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# What should be done with the revenues from a carbon cap and auction system?

**Robert Costanza and Joshua Farley**

Many people believe that a carbon cap and auction system will only prove politically feasible if all individuals share ALL generated revenues equally. An alternative is to return some fraction of the annual revenues as dividends, but to use the remainder for other purposes related to preserving and enhancing the common asset—the atmosphere and climate. Certainly, revenue should cover the administration costs of the system, but a significant fraction should pay for related projects like researching and developing renewable energy, deploying renewable energy technologies in developing countries, paying for ecosystem services like carbon sequestration, etc. Few deny that all of these things are important, but many still argue that these investments would either happen through the new market signals the system would produce or should come from other sources of public funding. Here are three reasons why an atmospheric trust should use a significant fraction of the revenues (net of administrative costs) for purposes related directly to “enhancing the asset” rather than pay out as current dividends:

## 1. What are “dividends,” in this case?

Dividends imply the net proceeds produced by the capital after subtracting all transaction and other costs. Dividends should be paid from net profits without touching the capital asset. In order to maintain the atmospheric asset, humans need to cut emissions drastically and that will require both the development and deployment of low carbon technologies at a *very* rapid rate. Can we expect private markets to do this alone, even with the price signals adjusted by the carbon auction price? If research and development is left up to the private sector, new technologies will be patented. Patents are simply legal monopolies, and monopoly prices will ration use of new technologies to those who can afford them. Since information is not depleted through use, price rationing due to patents creates artificial scarcity. If the

resulting prices are too high, China and India are likely to continue burning coal, in which case, we could not achieve atmospheric carbon stocks of 350 parts per million, even if the US reduced emissions to zero. Patents expire in 20 years, but that may be too late. Therefore, some amount of direct investment by the trust would be necessary to restore and maintain the asset at the required rate. For example, if research and development receives a share of revenues to create carbon neutral energy technologies made freely available to all, it could dramatically trim the costs of reducing carbon emissions. Not only would this make it easier to tighten caps in the US, but other nations would also be more likely to adopt these technologies and reduce their own emissions. The question really boils down to this: who is best placed to develop and disseminate the necessary technologies—the private sector or the trust? There are advantages and disadvantages to both. Hedging our bets by allowing a significant role for both would be best at this point. These investments should be monitored closely. The trust can then adjust the fraction of the revenues that is devoted to direct investment, based on the relative effectiveness of its investments compared to those of the private sector.

## 2. Who are the shareholders?

The shareholders in the atmospheric commons are both the current generation and future generations. If the government returned all the revenues as dividends to only the *current* generation, does that leave enough for future generations? One could argue that it is the asset itself that the present inhabitants need to bequest to future generations; the carbon cap and auction system (through the higher prices on carbon emissions it will produce) will allow the restoration and maintenance of the asset. This comes back to the question whether or not the price signals alone will get the job done fast enough. There is a strong possibility that they will need some help. In any case, by making the

fraction of the revenues returned as dividends a variable rather than fixed at 100%, one could monitor the effectiveness of the private market in getting the job done and adjust the percentage returned as dividends accordingly over time.

## 3. What are the dividends spent on?

In essence, the trust is charging for the depletion of a common asset. If revenues are returned to private individuals, they will likely spend them on private goods and services, yet the production of these is the root cause of the carbon emissions that damage the asset in the first place. Making the cap global, or extending it to carbon emissions generated by all imports, would partially address this issue but presents its own political feasibility problems. It makes sense that at least some of the revenues from depletion of this common asset be spent on public, rather than private, goods and services aimed directly at restoring and maintaining the asset. Again, there would be room to adjust this percentage based on performance.

In summary, all these reasons boil down to one question: how effective would the private market alone be at reducing carbon emissions over time? If the cap is set and enforced adequately, then it will not be possible to exceed it. There is certainly truth to this, but there will be significant effects on the price of fossil fuel. With no technical change, the price will shoot up. If technical change is rapid enough, the price would rise less and might even be stable, even as caps are tightened. Direct investment by the trust would help speed technical change, because it would produce public domain technologies that would be more quickly adopted, and this would moderate the price rise. Predicting the magnitude of these effects is very difficult. It makes sense to allow the fraction returned to be variable, to make the system more adaptive and effective without affecting the political feasibility of the system. **S**

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