

Carbon date

Chris Thorpe of HCEnergy advises the shipping industry to get ready for carbon emissions trading



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It does not take long-range radar to find the biggest polluter on a global scale. The United States accounts for over 20% of global carbon dioxide (CO₂) emissions, despite having less than 5% of the global population. Forget about logic, the pollution debate is about politics and power. Businesses have to prepare for the impact of legislation and industry reform that may affect their costs in the future. Fortunately, the market for carbon emissions is evolving to the point where hedging the unforeseen risk may be possible.

Air pollution produced by the average business has been drastically reduced by technological upgrades. Sadly, incremental improvements have been overcome by the magnitude of the market and global population growth. In many countries, legislative restrictions and taxes designed to curtail carbon emissions have created incentives for manufacturers and power generators to invest capital. However, the improvements made in **Organisation for Economic Co-operation and Development (OECD)** countries are being offset negatively by China and the emerging markets. Opponents to voluntary or mandatory emissions schemes argue that self-imposed limits put the US and European economies at a substantial disadvantage. The fact remains, however, that the OECD produces most of the CO₂ per capita, due to power generation demand and the volume of passenger cars and commercial trucks.

There are likely to be unwanted, if not unforeseen, business consequences for the commercial transportation industries as a result of climate change policy. Though the 1997 Kyoto Accord focused on the power and manufacturing sectors, the transportation sector was only spared time versus any kind of exemption. After all, it will be hard to avoid focusing on transportation since it accounts for the majority of carbon emissions from petroleum sources (i.e. non-natural gas or coal sources). When the transportation sector reaches the forefront of policy debate, new policies will likely ensnare businesses directly and indirectly in a global web of regulations, taxes and fees.

Collectively, regional policies have spawned a global carbon 'market' that was worth \$136 billion in 2009. And it seems that law makers are not backing down. According to the **US Energy Information Administration (EIA)**: 'If there are no specific initiatives to reduce carbon emissions in the (passenger) transportation sector, especially beyond 2010, increasing pressure

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may have to be exerted in the other sectors in order to reach and then maintain 2010 carbon emissions targets beyond 2010.' Though the passenger car and truck fleets have higher turnover and can be made more efficient near term, the EIA does not exclude targeting commercial transport from its list. Indeed, the tax on commercial transportation may be an easier target from a politician's perspective when introducing reform.

Marine transportation stands out because heavy fuel oil (HFO), the 'dirtiest' of petroleum fuels, is used by the majority of international carriers. For those companies, costs are increasing due to forced new engine technology or forced vessel replacement. This is a slow process as currently only 3% of vessels are being replaced each year with higher efficiency models. Thus, emission levels may not be dropping fast enough to satisfy international and local limits. It will probably be impossible to keep up with new restrictions, both regionally and internationally, without costly vessel improvements and potentially high carbon taxes or fees.

Maritime organisations have already created hard limits on sulphur in fuel in certain jurisdictions, as well as introducing voluntary systems to reduce carbon emissions. The **International Maritime Organization (IMO)** has responded to the Kyoto Protocol with lower sulphur fuel tolerance levels at the expense of cheaper, and more pollutant, HFOs. There are clear rules about the maximum tolerance for sulphur content in the fuels consumed in the Emission Control Areas (ECAs) in the North and Baltic Seas. ECAs are also being adopted in more regions, including North America where they are planned for implementation by 2012.

Pre-emptive action

Given the outlook over the next decade, it is likely that most industrialised nations will use the Kyoto Protocol as a launching pad to create emission controls, caps, taxes or other incentives to reduce pollution or invest in the production of cleaner burning fuels. This may affect the commercial transportation industry significantly. If a ship or vessel calls on a country where these laws apply, they

could be subject to ad hoc taxes, surcharges or limits. Marine freight companies might be able to pass this on through fuel surcharges, which have been implemented widely over the last decade. If not, increasing costs may bite into profit margins. With this risk in mind, preparing to avoid or reduce the costs is the best strategy. Companies can do this by investing or diversifying the fleets to marine diesel oil (MDO) and away from bunker fuel. In some markets, the marine fuel has already shifted away from HFO to diesel due to local law – California being one obvious example.

Whilst we can imagine that government mandated or voluntary compliance will raise costs for the marine freight industry, can we challenge how to effectively manage or hedge these costs? Fortunately, we can mitigate some of the risk by investing in carbon credits, which could offset the taxes or fees. Designed after the existing futures market, the exchange marketplace for carbon emissions provides a credit safe method for buying and trading. The markets are regulated and overseen by neutral overseers and prices are completely transparent. The European model has laid the framework.

European carbon emission legislation

To comply with current European Union (EU) legislation, polluters must either limit their output or 'buy' additional credits from the market place. This, in theory, creates an incentive to reduce carbon emissions to

grass roots organisation for emission controls. Currently, three regional programmes exist in North America, one being operational in the Northeastern region, including a number of US states and Canadian provinces. The *Regional Greenhouse Gas Initiative (RGGI)* includes the states of New York and all of its immediate neighbours including those in Canada. It is a mandatory 'cap and trade' programme, meaning that allowances for emissions are auctioned off by each state authority.

Cap and trade

The concept of cap and trade is that emissions are priced on a per tonne of CO₂ basis. This price will be floating, but the government essentially will want to set a minimum cost, tax or incentive to achieve its emission targets or commitments. The 'trading' part of cap and trade is through organised exchanges similar to those that function in the European system. In Europe, the EU emission allowances have been tradable freely on the **Intercontinental Exchange (ICE)** since 2005. This means that those who need to buy or sell can do so without knowing the counterparty of the transaction, since it is guaranteed by an exchange which creates a future contract for the participant. These function the same way as energy futures are traded on the exchanges. In fact, most of the energy exchanges have developed a venue for the main carbon emission contracts so fuel

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This may create an incentive for alternative fuels such as biodiesel, solar power and other renewable fuels that are in trials. There are strong arguments against raising costs to commercial transportation, but political debate in this area is not complete and may turn to marine and air transportation before long.

What's next?

Green legislation and commercial business rarely walk hand-in-hand. Sure, tax policy has favoured renewable energy (bio-diesel and ethanol in particular), but rarely has such policy positively affected the end users in commercial transportation.

The Copenhagen Conference in November 2009 was aimed at updating the Kyoto Protocol but failed to conclude with a new treaty (see Bunkerspot, February/March, page 36). It only urged deep cuts in CO₂ to help mitigate the worsening effects. It did highlight the growth of marine transport and the high cost of improving current emission levels.

Again, the marine and air transport industries dodged a bullet largely because of the disagreement over which countries should bear the greatest burden. Ground transportation also remains an easier target at the commercial and passenger levels.

Under the Kyoto Protocol, developed countries are obliged to reduce their total greenhouse gas (GHG) emissions by 5% from 1990 levels by 2012. The target date will likely be pushed back but the market is gearing up for change in a large scale.

Preparing for an unforeseen tax or liability may be the only choice in managing this risk which remains at the forefront of policy debate at the national and global levels. Fortunately, a carbon market will provide products that may provide some insurance to offset the upcoming costs and business risk.

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accumulate credits. Or, a company may invest in reducing emissions with the proceeds from selling its future excess credits. If your business is within the region of the programme, using credits may be a workable business plan since the investments in clean projects may have more federal or local incentives such as tax credits. In Europe, the compliance market is driven by government mandate and oversight under the *EU Emission Trading System (EU-ETS)*. There are similar systems in Japan, Australia and the US on a regional basis. These systems are all following the lead of the Kyoto Protocol, thereby excluding developing countries in the first initiative.

Though the United States elected not to comply with the Kyoto Protocol in the first phase, local political pressure has led to

hedgers can use the same venue and accounts for trading and hedging. This market is expected to quadruple by 2013 to over \$600 billion.

Transportation in the crosshairs?

In Europe, about 40% of CO₂ emissions are created by some 10,000 energy intensive plants. These have been the focus for the EU-ETS. Transportation and buildings have been spared even though they represent the largest share of the non-power generation industries. Transportation, for example, is responsible for approximately 20% of emissions in Europe. To effectively reduce emissions, governments are already seeing that the fastest, most cost-effective way to do this without hampering growth is through the limits on transportation.