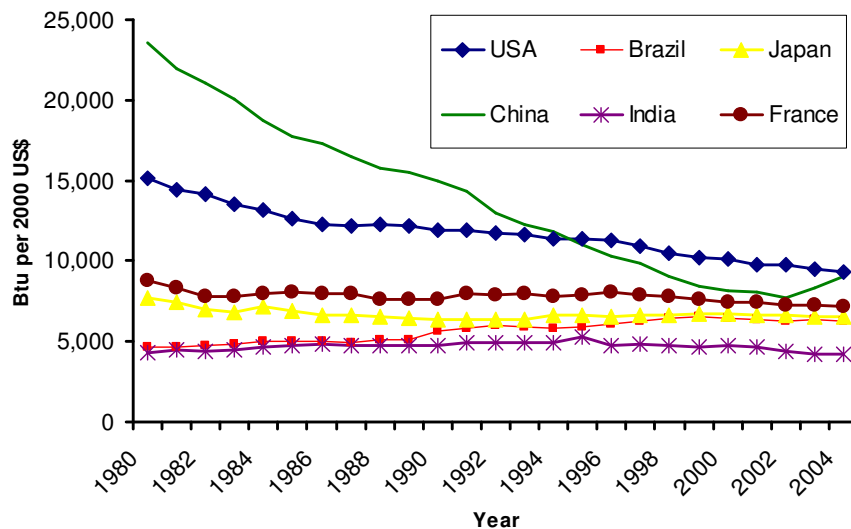
Forbes.com on the impact of the Farm Bill on stocks

http://www.forbes.com/businessinthebeltway/2007/03/01/agco-greenbrier-stocks-pf-ii-cz_atg_0301sf.html

Climate Change Statistics – Energy Intensity

The following figure shows energy intensity trends worldwide. When energy conservation is measured as BTUs per \$ GDP, the U.S. looks pretty good in contrast to the rest of the world. Since 1980, the U.S. has reduced its energy consumption per \$ GDP by 2.0% per year. In contrast, France and Japan have remained fairly stable, while Brazil is using more energy per unit of economic output over time. China is the big surprise. Between 1980 and 2002, they registered astonishing reductions in energy intensity of 5.1% per year, however, since 2002, the trend reversed. This reversal is clearly linked to strong growth in economic output there in recent years, and portends large increases in industrial carbon dioxide emissions.

Energy intensity (energy used in BTUs per \$ of GDP) in six countries.



Data Source: Dept. of Energy, Energy Information Administration. 2006. "International Energy Outlook, 2006." DOE/EIA-0484(2006). <http://www.eia.doe.gov/oiaf/ieo/>