



**Mackay
Sugar
Limited**
Corporate Office

30 March 2009

Committee Chairman
Senate Select Committee on Fuel and Energy
PO Box 6100
Parliament House
Canberra ACT 2600

Dear Committee Secretary

**RE: Senate Select Committee – Fuel and Energy
Mackay Sugar Submission**

Thank you for the opportunity to appear before the Committee on Monday 6 April in Mackay. Please accept this correspondence as our formal submission.

As requested, this submission focuses on item 'd' of the Committee's terms of reference; "the impact of an emissions trading scheme on the fuel and energy industry". More specifically, the submission focuses on the impact of the Carbon Pollution Reduction Scheme (CPRS) on Mackay Sugar's milling business as it currently operates, and also the impact on our plans to diversify into renewable energy projects. It does not consider the future impact on our agricultural sector, which is exempt from the scheme until (notionally) 2015.

Background

Mackay Sugar Limited (MSL) is one of Queensland's largest private companies with 950 cane grower shareholders. MSL produces about 20% of Australia's raw sugar, crushing approximately 6 million tonne cane each year over a 20 – 23 week period from June to November. MSL is a 25% owner of Sugar Australia, Australia's largest sugar refining business, and operate a large sugar refinery on a year-round basis at our Racecourse Mill in Mackay.

Consuming around 20 PJ energy every year, Mackay Sugar's three Mackay mills are large energy users. This is equal to almost 50% of the total energy used in the Queensland mining industry. However, over 95% of this energy is self generated from renewable bagasse, the fibre remaining from the cane crushing. The energy content of this bagasse is equivalent to about 650,000 tonne thermal coal.

About 4% of our energy comes from coal firing, to supply steam and electricity to the refinery during the non-crush when stored bagasse is depleted, and less than 1% of our energy consumption is in the form of transport fuels, predominantly diesel for our cane-hauling locomotives. Energy consumption is about 40 times above the NGERs reporting threshold, requiring MSL to report annually to the Department of Climate Change.

Bagasse is fired in large boilers to produce steam, which is used to generate electricity and provide heating steam to the sugar process. About 75% of the generated electricity is used internally and the balance is sent into the local Mackay grid. This energy generation process has been deliberately designed to be inefficient, to avoid having to dump surplus bagasse onto cane paddocks. Low domestic energy prices in Australia have provided little incentive for sugar mills to invest in efficient plant for 1) electricity cogeneration, 2) supplying energy to other processes, or 3) manufacturing ethanol.

The competitiveness of the Australian sugar industry has suffered in recent times as our major international competitors have diversified into Cogeneration and Ethanol projects. These countries typically have much higher domestic energy prices and sugar mills are encouraged to invest in renewable projects. It is ironic that the CPRS is now likely to raise Australian energy prices, thereby assisting renewable sugar projects in Australia, and helping to restore our competitiveness.

Future for MSL

To counter falling sugar prices, MSL has embarked on plans to install a major cogeneration plant at Racecourse Mill, followed by a fuel grade ethanol plant. The 36 MW Cogeneration project will export about 28 MW into the local grid year-round, supplying approximately 30% of Mackay's electricity needs. It will also supply the steam and electricity for the 60 ML pa ethanol plant. Combined, these projects will require an investment of around \$200m and will abate approximately 340,000 tonne greenhouse gases each year.

Legislation of the proposed 20% Renewable Energy Target is an essential and urgent prerequisite for the Cogeneration project to proceed. However, the CPRS will indirectly assist the project due to the likely increase in wholesale electricity prices, and the benefit will be greater as concessions to coal fired power stations are reduced. A similar benefit will apply to the Ethanol project, with fuel prices set to rise following the three year excise adjustment mechanism under the CPRS.

CPRS impact on MSL's current operations

Modelling has been undertaken to assess the impact of the proposed CPRS on MSL's current operations. A carbon permit price of \$20 has been used, and it has been assumed that there is full CPRS cost pass-through in the purchase of our imported energy (i.e. coal, electricity, diesel and petrol). The purchase of carbon permits to acquit our liability for the combustion of coal has been included, while no permits are required for the combustion of renewable bagasse, our predominant fuel.

The net increase in operating costs due to the CPRS is estimated to be small, at less than 0.1% of MSL's annual turnover. The cost of permits to cover Scope 1 emissions (coal firing), together with increased coal, petrol and diesel costs, is largely offset by increased revenue from electricity sales. MSL is a net exporter of electricity, and the higher Queensland pool price expected under the CPRS should be reflected in increased electricity export revenue.

CPRS impact on the Cogeneration Project

The Cogeneration project will result in 200,000 MWh pa of extra electricity being exported into the local grid. This displaces fossil fuel generated electricity with an emission intensity of 0.91 kgCO_{2e}/ MWh (Queensland electricity, NGERs workbook). With carbon permits priced at \$20, and assuming generators pass this price through to the wholesale NEM market, MSL could expect an increase in electricity export revenue of approximately \$3.6m due to the CPRS.

This revenue will not be explicit or transparent, however it will be reflected to some extent in prices agreed to under a power purchase agreement (PPA). There are many other factors that will influence the component of the electricity price rise due to the CPRS, however, because medium to long term PPAs are important in underpinning generation projects, any cost increases due to the CPRS will implicitly benefit renewable projects.

CPRS impact on the Ethanol Project

As petrol producers/distributors will carry the liability for combustion emissions from their fuel under the CPRS, it could be expected that petrol prices will increase by around 2.5 c/L for every \$10 of carbon permit cost, based on an emission intensity of 2.38 kgCO_{2e} /L petrol. On an energy equivalent basis, ethanol (renewable) should enjoy a 3.5 c/L advantage over petrol when carbon permits are valued at \$20 ea.

Assuming a constant discount margin is maintained against petrol prices, a 60 MI pa ethanol project could see an effective revenue increase of about \$2.1m pa due the introduction of the CPRS. Again, such an increase in revenue is implicit only, and will be determined by the actual prices achieved within an off-take agreement.

Summary

As a large energy user and renewable energy generator, MSL has taken a close interest in the structure and implementation of the proposed CPRS. Modelling has shown that the scheme will have a relatively minor negative impact on current operations.

However, with a strategic plan to enter the renewable electricity and ethanol markets, MSL views the CPRS as a positive policy which will enhance both projects. The long term viability of these projects will be more secure with the CPRS, and such diversification should allow us to compete more readily in the international sugar market.

Yours faithfully,



Quinton Hildebrand
Chief Executive Officer