8 August 2013

Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

AEMC 2013, Connecting Embedded Generators, Rule Determination, 27 June 2013

The Water Services Association of Australia (WSAA) welcomes the opportunity to provide comment on the above draft rule determination. WSAA is the peak industry body that brings together and supports the Australian urban water industry. We have 31 members, including the largest water utilities in Australia. Our members provide urban water services to around 17 million Australians. Our Association facilitates collaboration, knowledge sharing, networking and cooperation within the urban water industry. We also provide a forum for debate on issues important to the industry and a voice for communicating the members' views.

2030 Vision for the Australian urban water industry

WSAA members' vision for the sector is '**Customer driven, enriching life.'** The vision and four outcomes highlights the industry's commitment to anchor our services to customers' values, and to enrich communities where water services have broad economic, environmental and social values.

> **Outcome 1:** The most efficient trusted and valued service providers in Australia
> **Outcome 2:** A compelling voice in national policy making
> **Outcome 3:** A valued partner in urban and land use planning to enrich communities
> **Outcome 4:** Stewardship of the urban water cycle

WSAA understands that ClimateWorks Australia, Seed Advisory and the Property Council of Australia requested this draft rule change to amend Chapter 5 of the National Electricity Rules to enable embedded generators to connect to distribution networks. For WSAA's members wishing to generate energy from waste, the difficulty and costs associated with connecting to distribution networks can significantly affect the viability of a project. For this reason WSAA has a vested interest in the outcome of this draft determination and therefore, offers the following comments.

Energy from Waste

The urban water industry provides water and sewerage services to approximately 16 million Australians and many of Australia's largest industrial and commercial enterprises. Transport, treatment and disposal or reuse of the solid and liquid wastes requires the consumption of energy and produces (directly or indirectly) greenhouse gas emissions. Electricity use dominates energy related greenhouse gas emissions for utilities (Figure 1). In Melbourne, grid electricity only comprises 55% of the total energy used for urban water services but makes up 90% of the energy related emission. Electricity cost increases are likely to be a significant driver for future energy management decisions in the water industry. Therefore, the industry invests significant resources into seeking opportunities to improve operational efficiencies to reduce emissions and energy costs. These opportunities can range from improving fleet efficiency through to mini hydro schemes (Table 1). Options to produce energy from activities come primarily from generating energy

through mini hydro systems or biogas from wastewater treatment plants. While Table 1 shows that some mini hydro schemes have a negative levelised cost, other renewable energy projects do not (Figure 2 and 3).

Where a utility has the capacity to generate energy, they then have two primary options:

- generate and consume energy on-site
- export energy to the grid

Figure 1. Energy related GHG emissions for water services (2009/10)

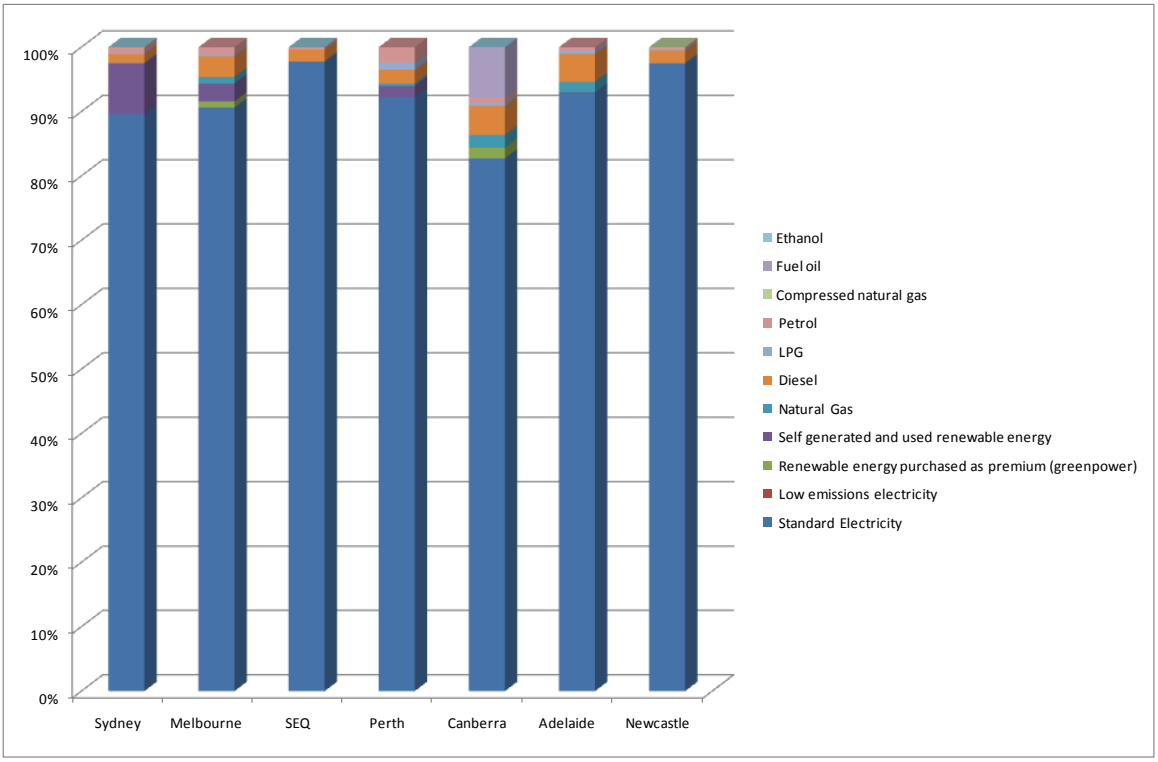


Table 1: Negative levelised cost opportunities for greenhouse gas abatement (case study data)

Opportunity	Annualised average GHG (t CO2e)	Levelised Cost ($/tCO2e)
Fleet efficiency	181 to 408	-1,232 to -400
Aeration control	290 to 4,031	-250 to -172
Lighting efficiency	148 to 416	-220 to -83
Mini hydro	436 to 2,261	-157 to 351
On-site wind (single turbine)	207 to 4,875	-91 to 112
Biochar	130 to 5,499	-28 to 114

Notes: This data considers only the data made available from three case studies (Sydney Water Corporation, Hunter Water Corporation and ACTEW Corporation). This table provides examples of opportunities for greenhouse gas abatement and does not include all opportunities available to reduce greenhouse gas emissions.

Figure 2: Sydney Water cost curve by project type

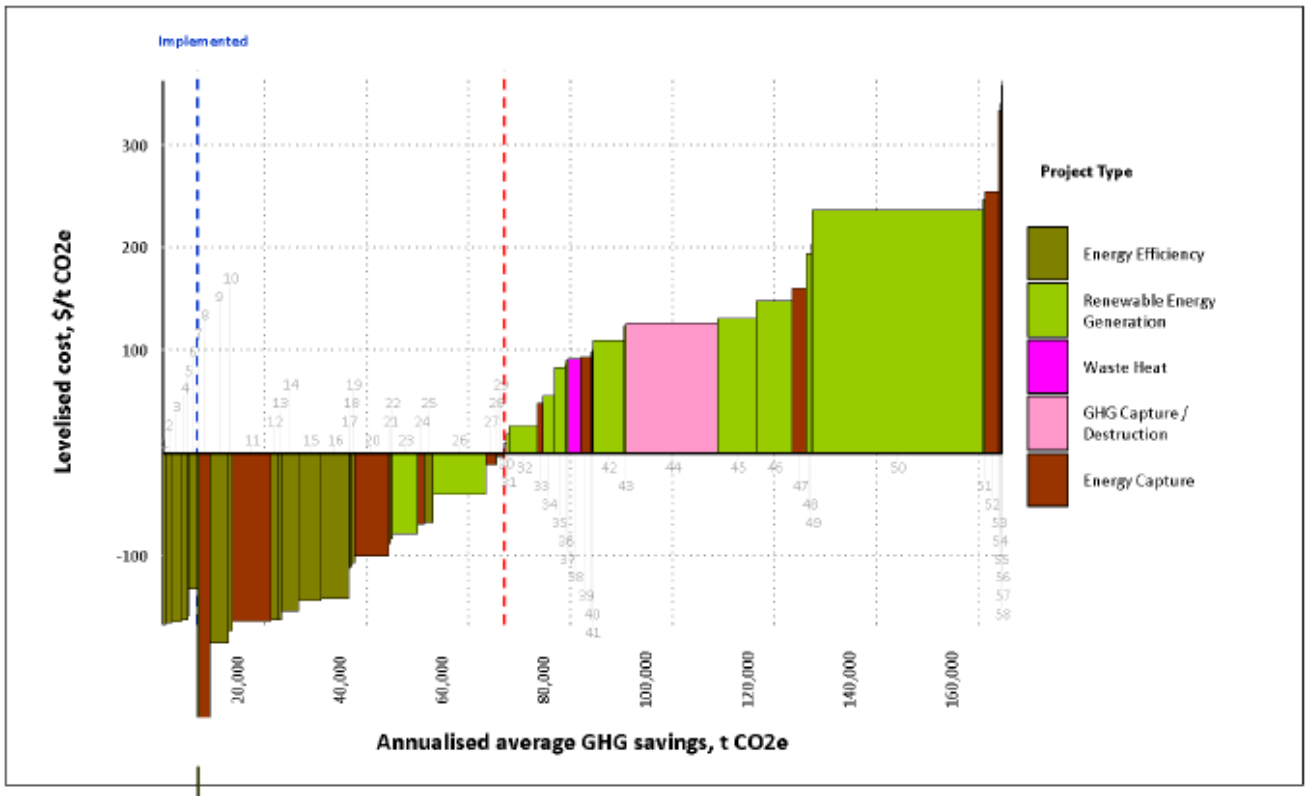
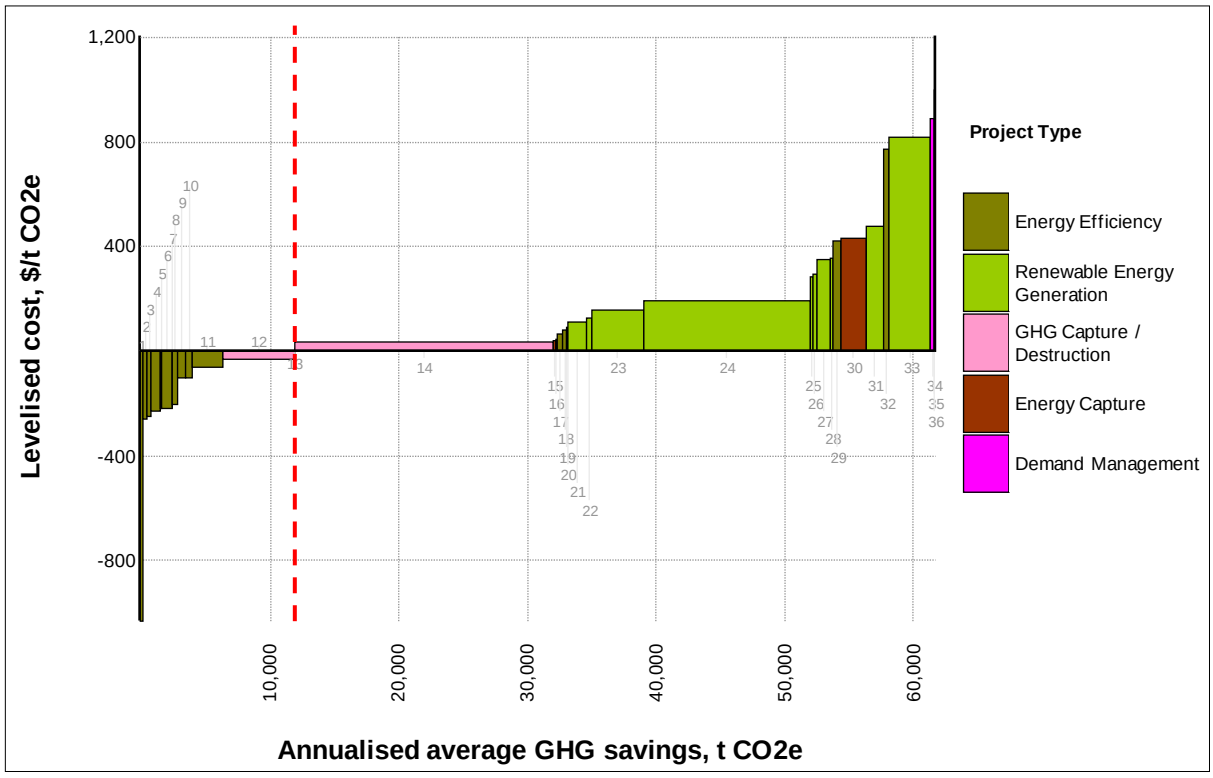


Figure 3: Hunter Water cost of carbon abatement curve by project type



WSAA's members face various barriers (primarily technical and financial) to the successful implementation of waste to energy projects.

High connection charges

The potential to export energy to the grid requires that the point of generation be in close proximity to the grid, that the grid has the capacity to take energy, and that the project is economically viable. Connections also require:

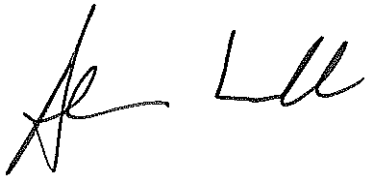
- a willingness for electricity distribution companies to participate/facilitate the grid connection (this does not exist and is currently one of the biggest barriers)
- willingness of the distributor to allow for unscheduled input where on-site power generation is not constant
- grid capacity–where this doesn't exist, expensive augmentation may be needed
- a network study prior to a large input–to understand capacity and then correct any issues identified–with no guarantee of success

This is why utilities currently face high connection charges to export electricity to the grid. WSAA therefore supports this recent draft determination by the AEMC for changes to the National Electricity Rules (NER) for simpler, inexpensive connections to distribution networks. WSAA particularly supports:

- location specific network information for customers by distributors
- an expert appraisal process for technical disputes with an independent engineer
- a register of compliant equipment to be published and maintained by distributors
- the information packs which include distributor's technical standards, costs, application details, timing and a model connection agreement.

WSAA is happy to elaborate on any of the above.

Yours sincerely



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