

Global NRG Ltd
Turning Today's Waste
into Tomorrow's Green
Energy

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Global NRG
Renewable Energy
Technology

Project Manager – Queensland's Waste Strategy consultation
Natural Resources and Environment
Department of Environment and Resource Management
GPO Box 2454
BRISBANE
QLD 4001

12th August 2010

Dear Sir,

Global NRG Ltd is a world leader in waste to energy (WTE). We have previously been in written contact with Mr Greg Withers of the Department of Climate Change.

We are of the opinion that The Queensland Government is not adopting world advances in waste to energy (WTE) technology and for renewable energy, and that the draft strategy "Queensland's Waste Strategy 2010-2020 Waste Avoidance and Recycling Consultation Draft" omits many of the alternatives for dealing with wastes, that can remove waste in total from the eco system and use it for economic benefit to the state, taxpayers and ratepayers.

Besides the contribution that landfill makes to climate change (5% to 6%), which continues for 50 years or more, Australia is trying to reach a target of 20% of its energy being from renewable resources by 2020.

Wind does not always blow, nor the sun shine, or water flow, but waste is a constant and energy generated from it can support base load to the grid, without the need for back-up generation as is required with wind, solar and hydro power generation.

WTE is the only source of renewable energy that can provide the amount of green electricity needed to meet the legislated target.

Queensland produces enough MSW, green household waste, waste wood, forestry waste, agricultural waste and sewerage sludge to generate 67% of State's total electricity needs not only now, but by 2020.

So why does the Draft strategy omit the options of using this valuable WTE technology to reduce waste?

Global NRG has technologies that can reduce the need for sending MSW, green waste, waste wood and recyclables to landfill by up to 96%. All that remains for landfill are stones and dirt thrown into garbage bins. These can be used in landscaping or sent without GHG penalties to landfill.

Global NRG's technologies are commercially proven solutions to dealing with waste. A PPP of an existing state-of-the-art pelletizing plant is attached and a brochure on Waste to Energy technology for MSW and for biowaste pelleting.

In Australia we are in discussion with several large energy users, waste management companies and landfill owners about building waste to energy plants and pelleting plants.

It is a direction Queensland needs to look in. Queensland also needs to address the lack of levies on MSW, as this is a disincentive to avoiding waste going to landfill.

We would like to address some of the alternative solutions available to sending waste to landfill for various types of wastes that can become a valuable resource for turning waste into renewable energy.

1. MSW

As long as there is mankind on earth there will be waste. In Europe, UK, Scandinavia and a number of USA states landfill is now totally banned.

MSW can be automatically sorted, removing all of the recyclables and the either combusted via the Martin process or pelletized into high density high calorific value fuel pellets which can then easily be stored long term and transported more viably.

The pellets can be used in co-generation with coal in existing power stations producing carbon neutral electricity, replace coal in cement and brick kilns, used to generate green electricity, steam and heat for industry or gasified into syngas for powering internal combustion engines,

manufacturing Biodiesel or fertilizers.

NRG Pellets have no odor and like coal can be stored or transported to power stations or place of need, or exported to countries with no natural resources as a cheaper fuel alternative to coal or gas, because the gate fee for sending MSW to landfill offsets their manufacturing cost.

2. Green Waste from households and Councils

The potential of green waste from household collections and council park maintenance is totally overlooked in Australia.

Green waste particularly in the tropic regions of Queensland is often greater than MSW per household. Over the last 16 months we have intensively researched opportunities for harnessing green waste and converting it into NRG Pellets for use in generating green electricity.

The calorific value of green waste can be adjusted by adding high BTU value wastes to the pellet via our patented fiberizer.

Green waste is particularly suited to gasification to make syngas which in turn is used to power internal combustion engines coupled to alternators to generate power.

The application of NRG pellets via gasification has enormous economic benefits for small communities, farmers and mine operations. We manufacture gasification/generation plants from 800K We right up to 30 MWe.

Given the landfill cost of dealing with green waste energy can be generated from green waste at a comparable cost with coal, with neutral GHG emissions because the plants from which green waste is derived have absorbed as much or more CO₂ during growth phase as they will give off under combustion. Using sophisticated computers control and urea we control all GHG to below even the most stringent levels.

Even small towns and cities can participate in such programs by pelletizing the green waste and exporting the pellets to a power generation plant, saving the need for landfill and resulting in a large amount of renewable energy generation and thereby earning LREC's to offset ratepayers outlays.

3. Waste Wood

Diverting waste wood from landfill will greatly reduce the GHG emissions from landfill because wood will take some 50 years or more to decay giving off methane all of this time.

The potential for pelting waste wood into a high density pellet means it can be more viably transported, stored for long periods and used for renewable power generation in its own right or for co-generation with coal. This not only removes a major source of GHG from landfill, but greatly reduces the amount GHG emitted from coal and gas fired power stations.

The export market for wood pellets is huge.

Power generation from wood pellets ranges from 5 MWe to 290 MWe.

Because waste wood diverted from landfill is normally dry and aged it is low in moisture reduce the energy needed to pelletize it.

4. Forestry waste

There is a huge amount of forestry waste available in Australia that can be used to generate renewable energy, that now is either burned or sent to landfill.

Once again as a fuel it is CO₂ neutral under Kyoto Protocol. Harnessing forestry waste reduces fire potential too.

5. Agricultural Wastes

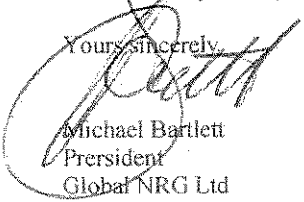
Although not a great deal of agricultural waste is sent to landfill from the farm a substantial amount of waste is generated from agricultural products in supermarkets, green grocers and food processing plants and restaurants, hotels and institutions such as hospitals.

This waste can again be used to generate electricity via gasification or special boilers, or used to manufacture gas via anaerobic digesters and gasification.

Conclusion:

It is apparent that the Queensland Government has failed to take into account many of the technologies and end uses to which waste can be applied. If some of these are embraced in the Queensland strategy it is possible to reduce waste going to landfill by a significantly greater factor than is presently encumbered to the Draft Paper.

Yours sincerely,



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GLOBAL NRG LTD

Waste to Energy Technology
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Waste to Energy Process


- The garbage trucks back into the building through large overhead doors located at the end of the building.
- Waste is dumped on to a "live bottom" in-ground hopper system
- All MSW received is processed within twenty four (24) hours of receipt at the plant.



The Municipal Solid Waste (MSW) Front Reception

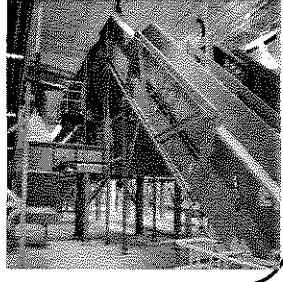
Waste to Energy Process

- Incline pan conveyors move the MSW through the bag splitting units
- The MSW then enters the process through two feed conveyors




Waste to Energy Process

- The conveyors feed into two trommel units that toss the broken bags over a series of knives to ensure that the garbage is completely separated from the plastic bags.



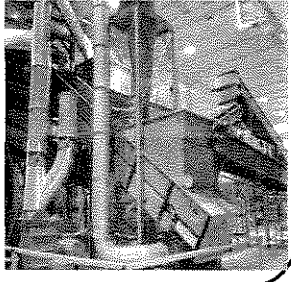
Waste to Energy Process

- The MSW then drops on to another conveyor where air knives remove the paper products and blows it through a series of ducts which enters the shredding unit.
- The balance of the MSW then runs beneath ferrous and non-ferrous magnets and eddy-currents to separate the metals for recycling



Waste to Energy Process

- A Ti-Tech "Infar-red and camera Detection system" removes the plastics, which are then sorted for recycling.



Uses for renewable NRG Pellets

- NRG Pellets made from waste are a renewable energy source which can be used directly in cement, brick, or mining kilns, in boilers to produce steam for industrial use and electricity generation, or gasified into a synthetic gas (syngas) which has similar properties to natural gas and can be used for the same above purposes, or to fuel gas internal combustion engines, or further processed into ethanol or biodiesel. NRG pellets can also be used in coal fired generator plants in conjunction with coal to reduce the CO₂ emission, remove sulphur dioxide and other GHG.
- NRG pellets can be stored indefinitely, remove the burden on landfill and their GHG emissions, and are exportable.
- NRG pellets can also be manufactured from agricultural and other biowastes.
- Unlike the wind which does not always blow, or the sun that does not always shine or water that does not always flow, electricity from NRG pellets is able to support base load to the power grid constantly because there will always be waste.

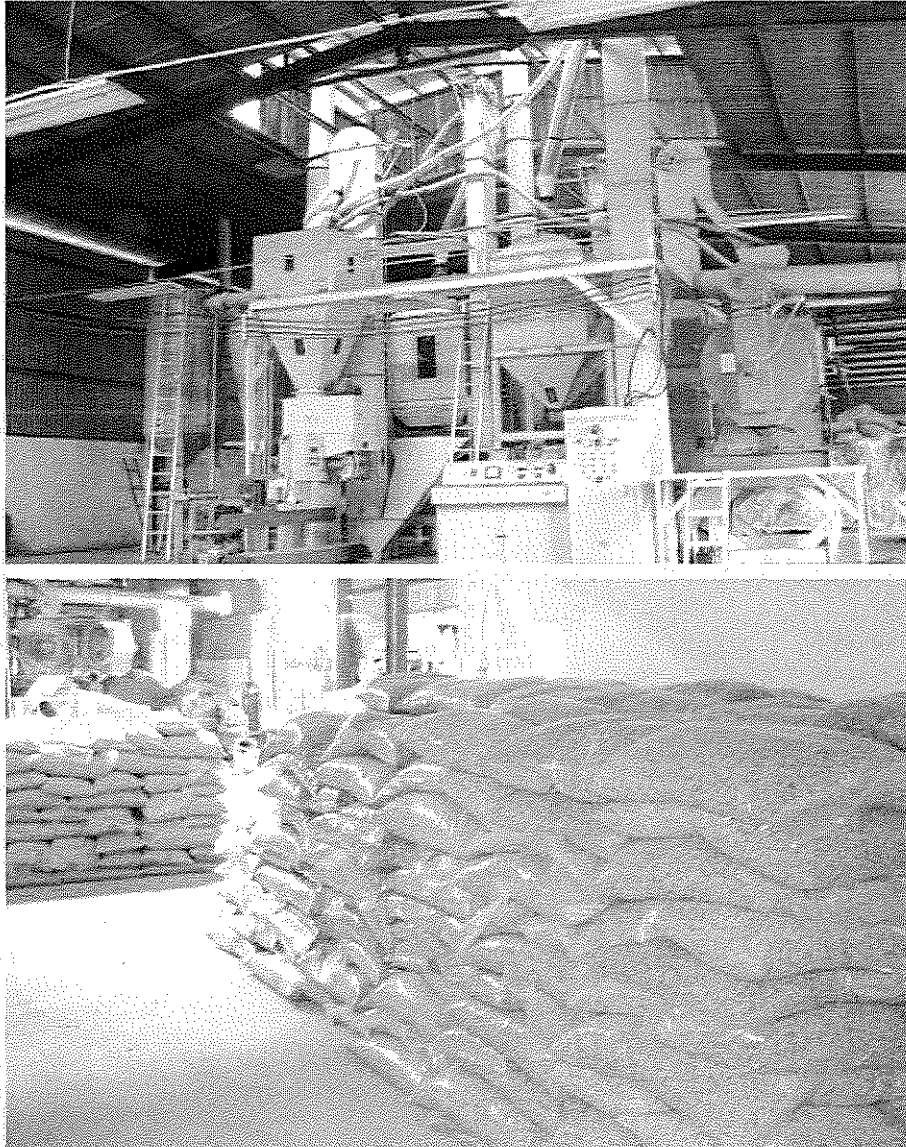
Contact Global NRG Ltd

- To receive more information on our technologies or to speak to one of our waste to energy experts please email:

mib@nuglobalnrg.com



PELLET MILLS



Pelletizing is the process of turning waste materials into solid fuel. The pellets are used for creating heat. Fuel Pellets can be made from any type of Agro-Forestry waste: Groundnut-shells, Sugarcane Bagases, Caster Shells/Stalks, Saw dust, Coffee Husks, Paddy Straw, Sunflower Stalks, Jatropha prunings, Cotton Stalks, Tobacco waste, Mustard Stalk, Cassava waste, Jute waste, Bamboo Dust, Tea waste, Wheat Straw, Palm husk, Soybeans husks, Coir Pitch Barks/Straws, Rice Husks, Forestry wastes, Wood Chips, and many other Agricultural wastes. The plant capacity range is 1-8 ton per hour from Debarking – Chipping - Crushing-Drying - Mixing-Conditioning – Pelletizer - Grade Sieving-Cooling – Packing - Dedusting.

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