

More information: *Australian Seafood Industry Climate Change Reference Guide*, www.climatechangeefishing.com.au; energy saving tips and rebates, www.climatechange.gov.au/en/government/reduce

PREPARING FOR CARBON ECONOMY

Australia's emissions trading scheme kicks off on 1 July, but how it will affect the seafood industry remains to be seen

PHOTO: CATHERINE NORWOOD

Australia's long-awaited emissions trading scheme (ETS), will come into play with the new financial year as part of the Clean Energy Futures legislation.

Members of the seafood industry will not be directly charged for carbon emissions. This provision applies to polluters who produce more than 25,000 tonnes of carbon each year. But industry members speculate that seafood will nonetheless experience the flow-on effects of this major economic change, with pressure on net profit, wages and costs.

The greatest changes are expected to come through increased prices for fuel and electricity, the latter caused by retailers passing on the price they pay for emissions to consumers.

The possible effects of the carbon price, and how aquaculture farmers and wild catch fishers can prepare for them, were tackled at a recent meeting of stakeholders from around Australia. The symposium in March 2012 was organised by the Queensland Seafood Industry Association (QSIA) and brought together fishers, farmers, scientists, fisheries managers and conservation

industry members in Brisbane. The overall message was that businesses should attempt to insulate themselves by looking at consumption of fuel and electricity, often through investment in new technologies.

"We're all going to be impacted," said Eric Perez, manager of climate change, fisheries and industry development at QSIA, which represents the Queensland seafood sector. "But how do you compare the degree of impact on a small crab fishery in the Burdekin in north Queensland to an aquaculture farmer in NSW who spends a lot more on their power bill?"

Mick Keogh of the Australian Farm Institute has been consulting on the implications of the carbon economy for commercial fishing and on the likely impact of the carbon tax and made a presentation at the Brisbane symposium. He agrees that the exact rise in costs will be seen case by case, but estimates it will not exceed one per cent. He says fishers and farmers of high-profit species, such as abalone, will be less affected by increases than lower-profit products such as Atlantic Salmon, in which outgoings and business model are crucial to determining returns.

Fuel on the rise

Mick Keogh explains that fuel used off-road in agriculture, fisheries and forestry is currently subject to a rebate of 38 cents per litre on excise and customs duty.

After 2014, this rebate will remain in place for off-road operations. But heavy vehicles on-road will be subject to a price of \$23 per tonne of carbon emissions, which equates to about five to six cents per litre. This will affect fishers and farmers who rely on long-haul trucking to deliver their product to urban centres.

"For example, if you look at the Northern Prawn Fishery, which is based in the Gulf of Carpentaria and across the top to Darwin, they typically land at either Karumba in the Gulf or in the NT and road freight the product to Melbourne, Adelaide and Sydney. That's a massive element of their business," Mick Keogh says.

And although the off-road rebate is currently unaffected, the seafood industry should not be complacent about its longevity. A major message from the symposium was to improve fuel efficiency on the water, for main engines and for generators (see box, opposite page).

Meanwhile, aviation fuel will be subject to a carbon price from 1 July 2012, affecting producers who use air freight as a significant component of their business.

Electric surges

One of the major costs to the seafood industry after 1 July will result from price rises in electricity. Energy retailers comprise the greatest proportion of the top 500 greenhouse gas emitters in Australia and will be subject to the carbon price, a cost that they are expect to pass on to consumers.

"Processing supply chains associated with agriculture and fisheries are big users of energy," Mick Keogh says. The prawn farming industry, for example, relies on large amounts of electricity to power pond aerators and to pump water out of estuaries for on-farm use.

NSW and Queensland recently released draft tariffs for the 2012-13 financial year. Both states have attributed part of the increase in tariffs to the carbon price; in NSW, half of the 16 per cent increase is attributed to carbon price.

“It’s not clear-cut what the impacts will be for aquaculture, but in the short term, certainly there is anywhere between a 10 and 15 per cent increase in electricity costs,” Mick Keogh says. “There are opportunities to look at alternative sources of electricity, to generate credits through solar panels, to look at co-generation using biomass.”

Power action

Australian Prawn Farms Pty Ltd, based an hour south of Mackay by car, is one business already taking steps to insulate itself against price rises for fuel and electricity. The operation includes 33 grow-out ponds, a 20-hectare settlement system, a hatchery and processing facilities. Its electricity use for the ponds is enough to produce about 10 to 13 tonnes of prawns per hectare per year.

Farm manager Matt West says that the business recently invested \$30,000 to purchase two power factor correction capacitors. These devices even out any irregular flows of voltage that can occur in a system with multiple motors operating concurrently, reducing any flows greater than what is required.

“We were running at about 60 per cent efficiency, drawing all the power, but only getting some of the benefits,” Matt West says. “With these capacitors we’re able to be 100 per cent efficient. We’re looking at it as a way to use our power more effectively, using the infrastructure on farm better to put more animals out and therefore cover cost increases.”

Matt West recommends that any business with high power use should consider capacitors to ensure efficiency.

But the main insurance Australian Prawn Farms has against the projected rise in tariffs is a three-year power supply contract, individually negotiated through the contestable power market, locking in a set price.

For many in the seafood industry, the uncertainty of the coming months and – in terms of fuel expenses – years can be unsettling. But Matt West sees it as just another change to be taken in stride.

“It’s just something you have to deal with. The best way to deal with it is to try to pump out more premium quality prawns while maintaining efficiency in all your other costs,” he says. **F**

SMARTER WAYS WITH OFFSHORE FUEL

The Queensland Seafood Industry Association (QSIA) recently released its *Australian Seafood Industry Climate Change Reference Guide*.

The document recognises that fuel is a major cost to the industry. It also prepares for the eventuality that the rebate on fuel customs and excise tax used off-road could be reduced, and this usage made subject to a carbon price.

Written by Samuel Stone and Linda Cupitt of the Miovn Consultancy, the reference guide collates research from around the world and includes a section on equipment and processes for energy-efficient fishing.

Factors that can maximise catch per unit of fuel include:

- hull design – more slender hulls can achieve savings of up to 30 per cent on fuel consumption, while bulbous bows (protruding bulbs at the front of larger ships) can make huge improvements in fuel efficiency, and can also be retrofitted;
- stability – a stable vessel is more efficient. Design options to reduce pitching, rolling, yawing and heaving include bilge keels, active fin stabilisers, active anti-roll tanks and gyroscopes;
- propeller size – a large propeller that moves a great deal of water slowly is more efficient than a small propeller whirling quickly; using the largest possible propeller for the size of a boat is recommended;
- new-generation trawl boards for bottom trawlers – these are designed to minimise hydrodynamic resistance and sea-floor contact; instead of steel, the boards use heavy-duty sails to spread the net in the water;
- trawl net design – lighter, high-strength trawl nets are easier to tow and the design of the mesh openings can make a small contribution to reducing drag;
- motor efficiency – four-stroke outboard motors are considered more efficient than two-stroke motors; diesel engines should be maintained to avoid restriction to flow of air and exhaust and skippers should consider fuel flow meters to monitor engine performance during a journey;
- sail assistance – the guide’s authors describe sails as “one of the oldest and perhaps most underrated modifications to fishing vessels. In addition to generating thrust and assisting mechanical power, sails are also known to dampen vessel roll”; and
- energy efficient lights and appliances such as compact fluorescent lights can make huge savings – up to 85 per cent in the case of LEDs.

Source: *Australian Seafood Industry Climate Change Reference Guide*

Other resources:

Department of Climate Change and Energy Efficiency
Programs and rebates

www.climatechange.gov.au/government/programs-and-rebates

Clean Energy Future

www.cleanenergyfuture.gov.au/clean-energy-future/energy-efficiency

FRDC resources (available from www.frdc.com.au)

Fact Sheet: Fuel Efficiency

Fact Sheet: E-Fishing

FISH magazine September 2010 (Vol.18 No.3) – ‘Throttle control for fuel savings’

Final Report – 2005/239 *Fishing energy efficiency review for the FRDC*

– Part A Alternative fuels and efficient engines

– Part B Hull characteristics and efficiency

Final Report – 1998/226 *Effects of Trawling Subprogram: improving the efficiency of prawn capture: refining net designs in Australian prawn fisheries to reduce bycatch and fuel costs*

Final Report – 2007/041 *Feasibility study for the use of biofuel for the western rocklobster industry*

Final Report – 2006/229 *Development and Implementation of an Energy Audit Process for Australian Fishing Vessels*