

15.3 **How a properly structured carbon tax could ignite shale oil's future**

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Concern continues to exist for global warming and the impact that burning hydrocarbons has on the environment. This concern led to the Kyoto Protocol, the meeting in Copenhagen, and encouraged the US House of Representatives to pass the Waxman-Markley bill. However, the proposals to-date fail to address the supply side issue of carbon emissions. The proposals to-date include a cap-and-trade on domestic emissions and a standard carbon tax solely on energy. Both fail to account for transport emissions and foreign emissions, potentially leaving any country which adopts these at a competitive disadvantage.

The author proposes a new structure for a carbon tax that is based on the economic value of the carbon in the product produced. In this case it would include domestic emissions as well as foreign emissions and transportation emissions. For the US, the author discovered that a carbon tax starting at \$5/ton and rising to \$50/ton placed on all products and services could result in a significant restructuring of the utility and housing industry to reduce emissions at minimal cost when compared to previous proposals. A key difference being that funding raised from the tax is invested into alternative and nuclear energy sources reducing emissions in those sectors significantly.

However, for transportation oil and its derivatives remain the best resources. In applying this tax the author discovered that shale oil produced in-situ using alternative and nuclear energy would be highly competitive with imported oil. More importantly, it would produce significantly less emissions, up to half less than the amount emitted using oil from other countries as the tax takes into account the carbon footprint of production share of carbon and transportation emissions.

Oil produced and shipped thousands of miles has a significant carbon footprint, especially if it is produced in an environmentally unfriendly manner. However, advanced in-situ technologies to produce shale oil from clean energy make it possible to produce shale oil in a manner that reduces total emissions of produced shale oil converted into fuels especially compared to imported oil. Not only does it need less refining as it is a higher quality product, but more importantly, it does not need to be shipped very far as it will be consumed domestically.

The result is that a properly structured carbon tax would encourage the production of domestically produced oil, including shale oil, because it would have a lower carbon footprint and therefore reduce total emissions.