

19 July 2018

**Independent Planning Commission Statement of Reasons
Eastern Creek Energy from Waste Facility (SSD 6236)**

1. INTRODUCTION

The Independent Planning Commission

1. The Independent Planning Commission of New South Wales (the **Commission**) is a New South Wales Government agency, established under section 2.7 of the *Environmental Planning and Assessment Act 1979 (EP&A Act)*. The Commission is not subject to the direction or control of the Minister for Planning (the **Minister**), except in relation to the procedure of the Commission and any directions authorised to be given to the Commission under the EP&A Act.
2. The members of the Commission are appointed by the Minister. Each member of the Commission has expertise in at least one area of planning, architecture, heritage, the environment, urban design, land economics, soil or agricultural science, hydro-geology, mining or petroleum development, traffic and transport, law, engineering, tourism, or government and public administration. One member of the Commission is appointed as the chairperson. At present, the chairperson of the Commission is Professor Mary O’Kane AC.
3. The functions of the Commission are set out in section 2.9 of the EP&A Act. These functions include to:
 - determine State significant development applications where there is significant opposition from the community;
 - conduct public hearings for development applications and other planning and development matters where requested to do so by the Minister or the Greater Sydney Planning Panel; and
 - provide independent expert advice on any planning and development matter, when requested by the Minister or Secretary of the Department of Planning and Environment (the **Department**).

Reason for determination by the Commission

4. The Next Generation (NSW) Pty Ltd (the **applicant**) seeks development consent to construct and operate an energy from waste facility (**EfW Facility** or the **project**) at Eastern Creek in the Blacktown Local Government Area (**LGA**).
5. The Commission is the consent authority in respect of the applicant’s development application under section 4.5(a) of the EP&A Act and clause 8A of the *State Environmental Planning Policy (State and Regional Development) 2011 (SEPP SRD)*. This is because:
 1. the project constitutes State significant development under section 4.36 of the EP&A Act as the project constitutes development for the purpose of energy generating works, and has a capital investment value of more than \$30 million (see Schedule 1, clause 20 of the SEPP SRD); and

2. the Department received:
 - a. an objection from the relevant local council;
 - b. more than 25 submissions from the public objecting to the application; and
 - c. a reportable political donations disclosure.

6. Professor Mary O’Kane AC, as chairperson of the Commission, nominated Ms Robyn Kruk AO (Chair), Mr Peter Duncan AM and Mr Tony Pearson to constitute the Commission to determine the applicant’s development application.

1.1 Site and Locality

7. The applicant’s Environmental Impact Statement (**EIS**) states that the site of the EfW Facility covers an area of approximately 20 hectares (**ha**), and is part of a larger industrial precinct located at Honeycomb Drive, Eastern Creek. The site of the EfW Facility is an undeveloped ‘greenfield’ site, primarily containing couch grass previously used as grazing pasture, and areas of Cumberland Plain Woodland and River Flat Eucalypt Forest in the south-east corner of the site. The site context is provided in *Figure 1*.

Figure 1 – Site context



Source: Department of Planning and Environment’s Assessment Report

8. Located to the immediate north and adjacent to the site is the Genesis site, comprising the Genesis Xero Waste Recycling Centre, Genesis Materials Processing Centre (**MPC**) and landfill, which are owned and operated by Dial A Dump (EC) Pty Ltd, a related company to the applicant. These facilities primarily accept Construction and Demolition (**C&D**) and Commercial and Industrial (**C&I**) waste for processing into classes of recyclable materials. The landfill accepts C&D waste that cannot be recycled (including asbestos), and residual materials from the Genesis MPC and other third-party recycling facilities.

9. The Genesis site project approval (06_139) has been modified on five occasions, with the most recent modification approved in March 2016. Two further modifications are currently under consideration by the Department to:
 - increase the Genesis MPC hours of operation for the landfill, allow the Genesis MPC to operate 24 hours a day and modify the annual landfill cap (MP 06_139 MOD 6); and
 - modify the entry point and layout of site operations to facilitate delivery of the Precinct Road (MP 06_139 MOD 7).
10. These project approvals are not before the Commission for determination but are relied upon by the applicant for associated infrastructure for this development application.
11. Land uses adjoining the site to the east and south consist primarily of undeveloped or partly developed industrial land. The closest residential properties are located approximately 900 metres (**m**) to the west of the site on Swampen Street and Blackbird Glen in Erskine Park. There are approximately 4,945 residential properties, six schools and six childcare centres within 3 kilometres (**km**) of the site.

1.2 Background to Development Application

12. The development application originally submitted by the applicant to the Department was publicly exhibited in 2015, and sought approval for an energy from waste facility with a processing capacity to thermally treat up to 1.35 million tonnes per annum (**mpta**) of residual waste.
13. Following the applicant's review of issues raised in submissions in response to the EIS, together with concerns raised by the Department and relevant government agencies, the applicant lodged an Amended EIS for assessment, which was publicly exhibited in December 2016. The Amended EIS reduced the scale of the facility to thermally treat up to 1.105 mtpa of residual waste, to be implemented in two stages comprising 552,500 tonnes per annum (**tpa**) for each stage (Stage 1 and Stage 2).
14. The applicant further amended its application on 14 December 2017 to seek approval for Stage 1 only, with Stage 2 to require a separate development application.

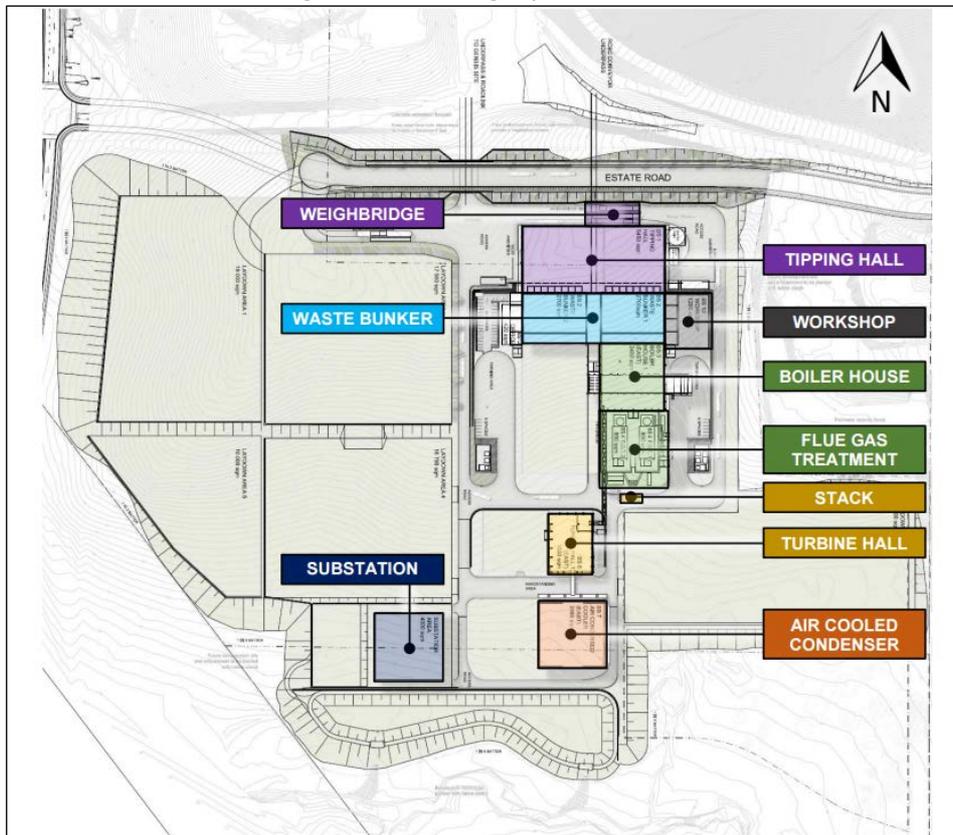
1.3 Summary of Development Application

15. The development application before the Commission for determination proposes the construction and operation of an EfW Facility that would:
 - use moving grate incinerator technology fed by two waste combustion lines to thermally treat up to 552,500 tpa (276,250 tpa per combustion line) of residual waste; and
 - produce 76 megawatts of electricity (**MWe**) per annum, with 68.7 MWe exported to the national electricity grid and the remaining 7.3 MWe reserved for operational purposes on site.
16. This will involve the following plant and systems:
 - tipping hall and fuel storage;
 - waste bunker;
 - combustion line 1;
 - combustion line 2;
 - two independent boilers;
 - one air cooled condenser;
 - associated auxiliary equipment (including two emergency generators);
 - control room, workshop, offices and amenities; and

- flue gas treatment systems;
- one stack;
- one turbine;
- laydown areas.

17. The EfW Facility, illustrated in *Figure 2*, is proposed to operate 24 hours a day, seven days a week, and is anticipated to export up to 68.7 MWe per annum to the national electricity grid, sufficient to supply up to 100,000 homes.

Figure 2 – Building layout and use



Source: Department of Planning and Environment's Assessment Report

18. The waste fuel is proposed to be sourced from existing and planned resource recovery facilities (also known as Material Processing Centres) under the applicant's control, including the existing Genesis facility at Eastern Creek, the existing Genesis Alexandria Transfer Station, and a proposed C&I 'dirty MRF'¹ at the existing Genesis MPC. The applicant also proposes to accept eligible waste fuels from accredited third parties.

19. The EfW Facility would be co-located with the existing Genesis facility, which operates under an existing project approval (06_139) granted in 2009 by the then Minister for Planning. Residual waste from the Genesis facility, which is currently directed to the on-site landfill via a conveyor and chute, is proposed to be diverted to the EfW Facility.

1.4 Need for Project

20. In its Amended EIS, the applicant states that the project:

¹ A 'dirty MRF' is a mixed-waste processing system that accepts a mixed solid waste stream and then separates out designated recyclable materials through a combination of manual and mechanical sorting.

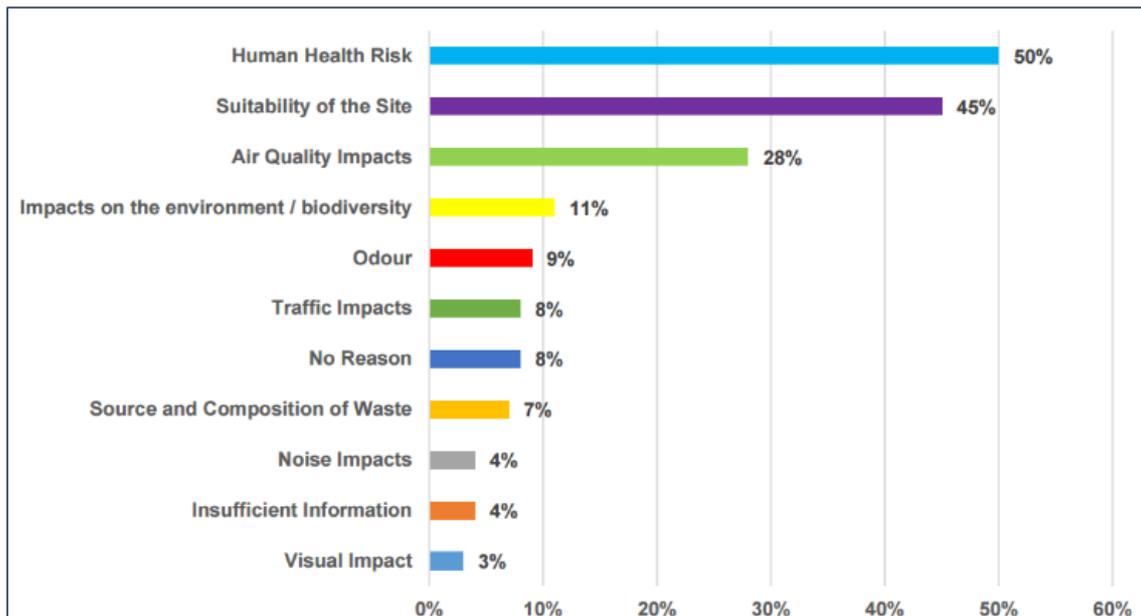
- will use safe, reliable, tried and proven technology to create green energy from Residual Waste Fuel (**RWF**) that would otherwise go to landfill;
 - will reduce the need for primary resources and consumption of fossil fuels to produce energy and would be an overall cleaner form of energy production compared to burning coal;
 - will deliver a net positive greenhouse gas effect, eliminating approximately 544,000 tonnes of carbon dioxide (CO₂) per annum;
 - will break reliance on landfilling in the future;
 - has been designed to respond to the natural topography of the site and minimise visual impacts;
 - will preserve landfill space for more contaminated wastes that cannot be thermally treated such as contaminated soils and asbestos; and
 - will create in the order of 500 direct on-site jobs during the construction and commissioning phase, and 55 operational jobs.
21. The applicant states that landfill capacity in Sydney has been significantly depleted since 2010, and that the EfW Facility would be well placed to provide non-putrescible (Class 2) General Solid Waste (**GSW**) management capacity. In addition, the applicant states that the project can play a significant role in maximising the efficient and sustainable use of resources in line with the Environment Protection Authority's (**EPA**) *Energy from Waste Policy Statement (2015)* (**EfW Policy**) and is preferable to the treatment or disposal of waste in accordance with the resource recovery priorities established by the waste hierarchy.

2. THE DEPARTMENT'S CONSIDERATION OF THE DEVELOPMENT APPLICATION

22. On 23 December 2013, the Department issued the Secretary's Environmental Assessment Requirements (**SEARs**) to the applicant.
23. The development application, including the EIS and supporting technical documents, was first lodged with the Department in June 2014. Following the Department's review, the EIS was amended and the development application was re-lodged on 2 October 2014.
24. In November 2014, the Department engaged two external experts in the fields of human health risk assessment (**HHRA**) (Environmental Risk Sciences Pty Ltd (**EnRiskS**)) and international best practice waste to energy engineering (ARUP Pty Ltd (**Arup**)) to assist it with its assessment of the project.
25. On 28 April 2015, the Department received an amended development application from the applicant, which is the development application before the Commission. After revisions to the applicant's EIS, the Department formally accepted the EIS dated 30 April 2015 in respect of this development application.
26. The Department publicly exhibited the EIS from 27 May 2015 to 27 July 2015. The Department received a total of 44 submissions during the exhibition period, including 29 submissions in the form of objections. These objections included objections from the general public, local businesses, special interest groups, Blacktown City Council, the EPA and NSW Health.
27. In response to these submissions, the applicant lodged an amended EIS in November 2016, reducing the scale of the facility.

28. The Department publicly exhibited the Amended EIS from 9 December 2016 to 1 March 2017. The Department received a total of 990 submissions during the exhibition period, including 963 submissions in the form of objections. These objections included objections from the general public, local businesses, special interest groups, Blacktown and Penrith City Councils, NSW Health, the EPA, the local Member for Mount Druitt, Mr Edmund Atalla, and three local Members for the Federal electorates in Western Sydney (namely McMahon, Chifley and Lindsay).
29. A breakdown of the matters raised and the percentage of submissions attributed to these matters is provided in *Figure 3*.

Figure 3 – Issues raised in community submissions



Source: Department of Planning and Environment's Assessment Report

30. In response to the submissions made in respect of the Amended EIS, the applicant lodged a Response to Submissions (**RtS**) report in December 2017. The report was made publicly available on the Department's website, and was provided to key government authorities and the external experts for final comment.
31. In February 2018, two petitions, each with over 10,000 signatures opposing the proposed development, were tabled in the New South Wales State Parliament.
32. The Department proceeded to prepare an assessment report in respect of the development application (the **Department's Assessment Report**).

The Department's Assessment Report

33. The Department's Assessment Report, dated April 2018, identified inconsistencies with the EfW Policy, human health risks, issues raised in submissions to the Department (see paragraph 29) and public interest as the key matters for consideration. The report concludes that:
- *“the proposal is inconsistent with the EfW Policy which presents uncertainty around the performance of the facility and the long-term risks to the environment and the health of the local community;*

- *the applicant has not identified a suitable 'reference facility' and therefore the expected air emissions from the proposed design fuel are unknown;*
- *given the uncertainties described above, the location of the proposal, in close proximity to densely populated residential areas, schools, childcare centres and employment areas in Western Sydney, is not suitable;*
- *the proposed design fuel contains a significant portion of potentially hazardous waste streams which may result in harmful compounds, such as dioxins and furans, in the emissions;*
- *the development is likely to use material for energy recovery instead of utilising this material to achieve higher order resource recovery outcomes, which is inconsistent with the principles of the Waste Avoidance and Resource Recovery Act 2001 (WARR Act) and the NSW EfW Policy;*
- *the applicant's assessment is likely to have overestimated the volume of residual waste available for energy recovery in the Metropolitan Levy Area (MLA)² and has therefore not adequately justified the scale of the proposed facility;*
- *submissions on the development demonstrate there is significant opposition to the proposal;*
- *the applicant has been unable to gain the community's acceptance of the proposed development;*
- *the proposal is inconsistent with a number of the relevant waste and resource recovery strategies with respect to its scale and proposed waste feedstock; and*
- *the development is not in the public interest as the public benefit of the proposed development does not outweigh the potential unacceptable impacts the proposed development may have on the surrounding local community now and into the future."*

34. The Department recommends that the application should be refused for the following reasons:

- *"the development is inconsistent with key requirements of the NSW Energy from Waste Policy Statement (EPA 2015),*
- *the impacts to air quality and risk to human health are unknown,*
- *the applicant has not adequately justified the scale of the facility,*
- *the development has the potential to result in waste being used for energy recovery rather than higher order resource recovery outcomes directly contravening the overarching principles of waste avoidance and recovery enshrined in the waste hierarchy,*
- *the development is inconsistent with State and regional strategic planning for waste infrastructure needs,*
- *the development is not supported by the local community, local councils, special interest groups and local businesses,*
- *the applicant has not obtained community acceptance for the proposal, and*
- *the development is not in the public interest."*

35. The Department also considers that the application is, *"not consistent with the objects of the EP&A Act and that the project's impacts cannot be appropriately dealt with by conditions of consent."*

² The MLA comprises the Sydney metropolitan area, the Illawarra and Hunter regions, the central and north coast local government areas (LGAs) to the Queensland border as well as the Blue Mountains, Wingecarribee and Wollondilly LGAs.

3. THE COMMISSION'S MEETINGS AND SITE VISIT

36. As part of its assessment, the Commission met with the Department, the applicant, and Blacktown and Penrith City Councils, visited the proposed site, and conducted a public meeting. Minutes of each of these meetings are available on the Commission's website.

3.1 Meeting with the Department

37. On 12 April 2018, the Department briefed the Commission on the project. Members of the EPA and NSW Health also attended, as well as representatives from the Department's technical experts (namely Arup and EnRiskS). Matters discussed at the meeting included the Department's Assessment Report.
38. On 25 May 2018, the Commission held a further meeting with the Department to discuss the project. Members of the EPA, NSW Health, Arup and EnRiskS also attended. Matters discussed at the meeting included the EfW Policy and clarifications of certain aspects of the project as outlined in the meeting notes on the Commission's website.

3.2 Meeting with the Applicant and Site Inspection

39. On 2 May 2018, the Commission met with the applicant and representatives from Urbis, AECOM, Environmental Resources Management (**ERM**) and MRA Consulting Group (**MRA**), who were commissioned by the applicant to provide expert technical support.
40. On the same day, the Commission also conducted an inspection of the site, as well as of the existing Genesis site, with the applicant. Details of the attendees at the site inspection can be viewed on the Commission's website. The Commission invited three representatives from local community groups to attend and observe the site inspection, with one accepting the invitation. After the site inspection the applicant provided a presentation and discussed the project. The meeting minutes and presentation are available on the Commission's website. The community representative departed prior to the meeting and presentation commencing.

3.3 Meeting with Penrith City Council and Blacktown City Council

41. On 2 May 2018, the Commission met with Penrith City Council to discuss the project. On 14 May 2018, the Commission also met with Blacktown City Council to discuss the project. A presentation was provided by Blacktown City Council, which is available on the Commission's website. Minutes of these meetings are available on the Commission's website.

3.4 Public Meeting

42. On 14 May 2018, the Commission held a public meeting at the Rooty Hill RSL, 55 Sherbrooke Street, Rooty Hill to hear the public's views on the project. The Commission received requests to speak from 28 people, with 24 of the 28 registered speakers electing to speak at the meeting. The applicant was one of the speakers at the meeting and made a presentation. A list of speakers and the transcript from the public meeting are available on the Commission's website. Written comments from speakers who presented at the public meeting and comments received by the Commission after the public meeting are also available on the Commission's website. A summary of the matters raised at the public meeting is available to view on the Commission's website.

43. An opportunity to lodge written comments was afforded until seven days following the public meeting. The Commission received 294 written comments, and also received four further written comments after this seven day period. All comments are available on the Commission's website.

4. ADDITIONAL INFORMATION FOLLOWING THE PUBLIC MEETING

44. On 21 May 2018 the Commission received additional information from the applicant entitled 'Response to DPE Assessment Report' following the public meeting and the Department's Assessment Report. In this document, the applicant summarised the key elements of the project as detailed in the technical reports and documentation to date. This document is further discussed in **section 5.2** of this Statement of Reasons.

45. On 22 May 2018 the Commission wrote to the Department inviting it to comment on this additional information. At the meeting on 25 May 2018, the Department stated that it did not wish to provide comments on this additional information, as it did not consider this additional information to be new information.

46. On 22 May 2018, the Commission wrote to the Department requesting further additional information. This request was in the form of a series of questions relating to matters including health and air quality outcomes, and the Department's assessment of the applicant's reference facility. The Department provided a response to the Commission on 14 June 2018.

47. The Commission identified a statement in the applicant's additional information suggesting that it had voluntarily agreed to remove floc³ waste from the project's waste fuel. This appeared to conflict with the applicant's Amended EIS, which proposed that floc waste would comprise up to 15% of the project's waste fuel.

48. On 23 May 2018, the Commission wrote to the applicant and the Department seeking clarification on the inclusion of floc waste in the project's waste fuel. The applicant wrote to the Commission on 25 May 2018 confirming that floc waste remains part of the development application before the Commission and stated that, "*the applicant has refrained from making any formal application to amend SSD6236 to delete floc waste as a component from the proposed waste stream*". This was also confirmed in writing by the Department on 31 May 2018.

49. All of the above correspondence was provided to the Commission after receipt of the Department's Assessment Report and is available on the Commission's website.

5. THE COMMISSION'S CONSIDERATION

Material Considered by the Commission

50. In determining this application, the Commission has carefully considered the following material (the **Material**):

- the Preliminary Environmental Impact Statement by Urbis, dated 31 October 2013;
- the Environmental Impact Statement and appendices, dated April 2015;
- the EnRiskS Review of the Human Health Risk Assessment, dated 6 July 2015;
- the ARUP Merit Review of the Environmental Impact Statement, dated 3 August 2015;
- the Amended Environmental Impact Statement and appendices, dated November 2016;

³ Floc waste is the residue from the shredding of car and metal recyclables.

- the ‘Frequently Asked Questions’ prepared by the Department, dated February 2017;
- the EnRiskS Review of HHRA, dated 8 March 2017;
- the ‘Key Queries Regarding Amended EIS 160317’, dated 16 March 2017;
- the Supplementary Submission Greenhouse Gas Assessment, dated 15 May 2017;
- the Response to Submissions on the Amended Environmental Impact Statement and appendices, dated 14 December 2017;
- the Response to Submissions on Amended Environmental Impact Statement (Government Authority Submissions):
 - Blacktown City Council Submission on RtS, dated February 2018;
 - Penrith City Council Submission on RtS, dated 28 February 2018;
 - NSW Health Submission – Response to Submissions, dated 8 March 2018;
 - EPA Submission – Attachment A – Energy from Waste Policy, dated 9 March 2018;
 - EPA Submission – Attachment B – Air Quality & Ozone Assessment, dated 9 March 2018;
 - EPA Submission – Attachment C – EnRiskS Pty Ltd – Human Health Risk Assessment, dated 7 March 2018;
 - EPA Submission – Attachment D – Human Health Risk Assessment, dated 9 March 2018;
 - EPA Submission – Attachment E – Greenhouse Gas Assessment, dated 9 March 2018;
 - and
 - EPA Submission – Cover Letter, dated 9 March 2018;
- the EnRiskS Letter Report, dated 7 March 2018;
- the ARUP – Eastern Creek EfW RTS Merit Review Report, dated 9 March 2018;
- all submissions made to the Department in respect of the proposed development during the public exhibition of the original EIS, the Amended EIS, and up to the publication of the Assessment Report;
- information provided to the Commission at its meetings with the Department on 12 April 2018 and 25 May 2018;
- Department of Planning and Environment’s presentation at its meeting with the Commission, dated 12 April 2018;
- the ARUP Addendum to Eastern Creek EfW RtS Merit Review, dated 17 April 2018;
- the Department of Planning and Environment’s Assessment Report, dated April 2018;
- information provided to the Commission by Mr Raphael Perez (a community representative) at the site inspection on 2 May 2018;
- the visual observations made by the Commission at the site inspection on 2 May 2018;
- information provided to the Commission at its meeting with the applicant on 2 May 2018;
- information provided to the Commission at its meeting with Penrith and Blacktown City Councils on 2 May 2018 and 14 May 2018, respectively;
- oral submissions made by the 24 speakers at the public meeting and the 298 written comments received after the public meeting;
- Blacktown City Council’s further submissions and appendices, dated 21 May 2018;
- Urbis Response to the Department’s Assessment Report, dated 21 May 2018;
- Urbis Response to Clarification and Supplementary Information, dated 7 June 2018; and
- the Department’s Response to the Commission’s Additional Information Request, dated 14 June 2018.

Mandatory Considerations

51. In determining this application, the Commission has taken into consideration the following relevant mandatory considerations, as provided in section 4.15 of the EP&A Act (the **Mandatory Considerations**):

- the provisions of all:

- environmental planning instruments;
 - proposed instruments that are or have been the subject of public consultation under the EP&A Act and that have been notified to the Commission (unless the Secretary has notified the Commission that the making of the proposed instrument has been deferred indefinitely or has not been approved);
 - development control plans;
 - planning agreements that have been entered into under section 7.4 of the EP&A Act, and draft planning agreements that a developer has offered to enter into under section 7.4; and
 - the Regulations (to the extent that they prescribe matters for the purposes of section 4.15(1) of the EP&A Act);
- that apply to the land to which the development application relates;
- the likely impacts of the development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality;
 - the suitability of the site for the development;
 - submissions made in accordance with the EP&A Act and Regulations; and
 - the public interest.

Additional Considerations

52. In addition to the Mandatory Considerations, the Commission has taken into consideration the EfW Policy.

5.1 Environmental Planning Instruments (EPIs)

5.1.1 EPIs

53. The applicant's Amended EIS, subsequent RtS, and the Department's Assessment Report (including Appendix C) provide a detailed consideration and assessment of the EPIs that apply to the project. These EPIs are:

- *State Environmental Planning Policy (State and Regional Development) 2011;*
- *State Environmental Planning Policy (Infrastructure) 2007;*
- *State Environmental Planning Policy (Western Sydney Employment Area) 2009;*
- *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development;*
- *State Environmental Planning Policy No. 55 – Remediation of Land;*
- *State Environmental Planning Policy No. 64 – Advertising Structures and Signage; and*
- *Blacktown Local Environmental Plan 1988.*

54. The Commission has reviewed the EPIs listed above and finds that they apply to the project. However, the Commission additionally finds that the *Draft Blacktown Local Environmental Plan 2015* also applies to the project and has given further consideration to this below in paragraphs 69 and 70.

Project Permissibility

55. The Department and Commission received submissions and comments from the public and Blacktown City Council regarding the permissibility of the development, stating that it was a prohibited development under *State Environmental Planning Policy (Western Sydney Employment Area) 2009 (SEPP WSEA)*.

56. The applicant states in its RtS that:

"The development is appropriately characterised as 'electricity generating works', defined under the Standard Instrument as: 'electricity generating works means a building or place used for the purpose of making or generating electricity'.

Further, the use is permissible under clause 34(1) of State Environmental Planning Policy (Infrastructure) 2007 (ISEPP) as electricity generating works are permitted to be carried out by any person within a prescribed industrial zone, including IN1 General Industrial."

57. The Department states in Appendix C of its Assessment Report:

"The land is zoned IN1 General Industrial under State Environmental Planning Policy (Western Sydney Employment Area) 2009 (SEPP WSEA). The development constitutes a 'waste management facility' and 'electricity generating works' as defined by the Standard Instrument – Principal Local Environmental Plan.

Clause 34 of the ISEPP identifies development that is permitted with consent. Clause 34(1) states that development for the purpose of 'electricity generating works' may be carried out with consent in a prescribed industrial zone.

Therefore, under the provisions of the ISEPP, the proposal is permitted."

58. The Commission has reviewed the information provided in paragraphs 55-57 and has considered the land use definitions provided within the ISEPP, being clause 33 'electricity generating works', and clause 120 'waste management facility'. The Commission notes that the ISEPP references these definitions as having the same meaning as provided by the *Standard Instrument (Local Environmental Plans) Order 2006 (Standard Instrument)*, as follows:

***"electricity generating works** means a building or place used for the purpose of making or generating electricity.*

***waste or resource management facility** means any of the following:*

- (a) a resource recovery facility,*
- (b) a waste disposal facility,*
- (c) a waste or resource transfer station,*
- (d) a building or place that is a combination of any of the things referred to in paragraphs (a)–(c).*

***waste disposal facility** means a building or place used for the disposal of waste by landfill, incineration or other means, including such works or activities as recycling, resource recovery and other resource management activities, energy generation from gases, leachate management, odour control and the winning of extractive material to generate a void for disposal of waste or to cover waste after its disposal."*

59. The Commission finds that based on the information before it, the project satisfies the definition of both an 'electricity generating works' and 'waste management facility' and as such shall consider the project accordingly. Furthermore, the Commission finds that the ISEPP provides the following under Part 3 Divisions 4 and 23:

60. Division 4:
“Development for the purpose of electricity generating works may be carried out by any person with consent on any land in a prescribed rural, industrial or special use zone.”
61. Division 23:
“Development for the purpose of waste or resource management facilities, other than development referred to in subclause (2), may be carried out by any person with consent on land in a prescribed zone.
- prescribed zone** means any of the following land use zones or a land use zone that is equivalent to any of those zones:*
- (c) IN1 General Industrial.”*
62. In its consideration of land use permissibility, the Commission finds that based on the provisions of the ISEPP, the proposed land uses are permissible with consent.
63. To address the concerns raised in submissions and comments regarding land use prohibition under SEPP WSEA, the Commission cites clause 8(1) of the ISEPP, which states:
“Except as provided by subclause (2), if there is an inconsistency between this Policy and any other environmental planning instrument, whether made before or after the commencement of this Policy, this Policy prevails to the extent of the inconsistency.”
64. The Commission notes that subclause (2) is not relevant to this project. In this regard the Commission is satisfied that the provisions of the ISEPP override any inconsistency that may exist with any other EPI.
- Blacktown Local Environmental Plan 1988*
65. The applicant’s Amended EIS took the view that the *Blacktown Local Environmental Plan 1988 (BLEP)* was not a matter for consideration as SEPP WSEA applied to the project site. The Department did not consider the BLEP in its Assessment Report.
66. The Commission reviewed SEPP WSEA and finds that, contrary to the applicant’s position in its Amended EIS, there is nothing that prevents consideration of the BLEP. Clause 8 of SEPP WSEA states:
“In the event of an inconsistency between this Policy and a local environmental plan or deemed environmental planning instrument that applies to the land to which this Policy applies, this Policy prevails to the extent of the inconsistency.”
67. Nonetheless, even though the Commission finds that the BLEP is applicable to the project, this is of little consequence for the following reasons:
- the site was un-zoned under the BLEP, and this was achieved under *State Environmental Planning Policy 59 – Central Western Sydney Regional Open Space and Residential (SEPP 59)*;
 - SEPP 59 was repealed and superseded by SEPP WSEA in 2009; and
 - the site remained un-zoned under the BLEP and therefore zoning was achieved under SEPP WSEA.
68. The Commission therefore finds that whilst the BLEP is a relevant consideration, it does not offer any assessment criteria to be applied to the project.

Draft Blacktown Local Environmental Plan 2015

69. Neither the applicant nor the Department considered the *Draft Blacktown Local Environmental Plan 2015 (DBLEP)*. The Commission notes that the applicant's development application was lodged with the Department on 28 April 2015, and that the DBLEP was gazetted on 26 May 2015 and commenced on 7 July 2015. In this regard the Commission is satisfied that the DBLEP is a relevant consideration under section 4.15(1)(a)(ii).
70. The site is zoned IN1 General Industrial and the proposed land uses for an 'electricity generating works' and 'waste management facility' are permissible with consent. The Commission finds that whilst the DBLEP is a relevant consideration, it does not offer any assessment criteria to be applied to the project.

5.1.2 Region and District Plans

Greater Sydney Region Plan

71. The Commission notes that the project is located within the Western Parkland City of the Greater Sydney Commission's (**GSC**) *Greater Sydney Region Plan (Region Plan)*.
72. The Department states that the project is consistent with the Region Plan's direction of:
- *'An efficient city: Using resources wisely'; and*
 - *'Objective 33: A low-carbon city contributes to net-zero emissions by 2050 and mitigates climate change'.*
73. The Department states that the project would contribute toward net-zero emissions through the diversion of waste from landfill and the subsequent reduction in greenhouse gas emissions. This matter is further discussed in **section 5.2** of this Statement of Reasons.
74. The Commission agrees with the Department and finds that the project would be consistent with the directions and objectives of the Region Plan in contributing to achieving net-zero emission reduction targets and climate change mitigation.

Central City District Plan

75. The Commission notes that the project is also located within the GSC's *Central City District Plan (District Plan)*, which aims to achieve the vision of the Region Plan. The District Plan identifies waste diversion from landfill as a potential pathway towards net-zero emissions in the Central City District, which would deliver on *'Objective 33'* and *'Objective 35: More waste is re-used and recycled to support the development of a circular economy' of the Region Plan'*.
76. The Department notes that the District Plan encourages a circular economy by designing waste out of the system and exploring opportunities for achieving a pathway toward net-zero greenhouse gas emissions by 2050. While the Department notes that the waste to energy industry is identified as a step toward achieving a circular economy and a reduction in greenhouse gases, it states that this industry is primarily targeted at processing organic waste through an energy from waste facility to reduce waste being sent to landfill and help reduce greenhouse gas emissions.

77. The Department notes that only 20% of the proposed waste feedstock for the facility is classified as organic waste, and considers that the project does not support the objectives of the District Plan. In addition, the Department states that the primary focus in the District Plan is to achieve the diversion of waste from landfill through recycling and reducing waste, not through the recovery of energy. The applicant does not address this in its Amended EIS or RtS.
78. The Commission accepts the Department's conclusion and finds that the project in its current form does not support the objectives of the District Plan as only a small proportion (20%) of organic waste is proposed to be thermally treated, and the District Plan focuses on the diversion of waste from landfill through recycling and reducing waste, not through the recovery of energy.

5.2 Energy from Waste Policy Statement (2015)

79. The EfW Policy states that any facility proposing to thermally treat a waste or waste-derived material that is not a listed eligible waste fuel, as defined in section 3 of the EfW Policy, must:
- only receive residual waste from bona-fide resource recovery operations that meet the resource recovery criteria outlined in the EfW Policy;
 - use current international best practice techniques, including in relation to emissions control and emissions monitoring; and
 - use technologies that are proven, well understood and capable of handling the expected variability and type of waste feedstock, demonstrated through providing a comparable 'reference facility'.

Applicant's consideration

80. As the applicant's proposed waste feedstock is not considered an 'eligible waste fuel', the Department required the applicant to demonstrate that it could meet the EfW Policy's criteria for an 'energy recovery facility'. Throughout the various stages of the development application process, the applicant provided assessments of the project against the technical, thermal efficiency and resource recovery criteria for an 'energy recovery facility'. In seeking to demonstrate that the project complies with the EfW Policy, the applicant states in its RtS that:
- fuel will only be provided by facilities where appropriately regulated resource recovery processes have been undertaken in accordance with the EfW Policy and where waste fuel quality is consistently demonstrated;
 - the technology for the EfW Facility is based on existing facilities in Europe and will incorporate best available technology for flue gas treatment; and
 - the existing energy from waste facility in West Yorkshire in the United Kingdom, known as Ferrybridge Multifuel 1 (**Ferrybridge**), is directly comparable in terms of plant size, fuel capacity, furnace and air pollution control technology, and waste fraction components, and as such the applicant has nominated this as its reference facility. The applicant also states that this facility is operated and maintained by Hitachi Zosen Inova (**HZI**), which is the same technology provider for the project.
81. The applicant's assessment in its Amended EIS concluded that the project meets the criteria of an 'energy recovery facility' and satisfies the required technical, thermal efficiency and resource recovery criteria of the EfW Policy. To further support its assessment, the applicant provided in its RtS a comparison of the project against eight European reference facilities to compare technology, size, waste feedstock composition and the waste stream net calorific value (**NCV**). The applicant concluded that all relevant design parameters of the proposed facility are well within these comparable reference facilities, which are successfully operating in Europe.

82. The applicant stated at the public meeting that the EfW Facility will reduce waste going to landfill, which it considers critical as waste that was previously going to Queensland and China is now no longer being accepted in either jurisdiction.
83. The Commission also notes that concern was raised at the public meeting regarding regulatory changes in China and Queensland relating to the acceptance of waste from New South Wales.
84. In its response to the Department's Assessment Report, dated 21 May 2018, the applicant asserts that the impacts of China's National Sword Policy and the reintroduction of a waste levy in Queensland further justify the scale and strategic importance of the proposal.

Blacktown City Council's consideration

85. At its meeting with the Commission, Blacktown City Council stated that the technology proposed to be used by the applicant is not best practice. This was based on Blacktown City Council's own comparison with other operational energy from waste facilities that it had inspected in the United Kingdom. Blacktown City Council also raised concern that the applicant's RtS does not contain sufficient information to determine how the applicant will confirm compliance with the EfW Policy resource recovery criteria for the C&I and C&D waste fuels received from third parties, and where these wastes will be mixed and processed on site.

Department's consideration

86. The EPA provided advice to the Department that the applicant's RtS does not adequately demonstrate compliance with the EfW Policy for the following reasons, as outlined in the Assessment Report:
- the nominated reference facility, Ferrybridge, does not treat 'like waste streams';
 - floc waste, which is proposed to be treated by the project, has the potential to exhibit hazardous waste properties and characteristics. Facilities proposing to thermally treat hazardous waste are excluded under the EfW Policy;
 - the temperature and time parameters for the destruction of harmful compounds, such as dioxins and furans, will not be reached (> 1,100°C for more than two seconds); and
 - the methodology used to estimate the amount of residual waste available for energy recovery in the MLA is inappropriate and does not adhere to the waste hierarchy.
87. The Department states in its Assessment Report that the EPA considers, "*the reference facility is one means of providing evidence (in conjunction with air emissions modelling and human health risk assessment) to assess potential risks to human health and to minimise any potentially harmful emissions, by-products and residues*". The Department notes that the failure to identify an appropriate reference facility increases the uncertainty of the medium to long term operational and environmental risks of the EfW Facility. The Department states that any inconsistency with the EfW Policy reduces confidence in the performance of a facility and its ability to meet emissions limits. The Department, together with the EPA, NSW Health and its technical experts, considers that any inconsistency with the EfW Policy may result in an energy from waste facility generating harmful emissions and presenting an unacceptable risk to human health.
88. The Department's Assessment Report provides an evaluation of the project against the EfW Policy, which is summarised below:

- Operational reference facility

89. The Department states in its Assessment Report that identifying an appropriate reference facility is a key aspect of the EfW Policy as it provides confidence in the performance of the proposed facility and demonstrates that the proposed emissions limits can be met to protect air quality and human health. The Department's external expert, Arup, agrees with the applicant that Ferrybridge is comparable to that of the project in terms of the technology proposed, throughput and the waste stream NCV. However, on a comparison of the waste fuels, the EPA advised the Department that the project,

“does not meet the requirement of the Policy as it does not reference a fully operational plant that treats ‘like waste streams’.”

90. The Department notes that the majority (60%) of Ferrybridge's waste fuel is derived from Refuse Derived Fuel (**RDF**)⁴, which, in the UK, Arup advises, is sourced primarily from municipal solid waste (**MSW**) and C&I waste. RDF is not part of the proposed feedstock for the project. The EPA concluded that as the waste fuels proposed for the project are not 'like' that being received for thermal processing at Ferrybridge, there is uncertainty regarding the actual performance of the project and its ability to achieve the European Union's Industrial Emissions Directive (**EU IED**) emissions limits, which are the emissions limits nominated by the applicant.

91. The Department states that the applicant has not provided sufficient evidence to demonstrate that Ferrybridge is thermally processing a 'like' waste stream to the project and is therefore not an appropriate reference facility. The Department therefore concludes that without a “suitable” reference facility it cannot be confident that the project can meet its emissions limits and uncertainty remains regarding the risks to human health and the environment. The Department states that this uncertainty is not acceptable given the proximity of the project to sensitive receivers.

- Floc waste

92. The EPA has advised the Department that floc waste can be highly variable and has the potential to exhibit hazardous waste properties and/or characteristics, depending on the source and processing method of the material. The Department states that insufficient information has been provided by the applicant to confirm the source, composition and temporal variability⁵ of floc waste for it to be satisfied that this material would not contain hazardous waste.

93. The Department states in its Assessment Report that as the applicant's nominated reference facility is not permitted to receive floc waste, it is not satisfied that the applicant has demonstrated that the combustion of floc waste would not result in harmful emissions, and/or contaminants in ash and slag by-products, which have the potential to cause harm if not properly managed. The Department also notes that facilities proposing to thermally treat hazardous waste materials are excluded under the EfW Policy.

⁴ Refuse derived fuel (RDF) generally consists of the dry calorific fractions derived from residual non-hazardous waste sources including MSW, C&I waste and C&D waste. Materials usually include plastics, timber, paper and cardboard, rubber and textiles. In the UK, it is typically sourced from MSW and C&I sources.

⁵ Variables that are not dependent on other variables but capable of affecting dependent variables.

- Temperature

94. The EPA advised the Department that C&D wastes and wood wastes comprise a high proportion of the waste feedstock for the project and that halogenated organic substances such as plastic wastes (comprised of polyvinyl chloride (PVC)) would be present. The EPA states that these materials may result in chlorine levels in the waste feedstock exceeding 1%. Under the EfW Policy, the temperature of an energy from waste facility must be raised to 1,100°C for at least two seconds in such circumstances.
95. The Department notes that the applicant considers it is unnecessary to meet the higher temperature for the combustion of 'halogenated organic substances' as its quality control processes would limit waste containing PVC and other such materials in the waste streams.
96. The Department notes that while the applicant's RtS states that the chlorine content of the facility's waste feedstock would be maintained below 1%, the EPA does not have confidence that the waste compositional audits and associated analysis conducted by the applicant are sufficiently robust to demonstrate that this could be achieved over time. The Department notes that there is a risk that operation of the facility might result in the release of harmful compounds such as dioxins and furans over the life of the project, presenting a potential chronic risk to the health of the local community. The Department concludes that,
- "As the applicant has not committed to achieving the required temperature and residence time requirements for the complete thermal treatment of hazardous substances, the Department considers that this requirement of the EfW Policy has not been satisfied."*

- Resource recovery criteria

97. The Commission is aware of concerns regarding regulatory changes in China and Queensland relating to the acceptance of waste from New South Wales. The Department states in its Response to the Commission's Additional Information Request dated 14 June 2018 that,
- "as the applicant is not proposing to treat kerbside recyclables at its Eastern Creek facility, the impacts of China's National Sword policy would therefore have very limited implications for the proposed Eastern Creek facility."*
98. Further, the Department states that the reintroduction of a waste levy in Queensland, "will reduce the financial viability of transporting waste from NSW to Queensland" and, "will increase the viability of the waste processing and higher order reuse of wastes in NSW".
99. The Department concludes that, "the proposed facility is not a viable alternative to respond to these market challenges" and that "there are mechanisms, programs and policies in place to ensure better environmental and economic outcomes are achieved for these wastes".
100. The EPA states in its response to the applicant's RtS that the methodology for estimating available eligible residual waste adopted in the RtS is inappropriate and potentially undermines the intention of the resource recovery criteria. The EPA also states that the applicant's assessment does not provide assurances that higher order waste management opportunities will not be cannibalised, and that the appropriate types of waste are available to the proposed facility.

101. The Department notes in its assessment report that the applicant has applied the percentage limits allowed for energy recovery to the total volume of residual waste across the MLA rather than to each individual processing facility as required by the EfW Policy. The Department states that, *“applying resource recovery criteria in this way would result in waste currently being recycled being diverted to energy recovery”*. The Department considers that this is inappropriate as energy recovery is a lower order waste management approach in the waste hierarchy, which the Department notes underpins the EfW Policy.
102. Arup notes that the applicant proposes 552,500 tpa of eligible design fuel exists within the MLA. However, Arup’s assessment of the applicant’s feedstock review concludes that there is approximately 280,000 tpa of waste within the MLA that meets the prescribed design fuel mix and is within the control of the applicant’s current and proposed operations.
103. Arup’s assessment concluded that the applicant’s assessment of the available residual waste fuel for the project is over-estimated for three reasons:
1. the resource recovery criteria percentage limits have been applied to the total volume of residual waste in the MLA market, rather than on an individual facility basis, as required by the EfW Policy;
 2. unjustified increases in waste streams at the Genesis facility; and
 3. double counting of feedstock sourced from the applicant’s operations and in the MLA market.
104. The Department has concerns regarding the approach and methodology that the applicant has used to calculate the volume of waste feedstock necessary to justify the scale of the project. The Department states that the EPA has not assumed that the proposed feedstock would be diverted from high use priorities, or that the plant would run at full capacity even if insufficient ‘appropriate’ feedstock is available. Rather, the EPA has outlined that the applicant has not provided sufficient information to demonstrate compliance with the resource recovery criteria set out in the EfW Policy.

- Consultation

105. The Department notes in its Assessment Report that the EfW Policy requires that an applicant undertakes genuine dialogue with the community and states that energy from waste is an appropriate pathway where community acceptance to operate such a process has been obtained.
106. The EfW Policy states,
“Regardless of whether a facility plans to proceed with a proposal under section 3 or 4 of this policy statement, it will be essential that proponents provide effective information and public consultations about energy from waste proposals.”
107. Based on the Department’s consideration of the nature and extent of submissions, including concerns raised in relation to the applicant’s consultation with the community, it does not consider that the applicant has entered into a genuine dialogue with the community nor has it gained the community’s acceptance.

Applicant’s Response to the Department’s Assessment Report

108. The Commission received a document from the applicant dated 21 May 2018 entitled ‘Response

to DPE Assessment Report'. In this document, the applicant summarised the key elements of the project as detailed in the technical reports and documentation to date. In the document at page 9 it states that,

"the NSW EfW Policy attempts to elevate an assessment of the state of public opinion beyond that which is provided for in the planning assessment process within legislation such as the Environmental Planning and Assessment Act 1979 and is a consideration not supported by planning legislation. This is reinforced as follows:

- *The Protection of the Environment Administration Act 1997 (POEO Act) does not authorise the NSW EPA to establish or require a 'community approval' or 'community support' as a condition of granting an approval or making a favourable recommendation.*
 - *A purported requirement on an applicant to demonstrate community approval or support is ultra vires under the POEO Act.*
 - *If such a requirement is not ultra vires, it is nevertheless not a relevant planning consideration under the objects of the EP&A Act.*
- *The wording of 'public' or 'community' are not defined in legislation and neither is there any requirement or metric as to how community acceptance is measured."*

109. In responding to the Department's concerns, the applicant also states that:

Operational reference facility

- *"the NSW EfW Policy does not require the percentage make-up of the waste stream to be the same nor the streams to be identical. The project and Ferrybridge reflect like, or common, input streams (MSW, commercial waste) and match regarding input waste types (wood, paper, plastic, glass etc.). The reference facility is capable of managing a range of input materials with no change in air emissions;*

Floc waste

- *there is no reference to floc waste being banned since the adoption of the EfW Policy;*
- *there is no evidence that floc waste is highly variable;*
- *finer, which are a component of floc waste, were found (under chemical analysis for the presence of potentially hazardous materials) to be inert and consisting largely of dirt; and*
- *the emissions treatment technology is capable of ensuring that harmful emissions are neutralised or reduced to acceptable levels;*

Temperature

- *there is a high degree of confidence that in respect of any single waste fraction and the waste in total as an average will not contain more than 1% chlorine; and*
- *it has demonstrated and verified that the mixing and homogenisation process, both proposed as part of the EfW Facility and the existing Genesis facility, would minimise any risk of these materials being fed into the fuel mix;*

Consultation

- *it has gone above and beyond the standard exhibition requirements in consulting and engaging with the community. For the above reasons, it is submitted that a genuine and adequate consultation process has been entered into between the applicant and the community; and*
- *the non-acceptance of the proposal by some members of the local community is acknowledged. This is not considered a relevant planning consideration and should not be given determining weight in the assessment of the proposal."*

Commission's consideration

110. The Commission is of the view that the EfW Policy is a relevant consideration to its assessment and determination of the project. This is reflected on page 4 of the EfW Policy, which states:

“As proposals progress from the concept to detailed development assessment stage, proponents should engage in a genuine dialogue with the community and ensure that planning consent and other approval authorities are provided with accurate and reliable information.

This would apply to waste deliveries and operating hours, but most importantly with respect to readily available information about emissions and resource recovery outcomes.”

111. Based on the Material, the Commission finds that although the EfW Policy, including its objectives, is a relevant consideration in the assessment of the project, the EfW Policy cannot be determinative of the Commission's decision to approve or refuse the project. The Commission agrees with the applicant that considerations under the EfW Policy must not be elevated to a level of importance beyond that which is supported by the planning legislation.

112. The Commission finds that the applicant has not demonstrated consistency with the EfW Policy because:

- Ferrybridge is not considered to be a comparable or suitable reference facility as it does not process like waste streams as the applicant's project, or utilise flocculent waste in its waste stream, which has the potential to exhibit hazardous waste properties and characteristics, as stated in paragraphs 89-93;
- the project does not achieve the temperature of 1,100°C to enable the destruction of harmful compounds, including chlorine, and is therefore reliant on pollution control equipment to prevent harmful emissions, or appropriate waste feedstock sorting and homogenisation controls to prevent harmful quantities of 'halogenated organic substances' entering the waste stream; and
- there is insufficient appropriate waste fuel available to the EfW Facility, as stated in paragraphs 101-104.

113. The Commission has considered the Department's comments and subsequent reason for refusal that the applicant has not gained the community's acceptance for the project (which it states is a requirement of the EfW Policy). However, the Commission finds that the community's acceptance of the project is not a statutory requirement and therefore the Commission does not accept this as a reason for refusal.

5.3 Environmental, Social and Economic Impacts

5.3.1 Air Quality

114. The Commission has taken into account the Material insofar as it relates to the impacts of the project on air quality.

Public and Council comments

115. The Commission heard concerns from Penrith and Blacktown City Councils, speakers at the public meeting, and received written comments regarding the impacts of the project on air quality. These concerns included:
- impact on air quality from the project's emissions and exposure to harmful compounds, such as dioxins and furans;
 - cumulative air quality impacts when considered alongside existing pollution levels in Western Sydney;
 - temperature inversions that prevent pollutants escaping the Western Sydney area;
 - the adequacy of existing air quality monitoring in Western Sydney;
 - the unsuitability of the applicant's nominated 'reference facility', under the EfW Policy; and
 - the adequacy of the applicant's Air Quality Impact Assessment (**AQIA**).

Applicant's consideration

116. The applicant undertook an AQIA, conducted by Pacific Environment, to understand the concentrations of chemicals in the project's emissions and how such chemicals are likely to be dispersed. The Department confirmed that the AQIA was prepared in accordance with the EPA's Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales 2016 (**Approved Methods**).
117. The applicant's RtS states that the proposed technology for the project is based on existing facilities in Europe and will incorporate best available technology for flue gas treatment. The RtS also states that the flue gas treatment system has been designed to meet the in-stack concentration limits for waste incineration set by the EU IED, which are generally more stringent than those prescribed in the Protection of the Environment Operations (Clean Air) Regulation 2010 (**Clean Air Regulation**).
118. The applicant's AQIA modelled ground level concentrations⁶ to predict the potential impacts from emissions under five operating scenarios, which are described in the AQIA as:
- Scenario 1 – Normal (expected operating conditions);
 - Scenario 2 – Clean Air Regulation emissions limits (NSW regulatory limits);
 - Scenario 3 – Upset conditions;
 - Scenario 4 – EU IED regulatory emissions limits; and
 - Scenario 5 – Diesel generators.
119. The applicant's RtS concluded that the cumulative predictions for air quality impacts demonstrate that there are no exceedances of the EPA ground level assessment criteria when the emissions from the project are added to the maximum background concentration for Scenarios 1, 4 and 5. The Department states in its Assessment Report, however, that the presence of Beryllium (**Be**) would exceed the EPA's ground level assessment criteria when the project is operated under Scenario 2. The applicant argues that the emission concentrations for Be used in the modelling were highly conservative, however, recommends the more stringent EU IED limits be adopted for any Environment Protection Licence (**EPL**) for the facility as this reflects the facility's design specifications.

⁶ The concentration in air of a pollutant to which a human is normally exposed, i.e. between the ground and a height of some 2 metres above it.

120. The applicant states in its RtS that the facility will utilise a Continuous Emissions Monitoring System (**CEMS**) to provide the EPA with real time feedback and emissions monitoring at the stack for the parameters outlined in Table 35 of its Amended EIS, which it considers would be consistent with the EfW Policy. The Amended EIS states that nitrous oxide, heavy metals, and dioxins and furans would not be monitored by the CEMS as they would be monitored by means of spot sampling at frequencies to be agreed with the EPA.

Department's consideration

121. The Department considers in its Assessment Report that, *"the applicant's assessment of potential air quality impacts was undertaken using appropriate and accepted methodologies in accordance with the relevant EPA and NSW Health recommended guidelines"*. It also stated that the applicant's assessments are conservative in nature and have considered a worst-case scenario based on the Clean Air Regulation. However, the Department also states that, *"none of the applicant's operating scenarios were based on data derived from the actual fuel proposed for this facility"*. The Department also notes in its response to the Commission's Additional Information Request, dated 14 June 2018, that, *"no modelling was conducted to predict the specific emissions from the project"*.
122. The Department notes in its Assessment Report that heavy metals would be monitored by spot sampling instead of the applicant's CEMS, and it stated in its presentation at the meeting with the Commission on 12 April 2018 that some of the metals are major contributors to risks to human health.
123. On 9 March 2018, the Department's expert, Arup, prepared a response to the applicant's RtS, which states that the EfW Facility's design fuel mix is not of similar sources to the proposed reference facility's design fuel mix. The Department stated in its Assessment Report that the EPA was also concerned that the emissions used in Scenario 1 (Expected) are representative of facilities thermally processing a different waste stream to that proposed at the project and therefore do not necessarily provide confidence that the ground level concentrations for this scenario represent the expected results for the project, or whether the EU IED emissions limits could actually be achieved.
124. The Department concluded in its Assessment Report that the applicant has not been able to provide sufficient information to demonstrate that the nominated reference facility, Ferrybridge, is thermally processing a like waste stream to the proposed facility and cannot be confident in the performance of the EfW Facility and its ability to meet the proposed EU IED emissions limits.
125. Arup also advised in the Department's response to the Commission's Additional Information Request, dated 14 June 2018, that the project's flue gas treatment system (otherwise referred to as air pollution control system) is not agnostic to the composition of the project's waste fuel, and must be designed to cost-effectively achieve compliance for the full variety of expected waste feedstocks. In practice, Arup states that this means a range of acceptable feedstock compositions must be defined that can be economically supplied to the facility throughout the day and year. Arup also indicated the importance of defining limits on the waste stream, appropriately designing, building, operating and maintaining the facility to accommodate waste streams within limits, and to mitigate the likelihood of an input waste stream falling outside these limits.

126. The Department also raised concerns in its Assessment Report over the emissions from the EfW Facility, and that the applicant has not identified an appropriate reference facility. The EfW Policy states that,
- “Energy recovery facilities must use technologies that are proven, well understood and capable of handling the expected variability and type of waste feedstock. This must be demonstrated through reference to fully operational plants using the same technologies and treating like waste streams in other similar jurisdictions.”*
127. The Department notes that the Ferrybridge operational data provided by the applicant indicates that it treats wastes that are 100% Solid Recovered Fuel (SRF) derived from MSW and C&I wastes. The Department states that this is significantly different to the wastes proposed to be treated at the applicant’s project, where a MSW and C&I mix is not proposed, and where C&D and floc wastes would also be accepted.
128. The Department states that this difference is important as reference facility data has been used as the input data to some of the applicant’s emissions and HHRA modelling. The Department notes that this data is not representative of the actual waste streams proposed to be treated by the applicant’s project. As a result, it creates uncertainty around the project’s emissions and the likely performance of, and outcomes associated with, the pollution control technologies. Consequently, the Department’s Assessment Report states that,
- “EnRisks, EPA and NSW Health have also indicated they do not have a sufficient level of confidence in the Applicant’s assessment of air quality impacts or the risk to human health.”*
129. In this case, the Department recommends a precautionary approach due to the lack of certainty around the composition and concentration of chemicals in the project’s emissions and the concentrations at which these pollutants might be present at ground level. The Department also considers that any impacts from emissions cannot be appropriately dealt with by conditions of consent.

Applicant’s response to the Department’s Assessment Report

130. In response to the Department’s Assessment Report dated 21 May 2018 the applicant states in relation to its reference facility that, *“the fuel mix of the proposed EfW Facility does not correlate to the emissions of the facility”*. However, the applicant also states that,
- “the technology option pursued, being moving grate technology with semi-dry flue gas treatment, was selected based on its capacity to handle a wide range of fuel types and variation of waste feedstock.”*
131. In addition, the applicant states that the emissions from Ferrybridge are well known and have been quantified by the facility’s CEMS, as well as periodic stack testing results for a comprehensive list of compounds, since 2015. The applicant notes in this response that based on the extent of background modelling and assessment provided to date, Ferrybridge has demonstrated continual compliance operating at the EU IED emissions limits.
132. The applicant states that air pollution control systems are not able to reduce emissions post-abatement, rather, that they should be considered as a ‘constant outlet concentration’ system. The applicant explains that this means that the fuel mix does not directly correlate to the emissions from the facility.

Commission's consideration

133. The Commission accepts the conclusions of the Department and Arup outlined in paragraphs 123, 124 and 128, namely that the applicant's predicted modelled operating scenarios (**predicted modelling**) were not based on data derived from the waste fuel proposed to be treated at its facility. These conclusions are supported by the applicant's own submission, outlined in paragraph 130. As a result, given the EfW Facility is not processing the waste stream actually modelled by the applicant, the Commission is of the view that there is uncertainty around the emissions from the EfW Facility.
134. The Commission accepts the Department's conclusion outlined in paragraphs 89-91 above in relation to the representation that Ferrybridge is not an appropriate reference facility, as it is not processing a like waste stream as the applicant's project, and the consequent uncertainty around whether the EU IED emissions limits, or any other limits, could be achieved.
135. While the Commission accepts that the applicant's CEMS is capable of managing emissions produced from a range of waste inputs, it agrees with Arup's conclusion that this capability is not unlimited, as outlined in paragraph 125 (and the Department's submission outlined in paragraph 123). Accordingly, knowledge of the project's emissions is important in determining whether the CEMS will be able to appropriately manage emissions from the EfW Facility. As noted above, there is uncertainty around the emissions and therefore the Commission is of the view that there is corresponding uncertainty around whether the CEMS will be able to appropriately manage the project's emissions. As a result, the Commission finds that the project's impacts on air quality are, therefore, unable to be determined as a result of these uncertainties.
136. Accordingly, the Commission finds that there is sufficient uncertainty with respect to the emissions from the project because:
- the applicant's predicted modelling, as outlined in paragraph 118, was based on data that is not representative of the actual waste streams proposed to be treated at the EfW Facility, and may not represent the expected results for the project; and
 - there is insufficient evidence that the pollution control technologies are capable of appropriately managing emissions from the project and would be agnostic to the composition of the project's waste stream.
137. The Commission therefore finds that it is unable to determine the project's impacts on air quality as there is sufficient uncertainty around the project's emissions and the results of applicant's predicted modelling. Furthermore, the Commission finds that there is insufficient evidence that operational controls and conditions of consent can appropriately manage air quality impacts due to the uncertainty around the project's emissions. This uncertainty persuades the Commission to adopt a precautionary approach to the consideration and determination of the project's air quality impacts.
138. The Commission's consideration of concerns relating to air quality impacts on human health is discussed in **section 5.3.2** of this Statement of Reasons.

5.3.2 Human Health Risks

139. The Commission has considered the Material regarding the impacts of the project on human health due to the effects of emissions on air quality in the locality.

Public and Council comments

140. The Commission heard concerns from Blacktown and Penrith City Councils, speakers at the public meeting, and received public comments regarding the human health risks of the project due to the effects of emissions in the locality. These concerns included:

- impacts from the project's emissions that could lead to, among others, chronic cardiac and respiratory diseases;
- that the project would create dioxins and furans as a by-product, which are highly toxic and cancer-causing chemicals, and would be released into the air, with no safe level of exposure to these chemicals;
- the accuracy of modelling for the applicant's human health risk assessment;
- the impact of hazardous nanoparticulate emissions cannot be measured and there is an absence of government regulation that sets an acceptable limit; and
- a lack of certainty regarding the concentration and mix of pollutants in the emissions and, as such, the air quality impacts and health risk estimates are unknown.

Applicant's consideration

141. The applicant's HHRA, prepared by AECOM, states that the assessment was based on Australian guidelines using a risk based assessment model and has been revised after discussions with the Department's experts, EnRiskS.

- Chemicals of potential concern (**CoPC**)

142. The applicant's HHRA compared predicted CoPC concentrations at or near receptor sites and at grid maximum locations⁷ with acute and chronic Australian and international health based criteria, and the EPA impact assessment criteria from the Approved Methods. The CoPC were selected based on a range of development specific investigations and research was undertaken by Ramboll to identify all potential and likely CoPC associated with operating energy from waste facilities in Europe.

143. The HHRA considered in detail all potential CoPC associated with emissions from the EfW Facility and resolved that under normal conditions there is an acceptable and low risk of impact on human health. The EfW Facility has been modelled under a series of potential operating conditions, including upset conditions during which typical emissions may be exceeded. The applicant's assessment under such conditions found that the impact on human health is within acceptable limits and would pose a low and acceptable risk to human health.

- Acute and chronic exposure

144. The applicant's assessment of acute exposure for Scenarios 3 and 5 found that, with the exception of modelled NO₂ concentrations in Scenario 5, no other CoPC exceeded the adopted acute criteria. However, the applicant's HHRA concluded that the potential acute human health

⁷ The grid maximum is the location where the highest ground level concentration outside the boundary is located.

risk associated with NO₂ exposure is unlikely to be realised due to the conservative nature of the assessment.

145. The applicant's HHRA also calculated the chronic (long-term) health risk for each individual exposure pathway as well as the cumulative risk from all pathways for both an adult and a child. A risk calculation was carried out separately for an infant ingesting breastmilk. The applicant's HHRA concluded that the potential risks to human health were considered to be low and acceptable for most complete exposure pathways with the exception of the risk for off-site infants via the ingestion of breastmilk under Scenario 2. This pathway was deemed in the HHRA to have a hazard index of 2.22, which exceeds the adopted acceptable hazard index of 1.0.
146. The applicant argued that the potential risk to an infant is considered unlikely to be realised as the proposed development is designed to meet the more stringent emissions limits reflected in Scenario 4 and a number of conservative assumptions were made in the assessment.
147. The applicant's assessment of chronic health risks concluded that the cumulative risk for all scenarios were low and acceptable for both an adult and a child.

- Nanoparticulate matter

148. The applicant notes in its RtS that when measured as emissions to air, nanoparticles form part of the parameter PM_{2.5} (defined as particulate matter with aerodynamic diameter less than 2.5 micrometers, including sub-micrometer particles). The applicant states that emissions from energy from waste facilities are low, and that the emissions of PM_{2.5} (including nanoparticles) measured at the stack in some plants was below the concentration of ambient air in urban areas. The applicant concludes that, irrespective of the air pollution control system, the contribution of an energy from waste facility to the PM_{2.5}/nanoparticles ground level concentration is negligible (i.e. below 0.1%).

- Mitigation measures

149. To minimise and avoid impacts associated with the operation of the plant, the applicant in its RtS proposes that the emissions limits would be set to align with emissions limits contained within Chapter IV and Annex VI of the IED (Directive 2010/75/EU) for waste incineration and co-incineration plants (as opposed to the Clean Air Regulation emissions limits). The applicant states that by doing this, even in the worst-case scenarios (as modelled in its HHRA), the potential for impacts is either avoided or minimised.

Department's consideration

150. The Department noted in its Assessment Report that the project has received opposition from NSW Health and the EPA. NSW Health has advised the Department that it is unable to support the project as it is, *"unable to determine the proposed facility's actual or potential impact on human health"*.
151. The Department's Assessment Report states that the EPA concluded that there is uncertainty regarding the actual performance of the project, the potential emissions and the applicant's ability to achieve best practice emissions control.

152. The Department states in its Assessment Report that Ferrybridge is not a “suitable reference facility”, and considering the advice from NSW Health and its expert, EnRiskS, the Department, “is not confident that the risk estimates presented in the applicant’s HHRA for Scenario 1 provide a reliable representation of the risks to human health if the project is permitted to thermally treat the mix of residual waste proposed in the design fuel”.
153. The Department therefore concurs with the EPA that the applicant’s ability to achieve the EU IED emissions limits (Scenario 4) is uncertain.
154. The Department notes that EnRiskS’s review states that the ground level concentrations in Scenario 1 need only vary 10-fold before the emissions from the EfW Facility would exceed the EU IED emissions limits. Given the difference in the project’s proposed fuel mix compared to the reference facilities used to inform the in-stack concentrations for Scenario 1, the Department states this scenario cannot be considered representative of the predicted impact of the proposed design fuel mix. The Department therefore considers a 10-fold margin of safety is not sufficient to account for this uncertainty. The Department concludes that, if the applicant is permitted to thermally treat the proposed design fuel mix, there is an unknown and potentially unacceptable risk to human health for the local community.
155. The Commission notes that the Department has not outlined any concerns in relation to nanoparticulate matter in its Assessment Report.
156. The Department’s conclusion is that the human health risks cannot be appropriately managed through operational controls and conditions of consent.

Commission’s consideration

157. Based on the Material, the project’s dominant social impact is the human health risk.
158. The Commission finds that it is unable to determine the project’s impacts on human health, which persuades the Commission to adopt a precautionary approach to the consideration and determination of the project’s impacts on human health. This finding is based on:
1. the finding in paragraph 133 regarding the uncertainty around the emissions from the project;
 2. the finding in paragraph 135 regarding the uncertainty around the project’s impacts on air quality;
 3. the uncertainty identified by the EPA regarding the actual performance of the project and its potential emissions, outlined in paragraph 151; and
 4. the advice from NSW Health that it is unable to determine the facility’s potential impact on human health, outlined in paragraph 152.
159. For the reasons set out in paragraph 158, the Commission accepts the Department’s conclusion that the human health risks cannot be appropriately managed through operational controls and conditions of consent.

5.3.3 Water Quality

Public comments

160. The Commission heard concerns at the public meeting in relation to the proximity of the project to, and its potential impact on, Prospect Reservoir, which is located approximately 5 km to the south-east of the site.

Applicant's consideration

161. The applicant's dispersion modelling, undertaken by Pacific Environment, calculated the volume of particulate matter that may land on Prospect Reservoir in any given year. The applicant's RtS states that the modelling found that Prospect Reservoir was unlikely to be impacted by the EfW Facility. The RtS also states that despite the potential for contamination being low, a qualitative assessment of risk was undertaken as part of the revised HHRA, which determined that contaminant concentrations (under wet and dry conditions) were significantly less than the applicable drinking water criteria. The applicant states that the HHRA also determined that the ingestion of drinking water was not considered an exposure pathway.
162. The applicant concludes in its EIS that its modelling and assessment, *"has demonstrated that the proposed facility when operating at the EU IED control conditions is able to meet the identified environmental criteria and will result in only 'low and acceptable' risks to human health."*
163. The applicant also indicates that the emissions plume would not reach Prospect Reservoir and is unlikely to impact the drinking water supply for the Sydney region, but there is no evidence that an assessment of the impact to residences utilising roof water as drinking water has been undertaken.

Department's consideration

164. The Department acknowledges in its Assessment Report that any impact from the project on water may be able to be managed or mitigated to achieve an acceptable level of environmental performance. The Department has not received any objections to the project from Sydney Water, which operates Prospect Reservoir, and the project is not located within the Sydney Drinking Water Catchment, as defined by the *State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011*.

Commission's Consideration

165. The Commission notes that any water quality impacts to Prospect Reservoir would only arise from airborne contamination, however the Commission further notes that this impact could extend to receiver locations that utilise roof water as drinking water or to irrigate vegetables for human consumption. The information before the Commission does not address this potential human health risk.
166. Notwithstanding the information provided by the applicant and the Department's conclusion in its Assessment Report, the Commission is not satisfied that the project's emissions would not impact on water quality, particularly given the proximity of residential properties to the EfW Facility. Thus, as there is uncertainty around the relationship between the project's air quality

impacts and water quality impacts, the Commission does not accept the applicant's and Department's conclusions.

5.3.4 Biodiversity

Council's comments

167. The Commission received comments from Blacktown City Council raising concerns over the impact on ecological communities on the site of the project. Blacktown City Council stated that the project would result in the destruction of 69% of the local occurrence of River Flat Eucalypt Forest and suggested that by reducing the size of the laydown pads, which are required to facilitate the construction and initial operation of the EfW Facility, the removal of vegetation can be avoided.

Applicant's consideration

168. The applicant's Flora and Fauna Assessment, prepared by Abel Ecology, states that the construction of the EfW Facility and impacts associated with the clearing of vegetation on flora and fauna habitats has been addressed through the ecological survey analysis. The assessment concluded that the project would require the clearing of approximately 0.27 ha of Cumberland Plain Woodland, which is a Critically Endangered Ecological Community (**CEEC**), and 0.57 ha of River Flat Eucalypt Forest Endangered Ecological Community (**EEC**).

169. In response to the applicant's Amended EIS, the Office of Environment and Heritage (**OEH**) recommended additional land containing these endangered ecological communities be retained on site and/or off-site offsets be provided. As a result, the applicant has reconfigured one laydown pad (Pad 3) to reduce vegetation removal by 2.32 ha (from 3.16 ha to 0.84 ha).

170. The applicant's Flora and Fauna Assessment concluded that there is not likely to be a significant effect on any threatened fauna or on the Cumberland Plain Woodland.

Department's consideration

171. The Department's Assessment Report states that the clearing of vegetation could be offset by the purchase and retiring of 18.9 ecosystem credits in accordance with the New South Wales Biodiversity Offsets Policy (**BOP**). The Department notes that the applicant has provided an offset strategy in accordance with the BOP.

Commission's consideration

172. The Commission notes that both the Department and OEH are satisfied with the proposed outcome of the clearing of approximately 0.27 ha of Cumberland Plain Woodland CEEC and 0.57 ha of River Flat Eucalypt Forest EEC as the applicant is proposing to provide an offset strategy in accordance with the BOP.

173. Based on the Material, the Commission finds that the project will not result in unacceptable biodiversity impacts as any impacts can be appropriately managed through offsetting in accordance with the BOP.

5.3.5 Greenhouse Gas Emissions (GHGE)

Applicant's consideration

174. The applicant states in its RtS that the project would support the positive use of waste materials that would otherwise be disposed of to landfill, which would reduce landfill generated greenhouse gas emissions (including methane).
175. The applicant's Greenhouse Gas Assessment (**GGA**) was updated by Pacific Environment in response to issues raised during the exhibition of its Amended EIS and to reflect the inclusion of Stage 1 only. The GGA concludes that the project would have a net positive greenhouse gas impact, eliminating over a 25-year period approximately 544,000 tpa of carbon dioxide (CO₂). The applicant's RtS also states that monitoring would be carried out in accordance with regulatory and license requirements.

Department's consideration

176. In response to the applicant's RtS, the EPA advised the Department that the project would have a net positive greenhouse gas impact with an emissions intensity lower than that derived from the national electricity grid. However, the EPA notes that emissions estimations are highly dependent on parameters such as waste stream source and composition. Consequently, the EPA states that variations in waste stream source and composition will result in fuel mixes different to the 'average' design fuel mix used in the project's calculations, and therefore different greenhouse gas emission profiles.
177. The Department states in its Assessment Report that the greenhouse gas savings from reduced volumes of residual waste being sent to landfill would be an environmental benefit of the project. The Department also acknowledges the contribution that the project would make to achieving State targets for the diversion of waste from landfill and the reduction in greenhouse gas emissions.

Commission's consideration

178. Based on the Material, the Commission finds that impacts related to GHGE are likely to be positive because of the potential generation of annual GHGE savings.

5.3.6 Visual impacts

Public comments

179. The Commission heard concerns at the public meeting, and through public comments, of the project's impact on visual amenity, including the scale of the stack and its visibility locally and regionally, and the potential visibility of a plume. The Commission notes that through public comments there remains misunderstanding about key aspects of the project, for example, different comments made during the public meeting commenting on four, two and a single stack(s).

Applicant's consideration

180. The applicant's RtS states that the EfW Facility has been designed to respond to the natural topography of the site and minimise visual impacts. The applicant states that due to the presence of vegetation throughout residential areas and along Ropes Creek, the project, which is typically beyond 1 km of any sensitive viewpoint, will not be highly visible. The applicant notes that from most locations, the lower parts of the project will be totally obscured from view, and that where views are possible, these will generally be of the upper parts of the buildings and the slender stack protruding above the tree canopy or building line.
181. The applicant concludes that the resulting visual impact will be negligible for most locations and generally low to moderate where views are possible from sensitive viewpoints. The applicant also proposes visual mitigation measures such as additional canopy tree planting, effective use of materials and use of a light grey finish on the stack to aid visual integration.
182. The applicant's RtS states that the plume from the EfW Facility will not be visible the majority of the time, even under adverse conditions. The applicant states that the plume is most likely to occur only at night and in the early morning hours in the coldest 6 months of the year and have very limited height. To mitigate any visual amenity impacts, the applicant proposes to implement and manage technology design parameters to reduce plume formation and visibility.

Department's consideration

183. The Department's Assessment Report states that there would be residual visual impacts that would not be ameliorated by the proposed vegetation planting and building treatments. Further, the Department states that the upper portion of the building and stack would be visible from recreational and industrial sites near to the project. The Department considers that the visual impacts of the development may be acceptable given the industrial zoning of the site, the existing industrial character of adjacent land uses, the site's location within SEPP WSEA and the distance separating residential areas (over 1 km). However, the Department considers that the residual impacts would need to be managed through appropriate management and mitigation measures.

Commission's consideration

184. The Commission has considered the public concern relating to the visual impact of the development on the surrounding landscape, and the misunderstanding within the community regarding the extent and scale of the project as now modified through the Amended EIS, outlined in paragraph 179. As set out above, the Commission visited the site and observed that the existing urban skyline includes significant built infrastructure.
185. Based on the Material, the Commission finds that the project would not have an unacceptable impact on the visual amenity of residents in the locality. This is because the project for the most part will not be visible to sensitive residential receivers to the north and west with the exception of the stack, which the Commission also considers would not represent an inappropriate feature in the existing urban skyline.

5.3.7 Economic Impacts

Applicant's consideration

186. The applicant states in its Amended EIS that the project will create around 500 direct on-site jobs during the construction and commissioning phase, 55 new operational jobs, and several hundred indirect jobs, which will provide economic benefits at both a local and State level. The applicant also considers that the project will provide a benefit to the local and regional economy through the provision of key infrastructure for the sustainable treatment of waste within Metropolitan Sydney.

Department's consideration

187. The Department states in its Assessment Report that the project would provide economic benefits for the broader community. However, the Department does not consider that the potential public benefit of an energy from waste facility of this scale in close proximity to residential areas in Western Sydney outweighs the potential unacceptable impacts that the proposed development would have on the surrounding local community. As a consequence, the Department does not consider that the project promotes the social and economic welfare of the community or a better environment.
188. The Department also states that there are numerous other means of reducing the volume of waste going to landfill through re-use, recovery and recycling of waste, which are higher order waste management strategies identified in the waste hierarchy. Additionally, the Department notes that the New South Wales Waste Levy provides a strong economic signal by making waste avoidance, reduction and recycling more financially attractive than disposal to landfill. The Department advises that it is a key policy tool for driving waste diversion from landfill in New South Wales and achieving the targets in the New South Wales Waste Avoidance & Resource Recovery Strategy 2014-21 (**WARR Strategy**).
189. In terms of the EfW Facility's impact on energy prices, the Department's external expert, Arup, has advised that it would, *"expect the project to be too small to have any meaningful impact on the overall electricity market in New South Wales, and that it would be likely that the facility would obtain similar prices for its electricity as other thermal power stations in the region."*

Commission's consideration

190. The Commission accepts the applicant's position that the project has the potential to deliver up to 500 construction jobs and 55 direct operational jobs, both of which will provide economic benefits within the locality and to the State. The Commission further accepts that the project may provide a stimulus to other industries within the broader community, however, the extent of such benefits has not been quantified.
191. Based on the Material, the Commission finds that the economic benefits related to the project are positive for the locality and broader community. Those benefits relate to job creation and employment and the Commission is satisfied with the information presented by the applicant in this regard.

5.3.8 Site Suitability

192. The Commission heard concerns at the public meeting and received submissions regarding the suitability of the site for the project. Issues raised included:

- potential health impacts from the project's proximity to sensitive receivers such as residential areas, schools and childcare centres; and
- increased heavy vehicle traffic congestion.

193. In its RtS, the applicant states that there are significant advantages of the site location, including:

- proximity to the existing adjacent Genesis Xero Waste Recycling Centre, Genesis MPC and landfill, which maximises operational efficiency and provides the opportunity to share infrastructure, such as roads;
- location within an existing Industrial Precinct (Eastern Creek) in the SEPP WSEA;
- proximity to major regional road networks and to waste sources within Metropolitan Sydney; and
- proximity and access to the TransGrid substation and use of an existing TransGrid easement for service lines.

Applicant's consideration

194. The applicant states in its RtS that transporting waste to a similar facility in a regional location would increase traffic impacts on the regional road network and not deliver the net positive contribution to greenhouse gas emissions that this project offers. The applicant also states that this would also distance the facility from the national electricity grid, which means Metropolitan Sydney would not receive the full benefit of electricity produced by the project.

Department's consideration

195. The Department notes in its Assessment Report that there are approximately 4,945 residential properties, six schools and six childcare centres within 3 km of the site. The closest residential properties are located approximately 900 m to the west of the site on Swamphen Street and Blackbird Glen in the suburb of Erskine Park. The Department considers that these land uses must achieve a high level of environmental protection. The Department states that given the uncertainty around the emissions from the project and the potentially unacceptable risk to human health, the proximity of the project to these sensitive land uses presents an unacceptable risk.

Commission's consideration

196. The Commission has considered the applicant's statements regarding the project's strategic location in relation to supporting infrastructure, which includes its position within an industrial precinct, and its proximity to the existing Genesis facility and other waste sources, Transgrid electricity infrastructure, and major arterial road networks. The Commission accepts that with regard to these considerations, in isolation, the site is well located to support the project. However, the site is also located in close proximity to large residential areas to the north and west, and that within these areas there are a number of sensitive receiver locations, which include schools and child care centres.

197. Based on the Material and, consistent with its earlier findings in paragraphs 133-137, 158 and 166, the Commission finds that it is not able to determine whether the site is suitable to support the project as currently proposed.

5.3.9 Waste By-Products

198. The Commission heard concerns at the public meeting and received comments and submissions in relation to the storage and disposal of residual ash, which would be generated by the project.

Applicant's consideration

199. The applicant states in its RtS that there are two types of ash that will be generated. The applicant states 'bottom ash'⁸ would be stored on-site at storage collection bays capable of 5 days' storage capacity and then disposed at the Genesis landfill as it is considered non-putrescible and non-hazardous. 'Air pollution control' (APC) ash⁹ would be collected into sealed storage silos and transported via sealed tanker off-site for further treatment or disposal at landfill.

Department's consideration

200. The Department states in its response to the Commission's questions, as discussed in paragraph 48, that bottom ash may be able to be received at the Genesis landfill, providing the appropriate controls, procedures and licensing are in place. The Department notes that there are no landfills that accept hazardous waste in New South Wales and therefore the APC ash would need to be immobilised (i.e. treated) to meet the classification of restricted solid waste (RSW) and disposed of at the only landfill in New South Wales licenced to accept it, being the Kemps Creek facility on Elizabeth Drive operated by SUEZ. The Department further notes that the Genesis landfill would not be permitted to accept hazardous waste or RSW, as it has not been constructed with the appropriate environmental controls. The Department has not raised any concerns over impacts from waste by-products.

Commission's consideration

201. Based on the Material, the Commission finds that the project will not result in unacceptable impacts from waste by-products as these can be managed through disposal at appropriate facilities.

5.3.10 Transport

Public's consideration

202. The Commission heard concerns at the public meeting and received comments in relation to the project's impact on the local and regional transport network, including traffic congestion through increased heavy truck movements.

⁸ Bottom Ash is the burnt-out residue from the combustion process.

⁹ Air Pollution Control (APC) Ash – this comprises fine particles of ash and residues from the Flue Gas Treatment process.

Applicant's consideration

203. In its RtS, the applicant concluded that the net traffic generation of the project would be a minimal increase above existing conditions and is unlikely to significantly impact the network capacity available to the wider area. The applicant also states that, cumulatively, traffic generated by the development would represent only a small proportion of traffic generated by the wider Western Sydney area, and as such would not have a significant impact on the ability of the surrounding road network to operate at an acceptable level into the future.

Department's consideration

204. The Department's Assessment Report notes that Roads and Maritime Services (**RMS**) raised no objections to the project and requested that the applicant prepare a Construction Traffic Management Plan prior to the issue of a construction certificate. The Department has not raised any concerns over impacts of the project on the local and regional transport network.

Commission's consideration

205. Based on the Material, including the information in paragraph 204 above, the Commission finds that the project will not result in unacceptable transport impacts as:

1. there would only be a minimal increase in traffic above existing conditions;
2. there is unlikely to be any significant impact on the network capacity available to the wider area; and
3. any impacts can be appropriately managed.

5.4 Public Interest

206. In determining the public interest merits of the project, the Commission has had regard to the objects of the EP&A Act.

Department's consideration

207. The Department has outlined its considerations against the objects of the EP&A Act in its Assessment Report. The Department states that the project:

- does not promote the social and economic welfare of the community or a better environment;
- is not consistent with the principles of ecologically sustainable development, in particular, the precautionary principle and intergenerational equity; and
- does not promote the orderly and economic use and development of land.

208. The Department concludes that the project is not consistent with the objects of the EP&A Act.

209. The Department also concludes that it,
“does not consider the public benefit of an energy from waste facility of this scale in close proximity to residential areas in Western Sydney outweighs the potentially unacceptable impacts the proposed development might have on the surrounding local community in the short, medium and long-term. As a consequence, the Department does not consider the proposed development is in the public interest.”

210. The Commission notes that the applicant has not provided an outline of its considerations against the objects of the EP&A Act in its Amended EIS.

Commission's consideration

211. Under section 1.3 of the EP&A Act, the relevant objects to the project are:

- a) *to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,*
- b) *to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,*
- c) *to promote the orderly and economic use and development of land,*
- e) *to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,*
- i) *to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State, and*
- j) *to provide increased opportunity for community participation in environmental planning and assessment.*

212. The Commission has taken into account the Material. This evidence and information, as addressed throughout this Statement of Reasons, highlights the uncertainty around some impacts, as summarised below, and the benefits or neutral impacts arising from others, also summarised below.

213. The Commission considers that the benefits include:

- creation of approximately 500 construction jobs and 55 operational jobs, and a potential stimulus to other industries within the broader community;
- potential for GHGE savings through the diversion of waste from landfill;
- consistency with the directions and objectives of the *Greater Sydney Region Plan*;
- no unacceptable biodiversity impacts;
- no unacceptable impacts from waste by-products; and
- no unacceptable transport impacts.

214. In its assessment and determination of the merits of the project the Commission has given consideration to the impacts discussed in this Statement of Reasons. Importantly, the Commission has not been able to determine the project's impacts on air quality and human health due to the uncertainty around the project's emissions and the results of the applicant's predicted modelling.

215. A relevant object of the EP&A Act to the development application, as outlined in paragraph 211(b), is the facilitation of ecologically sustainable development (ESD). The Commission notes that section 6(2) of the *Protection of the Environment Operations Act 1997 (POEO Act)* states that ESD requires the effective integration of social, economic and environmental considerations in its decision-making, and that ESD can be achieved through the implementation of:

- (a) the precautionary principle;
- (b) inter-generational equity;

- (c) conservation of biological diversity and ecological integrity; and
- (d) improved valuation, pricing and incentive mechanisms.

216. As already noted in **section 5** of this Statement of Reasons, the Commission acknowledges that the project will provide some benefits to the community in the form of employment and GHGE savings. Notwithstanding these benefits, the uncertainty around the impacts of the project for the community, outlined in paragraph 214 (see also paragraphs 133-137 and 158), mean that the project is not consistent with the principles of ESD, in particular the precautionary principle.
217. The Commission finds that the key issue in its consideration of the project is the uncertainty around the project's emissions and the results of the applicant's predicted modelling. Given this uncertainty, the Commission finds that it is unable to determine the project's impacts on the locality and has persuaded the Commission to adopt a precautionary approach to the consideration and determination of the project's impacts on air quality and human health.
218. Accordingly, the Commission finds that, while there are benefits to the public from the project, there is sufficient uncertainty around the project's impacts on air quality, water quality and human health that mean that the project is not in the public interest.
219. In relation to the consideration of the project's impacts against the relevant objects of the EP&A Act, the Commission finds that the project has not demonstrated consistency with the objects of the EP&A Act. In particular, due to the uncertainty around the project's emissions and impacts on human health, the Commission is not satisfied that the project is consistent with the following objects:
- *to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources, and*
 - *to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment.*
220. The Commission finds that the project is not in the public interest because there is uncertainty around:
- the project's impact on air quality due to the uncertainty around the project's emissions and the results of the applicant's predicted modelling;
 - the project's impacts on human health;
 - the suitability of the site; and
 - the relationship between air quality impacts and water quality impacts.

6. THE COMMISSION'S RESPONSE TO COMMUNITY ISSUES

221. Written submissions to the Commission, as well as speakers at the public meeting, raised a number of concerns about community consultation and public opposition to the project, and consideration of the POEO Act.
222. In addition to the Commission's consideration of the development application in **section 5**, the Commission responds to these additional issues raised by the community, as follows:

6.1 Community Consultation

223. In its response to the Department's Assessment Report, the applicant states that public exhibition of, and consultation on, the project was undertaken in accordance with the requirements under the EP&A Act and the SEARs issued for the project. The applicant also states that the project was lodged following extensive engagement and the application was amended to respond to community concerns. In its RtS, the applicant outlines the extent of its consultation and concludes that community notification of the project was extensive and adequate for a project of this nature and scale. The applicant also states that it had gone above and beyond the standard exhibition requirements in consulting and engaging with the community.
224. The Department in its Assessment Report states that while the applicant has informed the community and shared information about the project and provided opportunities to raise concerns or seek clarification, the Department considers that this consultation has not been effective in engaging with the community to understand the social impacts, and for the applicant to understand the community's views and concerns. The Department also states that given energy from waste is new to New South Wales, and this is the first project of its kind in Sydney, it considers that the applicant has not effectively engaged or collaborated with the community in its decision-making about the project and as such has been unable to gain the community's confidence or support.

Public Opposition

225. The Commission notes that the Department received 949 objections to the project during the exhibition of the applicant's Amended EIS. Furthermore, in February 2018, two petitions with over 10,000 signatures opposing the proposed development were tabled in the New South Wales State Parliament, which raised concerns in relation to the potential impacts on air quality, human health, site suitability given its proximity to densely populated residential areas, and the existing poor air quality in Western Sydney.
226. The Department's Assessment Report states that as a result of the two petitions, a Parliamentary Inquiry was established to inquire into and report on matters relating to the waste disposal industry in New South Wales, with particular reference to 'energy from waste' technology. Members of the community also raised the Parliamentary Inquiry at the public meeting. The Parliamentary Inquiry published a report on its findings, which commented:
"It is clear that in New South Wales, the current dependence on landfill is unsustainable, and that local councils and the NSW Government must work collaboratively to deliver suitable alternatives for waste management. Ultimately, energy from waste technologies will be one component of this solution, only after a significant shift up the waste hierarchy to avoid, reduce and re-use waste and the issues of social license, air pollution impacts and health risks have been addressed."
227. The report also included a recommendation that:
"subject to the current assessment process being conducted by the NSW Department of Planning and Environment, the NSW Government not approve the energy from waste facility proposed by The Next Generation at Eastern Creek."
228. The Department's report mentions that in response there have been two Bills introduced into the New South Wales State Parliament to amend the EP&A Act to restrict waste incinerator

facilities within close proximity of residential zones and within the Sydney Basin. To date these Bills have not been made. The Commission has not considered the two Bills or the Parliamentary Inquiry in this assessment.

229. Of the 24 speakers at the public meeting held by the Commission, 23 spoke in opposition to the project. The Commission also heard opposition to the project from submissions, the Department, government agencies and Councils. The Commission also acknowledges that the Department received submissions in support of the project. However, the Penrith and Blacktown City Councils indicate a local community largely united in its opposition to the project.
230. The Commission heard concerns at the public meeting over the lack of community consultation undertaken by the applicant throughout the development application process.
231. While the Commission acknowledges the level of public opposition to the project, the Commission finds that the community's acceptance of the project is not a statutory requirement for its assessment of the development application, it has taken into consideration the community's concerns. However, those concerns have not been determinative of the application.

6.2 Consideration of the *Protection of the Environment Operations Act 1997*

232. The Commission heard concerns at the public meeting that the applicant did not have the relevant experience to operate a facility of this nature and was not considered "a fit and proper person".
233. The Commission notes that under the provisions of the EP&A Act there is no requirement for an applicant to demonstrate that it, or for a consent authority to consider whether an applicant, is a "fit and proper person".

7. THE COMMISSION'S FINDINGS AND DETERMINATION

234. The Commission has carefully considered the Material before it.
235. The Commission finds that:
- the applicant's predicted modelling, as outlined in paragraph 118, was based on data that is not representative of the actual waste streams proposed to be treated at the EfW Facility;
 - there is insufficient evidence that the pollution control technologies are capable of appropriately managing emissions from the project and would be agnostic to the composition of the project's waste stream, as outlined in paragraph 136;
 - there is uncertainty in relation to the air quality, and the relationship between air quality impacts and water quality impacts in the locality, as outlined paragraphs 137 and 166;
 - as a result, there is uncertainty in relation to the human health risks and site suitability, as outlined in paragraphs 158 and 197;
 - it is not satisfied that the project is consistent with those objects of the EP&A Act, as outlined in paragraph 219; and
 - the project is not in the public interest as outlined in paragraphs 218 and 220.

236. For the reasons outlined above, the Commission has decided to refuse consent to the development application.

237. The reasons for the Decision are given in this Statement of Reasons for Decision dated 19 July 2018.



Robyn Kruk AO (Chair)
Member of the Commission



Peter Duncan AM
Member of the Commission



Tony Pearson
Member of the Commission