

SSD-10395 Cleanaway Operations Pty Ltd
Western Sydney Energy & Resource Recovery Centre

I support this project as a Group 5 stakeholder. I declare that I've no short-term private interest in development consent for this project being given or refused. NSW is predicted to go on making ever more waste despite lower rates per capita. As a waste-avoiding NSW ratepayer lumbered with a waste levy that continues to be put to mostly unrelated uses¹, I'd like better infrastructure than landfill to tackle our long-term waste problems.

I am well able to assess the proponent's technical case. I'm a professional engineer with 25 years of experience in the planning, design, construction, and operation of fossil-fuelled, solar, hydro, and biomass power plants in Australia, the Asia-Pacific region, the Middle East, and Europe. In my work I've researched and applied combustion, pyrolysis, and anaerobic digestion as ways to convert solid and liquid organic wastes to electricity and heat. I've read these documents about the project exhibited at DPIE's Major Projects website:

- i) SSD-10395, Planning Secretary's Environmental Assessment Requirements
- ii) Western Sydney Energy & Resource Recovery Centre, Volume 1, Environmental Impact Statement
- iii) Technical Report A, Air quality and odour impact assessment²
- iv) Technical Report C, Waste and resource management assessment report
- v) Technical Report D, Best available techniques assessment report
- vi) Technical Report J, Preliminary hazard assessment
- vii) Technical Report M, Social impact assessment report
- viii) Technical Report N, Greenhouse gas and energy efficiency assessment report
- ix) Technical Report P, Utilities and services assessment report

I support this project for these reasons:

- i) It complies with the NSW Energy from Waste Policy Statement (EfWP) and is consistent with other government plans and policies for residual waste (i.e. non-hazardous materials at the bottom of the waste hierarchy which are left after taking all other measures such as avoidance, re-use, and recycling).
- ii) Its proposed site at Lot 1 DP1059698 has permissible zoning, compatible surrounding land uses, and good fuel, road, water, and 33/132 kV grid access. Genuine community and stakeholder consultation, and deliberation on all factors affecting project viability, are evident in the plant design and choice of site.
- iii) Its target Sydney basin waste streams are likely to stay many times larger than its 500,000 t/year capacity.
- iv) Its proposed twin moving grate furnaces, Rankine steam power cycle, dry/wet exhaust gas cleaning, and ammonia SNCR are the best technologies for a utility power plant, fuelled by the type and range of residual wastes in the Sydney basin, to achieve the minimum net thermal efficiency of 25% set by the EfWP. Other equipment for this purpose lacks technical readiness for safe commercial operation at the same scale and targeted full plant availability factor of 83.2% – often after years of effort in Australia and overseas.
- v) It will reduce equivalent greenhouse gas emissions by at least 0.18 tCO₂-e/t of treated residual waste, or 23% compared to the only other treatment method in NSW, which is landfill (with ≤ 50% CH₄ recovery).
- vi) Its export of 424 GWh/year will further reduce emissions, by about 0.16 tCO₂-e/MWh or 19%, by load-sharing with coal/gas-fired generators forecast to supply most dispatchable power in NSW until c.2035.
- vii) EPA-stipulated modelling of in-stack exhaust gases, using reliable waste composition data, and of plume dispersion finds it'll cause no perceptible or measurable change to air quality anywhere in any timeframe.
- viii) Its worst hazard (NH₃[aq] tank rupture) has a negligible individual risk of about 1.4×10⁻¹¹ fatalities/year.
- ix) It will extend the life of existing residual waste landfills and delay need for new landfills in NSW.
- x) Ash from the combusted waste will probably be suitable for use as a construction material.
- xi) It will be an invaluable test case for any future energy from residual waste project(s) elsewhere in NSW.

¹ Refer to Chapter 2 of the final report (March 2018) by Parliament of NSW Inquiry of Portfolio Committee No.6, *Energy from Waste Technology*, which investigated the waste disposal industry in NSW, energy from waste technology, the prevalence and scale of illegal dumping and of organised criminal activity involving waste, the transporting of waste outside NSW, and the sustainability of the current waste and landfill regime. See <https://www.parliament.nsw.gov.au/committees/inquiries/Pages/inquiry-details.aspx?pk=2436#tab=termsofreference> accessed 9 November 2020.

² There looks to be a typing error in Tables 6-4 and 6-5 on page 40, where flow units should be Nm³/h and Am³/h rather than Nm³/s and Am³/s.