

Annex I Summary of the Environmental Impact Assessment and Appropriate Assessment processes and consultants' findings August 2026

1. INTRODUCTION

1.1 General Background

The proposed Thermal Treatment Facility (TTF) was assessed in line with the:

- Environmental Impact Assessment Regulations (S.L. 549.46), specifically the following criteria in Schedule I, Category I, Section 5.0.1.1: *Waste disposal installations for the incineration, chemical treatment (as defined in Annex I to Directive 2008/98/EC on waste under heading D9), or landfilling of hazardous waste as defined in that Directive.*
- Flora, Fauna and Natural Habitats Protection Regulations (S.L. 549.44), specifically Regulation 19(1), given the location of the proposal vis-à-vis the following Natura 2000 sites:
 - MT0000007- Is-Salini designated as a terrestrial Special Area of Conservation via Government Notice 1379 of 2016;
 - MT0000008 - L-Għadira s-Safra u l-Iskoll tal-Għallis designated as a terrestrial Special Area of Conservation via Government Notice 1522 of 2019;
 - MT0000105 - Żona fil-Baħar bejn il-Ponta ta' San Dimitri (Għawdex) u Il Qaliet designated as a marine Special Area of Conservation of International Importance via Government Notice 682 of 2018;
 - MT0000107 - Żona fil-Baħar fil-Grigal, designated as a Special Area of Conservation via Government Notice No. 1311 of 2016; and
 - MT0000112 - Żona fil-Baħar ta' Madwar Għawdex designated as a marine Special Protected Area via Government Notice 1311 of 2016.

The EIA and AA reports were coordinated by AIS Environment.

1.2 Description of the site and proposed development

The development, proposed by Wasteserv Malta is for the construction of a Thermal Treatment Facility, within the ECOHIVE Complex in Magħtab, Naxxar (Figure 1). The proposal includes the construction of the plant, storage and administration buildings, wastewater treatment, tank farm, access control points, substation and cisterns. The project includes a parking area and landscaping. The total area for the facility is approximately 18,185m².

The site lies on agricultural land at the edge of the ECOHIVE complex, is surrounded by existing and planned waste facilities. Agricultural land and Natura 2000 sites (refer to Section 1.1 and Figures 2 and 3) also lies in close proximity to the site.

The project will consist in site preparation, including hoarding, clearing loose materials, and initial excavation. During construction, an area of around 3,000m² will be required for storage of materials, an additional 1,500 m² for pre-assembly and lay down and heavy lifting areas, and 700m² for site

offices and parking. All spatial requirements will be catered for within the proposed site boundaries. Foundations and lower-level walls will be constructed. Further excavation and backfilling will follow, with reusable material redistributed across the site. Excess material will be re-used or backfilled in quarries. The site will be landscaped with transplanted vegetation. The next phase will involve the construction of the main building structure followed by the installation of the equipment. The final phase involves commissioning the completed scheme to ensure all systems and works operate as intended.

Expected waste streams to be processed at the TTF include medical, clinical and pharmaceutical waste, cytotoxic and cytostatic waste, expired items, abattoir, butcher waste, animal-by-product and fallen animal and waste oil.

Below is a summary of the **operational phase**:

- **Reception of Waste:** trucks are weighed on arrival and guided to one of the three unloading bays. Waste enters enclosed, negative-pressure areas with ventilation and odour control. Unloaded waste to move to storage. On exit, trucks pass a weighbridge and wheel washer. The shredder and tank farm are located close to the kiln.
- **Storage of Waste:** The facility uses a two-line system for faster waste processing, where storage is divided into “dirty,” wash-up, and “clean” zones. Wheelie container storage for organic and medical waste includes cooled rooms and direct routes to incineration or shredding via chutes and lifts.
- **Shredder Area:** Located beneath the container storage, the shredder receives waste through chutes and hoists. Its unloading bay benefits from natural ventilation, while the enclosed shredder uses air suction for odour control.
- **Tank Farm:** A dedicated unloading point feeds liquid waste into a bunded tank farm with multiple tanks for oils, wastewater, and sludges.
- **Processing of Waste:** Waste moves from storage or unloading directly into the incineration infeed. The plant has two operational levels with gangways for access and maintenance, and internal roads for manoeuvring between lines. An underground conveyor removes ash and slag. Separate but connected rooms house auxiliary equipment, electrical systems, and control operations to maintain continuous performance. The structure includes an elevated section with an emergency relief vent.
- **Stack:** The stack is positioned at the centre of the facility. It connects to the incineration lines through individual ducts housed within a single outer pipe. Flue gases pass through a treatment system before release and are continuously monitored through a Continuous Emissions and Monitoring System. Emission limit values are based on EU Directives, Regulations and Best Available Technology conclusions and will be determined and strictly adhered to the Integrated Pollution Prevention and Control permitting system.
- **Ash:** the final output of the incineration process is minimal amount of slag (850 tonnes annually) and fly (170 tonnes annually) ash. Fly ash is considered hazardous and will be exported for appropriate treatment. The Incineration Bottom Ash (IBA) shall be stored in containers and metal will be taken out with a magnet. There are two forms of IBA, hazardous and non-hazardous. The potential for re-use of the non-hazardous bottom ash component may be explored in further projects. Until such time, the IBA produced from the facility is considered hazardous and will also be exported for appropriate treatment.
- **Water:** Process (waste)water and rainwater are collected in three different pits and treated for reuse. A rainwater pit (4,506m³) will collect rainwater from all building roofs. A leachate pit will collect water from contaminated drains, fire-fighting water and runoff rainwater from roads. A drain pit will collect boiler drain water which is conditioned with ammonia and sodium hydroxide.

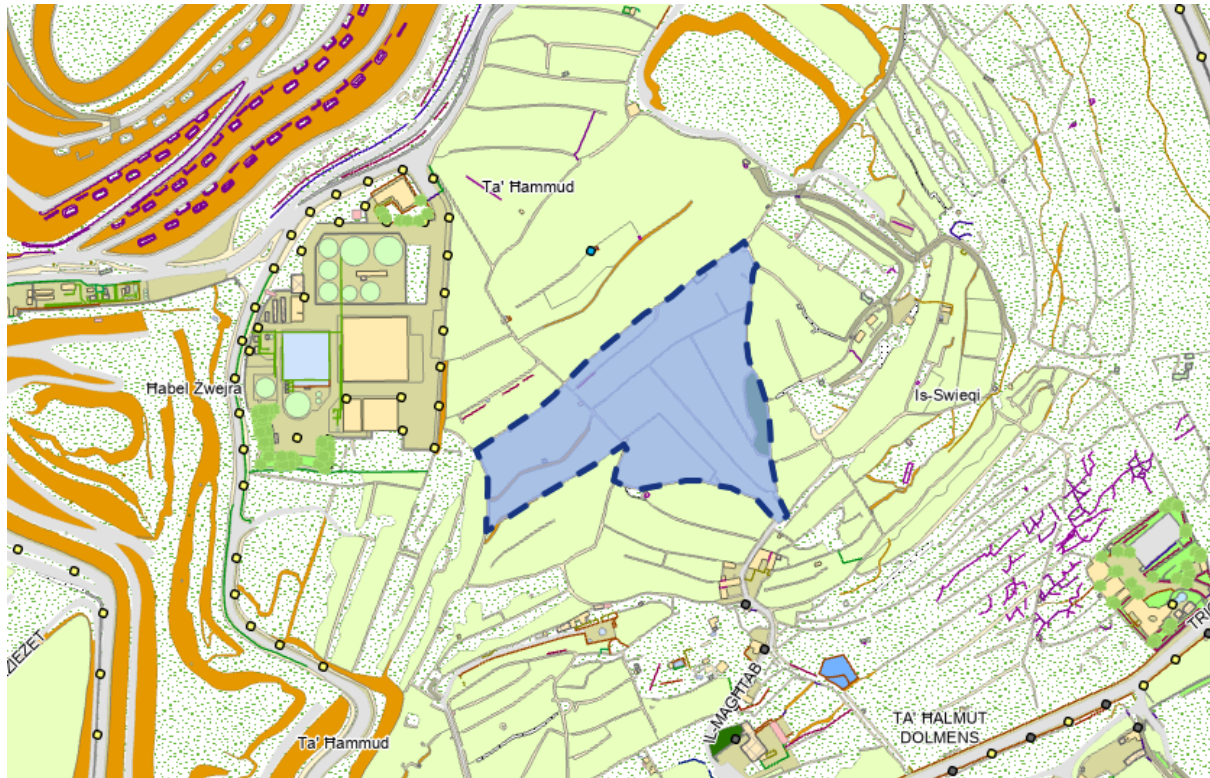


Figure 1: Site boundary of the proposed development (Source: PA Geoserver)



Figure 2: Terrestrial Natura 2000 Sites relevant to the proposed development (Source: Appropriate Assessment Report, July 2026)

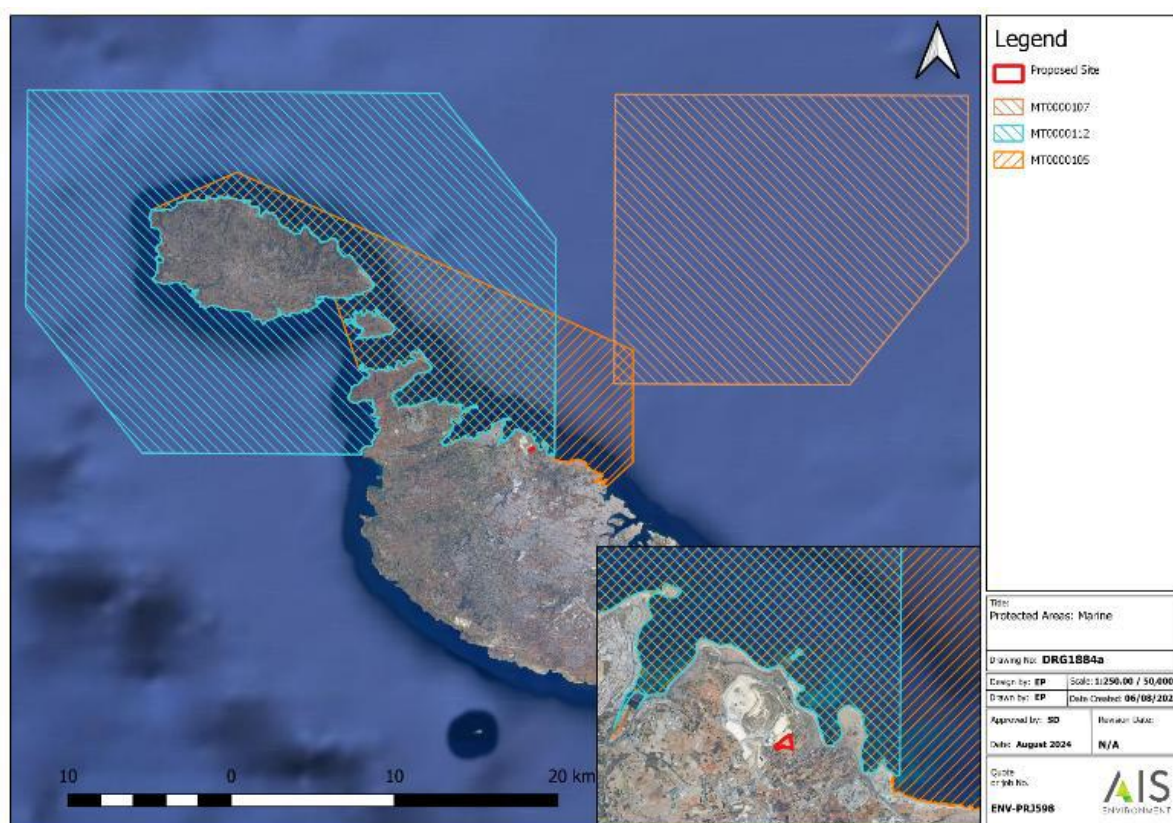


Figure 3: Marine Natura 2000 Sites relevant to the proposed development
(Source: Appropriate Assessment Report, July 2026)

2. EIA CONSULTATIONS

2.1 EIA Scoping

During the scoping stage, the Project Description Statement (PDS) was made available on the ERA website. A public consultation period took place between 25th March 2024 and 5th May 2024. The following consultees were consulted via email during the consultation period:

- Planning Authority;
- Climate Action Authority;
- Regulator for Energy and Water Services;
- Energy and Water Agency;
- Ministry for Agriculture, Fisheries and Animal Rights;
- Civil Protection Department;
- Malta Tourism Authority;
- Environmental Health Directorate;
- Transport Malta;
- Occupational Health & Safety Authority;
- Superintendent of Cultural Heritage;
- Local Council Association and the Naxxar Local Council; and
- *Environmental NGOs*: ACT Malta, Archaeological Society Malta, Biological Conservation Research Foundation, BirdLife Malta, Bicycle Advocacy Group Malta, Capers Malta, Centre for Sustainable Development, Din L-Art Helwa, Entomological Society of Malta, Environment

Commission, Flimkien Għall-Ambjent Aħjar, Fondazzjoni Patrimonju Malti, Fondazzjoni Wirt Artna, Friends of the Earth, Front Harsien ODZ, Għaqda Sigar Maltin, Greenhouse Malta, International Tree Foundation, Light Pollution Awareness Group, Maghtab Residents, Malta Bat Conservation Group, Malta Beekeepers Association, Malta Energy Efficiency and Renewable Energies Association, Malta Organic and Agriculture Movement (MOAM), Malta Health Network, Malta Water Association, Malta Youth in Agriculture, Moviment Graffiti, Nature Trust Malta, Noise Abatement Society of Malta, Ramblers Association of Malta (RAM), Sharklab Malta, Sustainable Built Environment Malta, Youth for the Environment, Young Reporters for the Environment Malta and Żminijietna.

The PDS was also circulated for internal review within ERA.

A scoping meeting was held on 10th April 2024, with notifications to the same consultees issued through the aforementioned consultation notification. During this meeting, a presentation on the proposed development was delivered, and the attendees were able to comment and raise questions in view of the drafting of the Terms of Reference for the EIA Report.

Within the stipulated consultation period, comments were received from the Planning Authority (email dated 25/03/2024), Light Pollution Awareness Group (email dated 25/03/2024), Energy and Water Agency (email dated 09/04/2024), Malta Resources Authority (email dated 10/04/2024), Regulator for Energy & Water Services (email dated 19/04/2024), Environmental Health/Department for Health Regulation (email dated 23/04/2024), Civil Protection Department (email dated 23/04/2024), Superintendence of Cultural Heritage (email dated 30/04/2024) and BirdLife Malta (email dated 3/05/2024). Feedback is presented in Section 7.1.

The final Terms of Reference were issued on 10th June 2024.

2.2 EIA Review and public hearing

The EIA Report was submitted to ERA on 27th of February 2025 and published on the ERA website for a 30-day period on 9th March 2025 with the public and the same consultees listed above. Notifications of the submission of the Report were published in the form of adverts in local newspapers on 9th March 2025 by the developer. The consultation was also published on the government public consultation portal and circulated for internal review within ERA.

Within the stipulated consultation period, comments were received from the Planning Authority (email dated 11th March 2025); the Environmental Health Directorate (email dated 27th March 2025) and the Superintendence of Cultural Heritage (email dated 2nd April 2025). These are reproduced in Section 7.2.1 to this document. Feedback was also received from the public and is reproduced in Section 7.2.2.

A Public Hearing was held on 23rd April 2025 to inform the public on the EIA findings and provide the opportunity for the public to comment on, and enquire about, the EIA Report, the proposed project and its impacts. A notification of the said public hearing was issued on the ERA website and through adverts in the press. Minutes of the public hearing are included in Section 7.2.3 of this document and are available on ERA website (<https://era.org.mt/era-project/pa-06096-23/>). Feedback was also received from the public following the public hearing and is reproduced in Section 7.2.4.

Comments made by ERA and its consultees during the EIA review were forwarded to the EIA Coordinator and the applicant on 25th April 2025. Comments from the consultees and the public were addressed and responses are included in Section 7.2 of this document.

The final EIA Report was submitted to ERA in July 2026.

3. ASSESSMENT OF ALTERNATIVES

3.1 *Alternative sites*

3.1.1 Option 1: Upgrading the existing facility

Upgrading the existing Marsa TTF was considered. The site's limited footprint, constrained access, surrounding land uses, and layout restrictions limit opportunities for efficient expansion or redesign which would not adequately support future operational needs. It was concluded that upgrading and operating this facility would remain relatively costly compared to developing a modern plant.

As a result, the Marsa site is intended to remain as a cold standby facility. The relocation to a more suitable site within the ECOHIVE complex is considered a more efficient and sustainable solution that reduces impacts on nearby land uses and enhances overall waste management efficiency, in line with the Long-Term Waste Management Plan.

3.1.2 Option 2: Relocation to the ECOHIVE complex – four sites.

- *Site 1: Area to the North-East of the proposed site*
 - Site area larger than required.
 - Involved the additional land take and new access roads, as it lies within terraced agricultural land and garrigue habitat.
 - Close to the protected coastal area at Qalet San Marku and overlooks sensitive marine environments.
 - The chimney stack and building would also be highly visible from nearby roads and residential areas, increasing visual impact.
 - Design and layout challenges due to the site's steep gradient towards the coast
 - This site was deemed unsuitable due to environmental sensitivity, visual exposure, access requirements, and design constraints.
- *Site 2: Area to the West of the proposed site*
 - Site significantly larger than required.
 - Lies on the western edge of the ECOHIVE complex, detached from existing and planned facilities.
 - Its location would require longer internal transport routes and greater construction effort for utilities and access.
 - The site is currently surrounded by landfills that are planned to be landscaped, as well as agricultural land and farmhouses.
 - Introducing a new facility and tall stack here would undermine the intended visual improvement of this area as it transitions to green space.

- Area designated for animal husbandry thus would conflict with this land use designation and extend the ECOHIVE boundary closer to residential areas to the west.
- While the site does not contain protected habitats, construction and operation could affect nearby sensitive receptors, such as through dust on adjacent fields.
- Increased vehicle movements in this part of the complex would also mix public users with heavy construction traffic.
- The site was deemed unsuitable due to planning conflicts, visual impact, access issues, and operational challenges.
- Site 3: *Area adjacent to the proposed site*
 - Site is larger than required but offers practical advantages, including a gentler slope and closer proximity to access roads and other ECOHIVE facilities.
 - Site contains numerous mature protected Carob and Olive trees along unused agricultural fields.
 - This site is designated for a new Material Recovery Facility and is subject to a separate Environmental Impact Assessment.
 - The site was deemed unsuitable due to its designation for a separate facility.
- Site 4: *Area to the East of the ECOHIVE Complex*
 - Site is larger than required but its triangular shape and varying gradients limit building arrangement efficiency.
 - Less suitable areas within the site will be utilised for landscaping with significant green buffers introduced around the development.
 - Steeped topography presents design challenges but is used advantageously by distributing facilities across different levels.
 - The stack is positioned centrally within the ECOHIVE complex to minimise its visual prominence.
 - The site's proximity to other ECOHIVE facilities also improves operational efficiency and logistics compared to more distant alternatives.
 - Sufficiently distant from protected areas, although the site still features mature trees.
 - Overall, the site offers the best balance of operational efficiency, visual integration, safety, and environmental performance, with opportunities to improve long-term ecological value through landscaping and tree compensation measures.

Based on the above, Site 4 was considered the most suitable in terms of size, shape and location.

3.2 Alternative technologies

The most suitable technology was based on the type of waste streams and their respective annual throughput volumes. Twelve alternative technologies were considered, and further information is available in the Coordinated Assessment Report. These include rotary kiln; grate incinerator; fluidised bed; fixed hearth; gasification / pyrolysis; plasma pyrolysis / gasification; autoclave; microwave; ozone treatment; chemical treatment; biogas and drying.

Rotary kilns incinerate hazardous oil and chemical waste without shredding. Operating at high temperatures, rotary kilns ensure complete destruction of organic material and comply with

regulations for chlorine-containing waste. Refractory lining and robust design make them suitable for safe, reliable hazardous waste treatment.

The rotary kiln was considered the most suitable incineration technology since it can treat a wide range of hazardous waste streams within a compact footprint. The land use requirement was also factored in since some of the technologies listed above would require several facilities significantly increasing land use for reception, storage, sorting, and vehicle movement, in addition to the treatment equipment itself. Centralising hazardous waste treatment in one dedicated facility also prevents mixing or contamination with non-hazardous waste, enabling safer handling, storage, and operational practices.

3.3 *Layouts*

Several layout options were evaluated to meet operational, safety, environmental, and visual requirements for the facility. The initial “shed” concept placed the entrance and unloading bays at one end and the stack at the other, but analysis showed this would create traffic and manoeuvring difficulties, especially with trucks reversing into bays during peak periods.

A revised layout moved unloading to the far end, improving circulation and allowing multiple trucks to queue within the site rather than on the access road. Separate routes were also introduced for different waste streams and staff movement.

The design evolved further by dividing the large shed into smaller, interconnected sections at varying elevations, to reduce the building’s visual bulk, fit within the site’s slope, minimise excavation, and align building volumes with operational process needs.

Three different excavation scenarios were also proposed:

- Scenario 1: Plant floor level at 0.225m.
- Scenario 2: Plant floor level at 0.325m.
- Scenario 3: Plant floor level at -0.025m.

Scenario 1 was considered the most suitable to achieve net zero in terms of excavation and backfilling requirements.

3.4 *Downscaling of the project*

The project was downscaled to better fit the site’s triangular shape and changing slope, improving spatial efficiency and reducing visual impact. The design was reorganised into four interconnected sections at different levels, linked by bridges, to follow the natural topography more effectively.

Excavated material will be reused for site levelling, whereas areas that could not be built upon due to site constraints will be landscaped.

Further reductions were made after air modelling, leading to a lower stack height to minimise visual prominence. Some building elements were also semi-submerged to reduce their visibility.

3.5 Zero Option

The existing Marsa treatment facility has been operational for many years but has limitations due to ageing infrastructure, past fire damage, space constraints, and systems not fully suited to the broader range of wastes currently managed. Equipment downtime, limited automation, and integration constraints also affect overall efficiency, while storage and treatment capacity restrict flexibility. Odour, noise, emissions, and traffic interactions with nearby sensitive land uses have highlighted the need for improved operational conditions.

4. EIA FINDINGS

The summary of the characteristics of the site, assessment of impacts, mitigation measures and residual impacts identified in the Coordinated Assessment Report are as follows:

4.1 Land cover and uses

The site *per se* is agricultural in nature, surrounded by additional agricultural land (located to the south of the site), and the ECOHIVE complex (including the Għallis and Magħtab landfills to the north of the site, Żwejra landfill to the west), anaerobic digester plant (to the west, and the Waste to Energy and the Organic Processing Plant to the north, and the planned Material Recovery facility to the south-west). Scattered residential buildings can also be found to the south-east of the site.

Construction-phase residual impacts identified within the Aol:

- The change of land use is *major adverse*;
- Spillover effects on the surrounding agricultural land and ecological component is *minor adverse*;
- Dust emissions and tracking on the surrounding access roads, adjacent fields and trees is *negligible* following measures such as construction monitoring and dust mitigation; and
- Increased emissions from vehicles on the surrounding agricultural land (also during the operational phase) is *minor adverse* following mitigation that includes appropriate traffic management and minimising idling times.

Operational-phase residual impacts identified within the Aol:

- Events of oil leaks/spills, accidents, flooding, fires on the existing roads and adjacent agricultural land are *minor adverse* following the implementation of an Emergency Response Plan.

4.2 Landscape character and visual amenity

A description of the general features of the relevant landscape units is provided in the Coordinated Assessment Report and is divided into general, enhancing and detracting features. A list of potential visual receptors within the Zone of Theoretical Visual Influence is also provided, which includes motorists and passengers on nearby roads, residents—especially those in elevated areas such as Għargħur, San Pawl tat-Tarġa, Madliena, Magħtab, as well as tourists and users of the coastal area at

Baħar iċ-Ċagħaq. Receptors vary in sensitivity, with residents and frequent visitors more affected than transient viewers due to longer exposure.

A desk study and a field survey were carried out to determine the visual baseline. Six (6) viewpoints were identified to represent short, medium and long-distance views:

- Viewpoint 1: Triq Dawret Il-Wied, Mosta
- Viewpoint 2: Triq Is-Salina, San Pawl tat-Tarġa
- Viewpoint 3: Triq Il-Kappella Ta' Santa Marija, Magħtab
- Viewpoint 4: *Triq Ir-Ramla, Magħtab*
- Viewpoint 5: Triq Il-Kosta, Qalet Marku
- Viewpoint 6: Triq Il-Kosta, St Andrew's
- Viewpoint 7: Triq Għaxqet il-Għajn, Għargħur

Construction-phase residual impacts identified within the Aol:

- Deterioration of the landscape value during construction from Viewpoint 1 to Viewpoint 7 due to the presence of construction and excavation machinery, cranes, dust, noise, vibration and associated works on the landscape elements is *moderate adverse* following mitigation measures such as adherence to Construction Site Regulations; and
- Reduction of the visual amenity of potential visual receptors due to the presence of construction and excavation machinery, cranes, dust, noise, vibration and associated works are as follows:
 - Viewpoints 1, 2 and 6: *minor adverse impact*
 - Viewpoints 3, 4, 5 and 7: *moderate adverse impact*

Operational-phase residual impacts identified within the Aol:

- Deterioration of the landscape value during operations due to the presence of TTF Building at ECOHIVE complex and take up of agricultural land on the landscape elements is assessed as follows:
 - Viewpoints 1, 2, 6 and 7: *major adverse impact*; and
 - Viewpoints 3 to 5: *moderate adverse impact*.
- Reduced visual amenity due to the presence of TTF Building at ECOHIVE complex and take up of agricultural land on potential visual receptors is assessed as follows:
 - Viewpoints 1, 2, and 6: *minor adverse impact*; and
 - Viewpoint 3, 4, 5 and 7: *moderate adverse impact*.
- Sustained external lighting at viewpoints 1 to 7 on residents and nearby fauna is *negligible* following mitigation such as strategic placement of external lighting.



*Figure 4: Viewpoint 1 – The TTF superimposed on the MRF, OPP and WTE photomontages at Triq Dawret il-Wied, Mosta
(Source: EIA Coordinated Assessment Report, July 2026)*



Figure 5: Viewpoint 2 – The TTF superimposed on the MRF, OPP and WTE photomontages at Triq Is-Salina, San Pawl tat-Targa (Source: EIA Coordinated Assessment Report, July 2026)



Figure 6: Viewpoint 3 – The TTF superimposed on the MRF, OPP and WTE photomontages at Triq il-Kappella Ta' Santa Marija, Maghtab (Source: EIA Coordinated Assessment Report, July 2026)



*Figure 7: Viewpoint 4 – The TTF superimposed on the MRF, OPP and WTE photomontages at Triq Ir-Ramla, Magħtab
(Source: EIA Coordinated Assessment Report, July 2026)*



*Figure 8: Viewpoint 5 – The TTF superimposed on the MRF, OPP and WTE photomontages at Triq Il-Kosta, Qalet Marku
(Source: EIA Coordinated Assessment Report, July 2026)*



*Figure 9: Viewpoint 6 – The TTF superimposed on the MRF, OPP and WTE photomontages at Triq Il-Kosta, St Andrew's
(Source: EIA Coordinated Assessment Report, July 2026)*



Figure 10: Viewpoint 7 – The TTF superimposed on the MRF, OPP and WTE photomontages at Triq Ghaxqet il-Ghajn, Gharghur (Source: EIA Coordinated Assessment Report, July 2026)

4.3 **Geology, Geomorphology, Hydrogeology and Soils**

The Area of Influence (AoI) for the geological and soil study is restricted to the site extension whereas the geomorphological study covers a radius of about 600m from the site to include coastal areas.

Geological conditions at the site were analysed through the drilling of five exploratory boreholes and full recovery of rock core samples up to 6m in length. Laboratory tests were carried out to assess the strength and pore structure characteristics of bedrock underlying the site. Test results concluded that material excavated from the site can be re-used and/or backfilled. The excavation phase is expected to generate 8,640m³ of rock material. This will be crushed, sorted by size and cleared of any other materials. All the excavated material shall be reused within the site boundary in view that 9,000m³ of crushed rock is required for backfilling.

The soil was removed to make way for preliminary archaeological investigations requested by the Superintendence of Cultural Heritage.

Construction-phase residual impacts identified within the AoI:

- The loss of rock strata *minor adverse* following measures to offset such impact, such as the reuse or recycle of excavated material;
- Dust dispersion on the landscape and human health is *minor adverse* as long as the following mitigation measures such as site hoarding, dust suppression techniques, are adhered to;
- Stability of construction pit on operatives and third parties' properties is *negligible*; subject to close monitoring of excavations and stabilise, if necessary; and
- Spillage incidents during the transportation or storage of hazardous substances on the geological strata, soils and watercourses are *minor adverse* following mitigation measures such as spill kits, designated storage areas and bunding systems etc.

Operational-phase residual impacts identified within the AoI:

- Greenhouse Gases emissions due to storage of waste prior to incineration is *negligible* following mitigation measures namely, cold storage rooms for waste containers, combustion air drawn from feeding areas etc.;
- Other forms of air emissions due to incineration of waste on geological strata, soils and watercourses are *negligible* subject to the installation of emission abatement systems, regular maintenance and training programmes, cover vehicles during transport and handling of wastes etc.;
- Deposition of materials on soils during incineration of waste is *negligible*; and
- Ground contamination by liquids and liquid waste due to accidental release of leachate or wastewater is *negligible* following mitigation measures such as the management of wastewater and potential leachate from storage area incorporated within the design of the facility.

4.4 **Water bodies**

The site is entirely encompassed by the water catchment basin of Wied ta' Kieli. Another watercourse is present within the AoI at the North of the site, namely Wied tal-Għallis. The outlet of Wied ta' Kieli

corresponds to Qalet Marku where surface water is drained into the sea. No natural freshwater resources were identified within the Aol.

Construction-phase residual impacts identified within the Aol:

- Contamination of the Mean Sea Level Aquifer from the percolation of contaminants through surface vulnerability features is *negligible* following measures such as the installation of silt traps;
- Runoff contamination due to storage of hazardous substances on Wied ta' Kieli watercourse is *minor adverse* subject to the setting of a hazardous substance storage area, bunding system, among others; and
- Contamination of coastal water bodies due to spillage of hazardous fluids on Qalet Marku and I-Għadira s-Safra is *negligible* after the implementation of mitigation measures that include monitoring quantities of fluids imported onsite to prevent overflow.

Operational-phase residual impacts identified within the Aol:

- Spillages due to handling and storage of chemicals and hazardous waste on water bodies is assessed as *minor adverse* following mitigation measures such as facility design to prevent spillage from entering ground, monitoring for potential leaks through pipelines and storage areas impermeability;
- Major accidents due to large scale fires or explosions, significant chemical release and structural failure on water bodies is of *minor adverse significance* after the implementation of mitigation measures, including spill kits, hazardous substance storage areas, bunding systems, oil-water interceptors and surface waterproofing;
- The use of pesticide and fertilisers for the maintenance of landscaped areas on water bodies is *negligible* if done at the required concentrations and frequency;
- Groundwater salinisation due to paving agricultural areas resulting in depletion of groundwater recharge is of *moderate adverse significance*. No mitigation measures were identified;
- Public water network stress due to water demand for the operation of the plant is *negligible* after the implementation of mitigation measures such as the use of alternative water resources techniques like wastewater reuse and rainwater harvesting; and
- Flooding due to paving agricultural areas resulting in increase of runoff flow rates is of *moderate adverse significance*. No mitigation measures were identified.

4.5 Ecology – terrestrial

The site is presently agricultural land with cleared topsoil, dense patches of low-lying indigenous trees, scattered agricultural trees and remnants of local maquis/ garrigue community. A total of 85 trees will be directly affected by the proposal of which 50 are protected. No faunal species were observed during the survey however, previous studies recorded the presence of a variety of mammalian, reptile and insect species. The presence of bats cannot be excluded from the area in view that buildings in the vicinity can provide roosting sites with the surrounding agricultural land offering foraging opportunities.

The site does not lie within or directly adjacent to any protected area, however several terrestrial and marine Natura 2000 sites are located within walking distance of the site.

Construction-phase residual impacts identified within the Aol:

- Loss of terrestrial habitats and species (circa 85 tree individuals, 50 of which are protected) is *moderate adverse* following the transplanting of trees, where possible;
- Loss of soil and rubble walls and ecological characteristics are *moderate adverse* following mitigation measures, such as incorporating landscaping, monitoring construction activities to prevent spill-over effects on adjacent agricultural land;
- Dust generation is *negligible* in view of a temporary accumulation of dust, vibration and noise impacts within the immediate terrestrial ecosystems abutting the construction site boundary, after the implementation of mitigation measures such as dust suppression techniques, regular clearing of affected areas and construction monitoring;
- Rainwater runoff is assessed as *not significant* after mitigation namely, onsite wheel washing facilities, collection facilities of all liquid runoff from the site;
- Impacts from construction vehicles is assessed also not significant as long as vehicles limited to site footprint and adjacent existing roads;
- Increased lighting is *not significant* in view that limiting works to daylight hours, use of downward facing, shielded and low frequency safety lights are being proposed to mitigate such impact; and
- Increased vibration and noise generation is *negligible*. This can be achieved through well maintained equipment.

Operational-phase residual impacts identified within the Aol are as follows:

- Increased light, air pollution and noise generation is *negligible* – with a minor increase in night-time light in previously dark agricultural areas in the surroundings, increase in vehicular activity generating noise, increase in pollutant deposition on the surrounding vegetation through vehicular and stack emissions. Mitigation measures include noise spillover through the use of BAT, keeping apertures shut during operational hours; ensure equipment is well-maintained and within national emission limits *via* regular monitoring; and limit night-time lighting to the bare minimum and use of down-facing lights.

4.6 Ecology – avifauna

The Coordinated Assessment notes that five bird species have been reported breeding within the Aol-1 (100m) or in its direct vicinity, and three pelagic seabirds species nest and inhabit the Maltese Islands and waters within the Aol-2 (5km).

Construction-phase residual impacts identified within the Aol:

- Loss of habitats for terrestrial avian species due to destruction of agricultural land ODZ is *minor adverse* following measures such as keep construction time short, minimise site spillover effects onto adjacent land from temporary storage areas and avoid (if possible reproductive season);
- Noise vibration and light pollution on terrestrial avian species in Aol-1;
- Light pollution on nocturnally migrating birds within Aol-1 and 2; and

- Artificial light at night results in colony disturbance and the grounding of Procellariiform seabird fledglings (*P. yelkouan*) in Aol-2 inducing mortality are all assessed as *minor adverse* after mitigation measures, namely limit night-time activities, reduce light pollution, and avoid as much as possible sensitive periods.

Operational-phase residual impacts identified within the Aol:

- Exposure of (marine) avifauna within the Aol-2 and beyond to harmful substances including biohazardous material (pathogens etc.), reducing life expectancy, physiological health state, reproductive success, disease outbreaks due to the release of pollutants from the stack plume, spills of fly and bottom ash, spill of contaminated water during standard operations, transport or accidents and bioaccumulations is assessed as *not significant* following measures that include Infrastructure (FGT) and monitoring (CEMS) of the stack, protocols in place to minimise release and spills of any harmful substances, including biohazardous material into the environment;
- Contribution to climate change, impacting biodiversity due to contribution to climate change, impacting biodiversity is *not significant* after the implementation of mitigation measures including, the reuse of generated steam for internal purposes, where possible; and
- Exposure of avifauna within Aol-1 and their habitats to fire from operations due to industrial activities, storage of waste, run-off from firefighting water, release of toxins into the air is assessed as *minor adverse* following measures such as WSM's existing fire-fighting measures and future measures incorporated within the facility are expected to control the spread of fire.

4.7 Agricultural land

The proposed development site consists of a series of seven terraced fields adjoining each other. An Aol of 100m was considered.

Construction-phase residual impacts identified within the Aol:

- The generation of dust onto the surrounding agricultural land during construction is *minor adverse* as there is adherence to PA and ERA regulations and instructions to protect surrounding areas; and
- The loss of agricultural land, resulting in decrease in overall ODZ land resulting from the excavation of the site and construction of the facility is of *moderate to major adverse significance* after the implementation of mitigation measures, such as containing impacts to site area.

The deposition of pollutants on the surrounding agricultural land from waste incineration during operation is assessed as *negligible* after the implementation of mitigation measures (i.e. monitoring of emissions, sampling of soil and adherence with BAT).

4.8 Archaeology and Cultural Heritage

A desk study was undertaken within the 100m Aol. The study identified three scheduled cultural heritage features and noted the presence of a prehistoric site outside of the Aol. The Coordinated Assessment also refers to an archaeological evaluation carried out by the Superintendence of Cultural Heritage. This evaluation entailed a fieldwalking exercise and excavation of 19 trial trenches and open area excavation with full soil stripping.

Construction-phase residual impacts identified within the Aol:

- Loss of features and change in the context and cultural landscape resulting from excavation and demolition/ dismantling of rural structures is *moderate adverse* depending on the implementation of mitigation measures, namely involving the integration or relocation of significant features, if possible;
- Potential damage to cultural and/or archaeological features below the ground during excavation works is assessed as *moderate adverse impact* depending on the implementation of mitigation measures (i.e. constant monitoring and use of sensitive construction methods); and
- Deterioration of cultural landscape resulting from the construction phase and the presence of the proposed development once constructed is assessed as *major adverse* even after the implementation of mitigation measures (i.e. use of sustainable approaches to landscape design).

During operation, the weathering of limestone buildings at Taż-Żebbuġġija and Ta' Hammud archaeological sites resulting from the increase of air pollution is *negligible* following measures such as the maintenance of equipment and to keep operations within national emissions limits via regular monitoring.

4.9 Air quality

The Aol in terms of air quality was defined as the area around the plant with its contribution to annual ambient concentrations to the annual ambient levels of NO₂, PM₁₀ or PM_{2.5} is 0.3 µg/m³ for NO₂ or 0.3 µg/m³ for PM₁₀ or 0.19 µg/m³ for PM_{2.5}, whichever results in the largest AOI. If the area of the AOI is < 11.3 km² then the AOI shall be assumed to be a circle of radius 6 km from the centre of the chimney.

The 6km radius Aol encompasses the local councils of San Pawl il-Baħar, Naxxar, Mosta, Għargħur, Ħal Lija, Attard, Balzan, Iklin, Birkirkara, San Ġwann, Msida, Swieqi, Pembroke, St Julians, Sliema, Gżira, Rabat and Mġarr. A number of sensitive receptors were identified. These consisted in mainly residential areas, schools, clinics, old people's home, hospitals, churches, agricultural lands and natural environments, amounting to 55 receptors.

Dispersion modelling showed simulated concentrations for NO₂, PM₁₀, and PM_{2.5} across the entire Aol and all receptors remain below the threshold values, with the highest concentrations occurring within approximately 0.78km of the chimney. Results for all scenarios showed concentrations for PM₁₀ and NO₂ below the legal annual limits.

The dispersion model was applied to estimate the daily mass deposition rates of metals and dioxin-like compounds. For each scenario, the maximum daily deposition was compared to the deposition limits. This resulted in the predicted deposition rate for metals and dioxin-like compounds to be substantially below the legally binding limits.

A 6-week monitoring study was conducted to establish the baseline values of PM10 and NO2. Any influences of 'Sahara Dust' were excluded. The monitoring data was compared with four ERA air quality stations (Għarb, Msida, Żejtun and Attard).

The potential impacts on the quality of the ambient air and the deposition levels of particular components on the residential area, agricultural land and disturbed ground, Natura 2000 sites, Site of Community Importance, were assessed as *not significant*. Sticky monitoring of the pollutants level around the facility to ensure that the pollutants are within limits together with periodic monitoring and maintenance of the abatement technologies.

4.10 Noise and vibrations

The Coordinated Assessment refers to a baseline sound survey carried out for the Waste to Energy facility in 2020. The report took into consideration four noise sensitive receptors (two residential, a nature reserve including a hotel and a beach).

Construction noise during the operation of the plan and on-site vehicle movement on residents/humans (100m from the site) and wildlife (300m from the site) is assessed as *not significant* following the implementation of mitigation measures (i.e. adherence to BAT).

Operational noise during site preparation on residents/humans (100m from the site) and wildlife (300m from the site) is *not significant* following the proposed mitigation measures that include following good construction practices, maintain machinery in good working order, siting of stationary machinery away from sensitive receptors and control movements of trucks and machinery.

4.11 Infrastructure and utilities

The Coordinated Assessment provides a list of infrastructure and utilities identified, including street lighting, fencing, power cables and internet cables with the 100m Aol.

Construction-phase residual impacts identified within the Aol:

- Potential interruptions of second interconnector cable leading to impact on national power supply is assessed as *negligible*;
- Damage to existing infrastructures and utilities within the access route and buffer zone is assessed as *minor adverse* to *negligible* after the implementation of mitigation measures that include liaison between WSM and the contractor; and
- Interruptions to water and electricity supply within the existing facilities within the ECOHIVE complex is *negligible* after the implementation of mitigation measures that include liaison between WSM and contractor.

The improved capacity to treat hazardous waste is *major beneficial residual impact*.

4.12 Climate change and adaptation

During construction the release of GHG emissions from construction machinery, equipment, transportation of raw materials, extraction and production of materials is *negligible* following measures such as turning off idle engines and optimise transportation and site logistics.

Operational-phase residual impacts identified within the Aol:

- Reduce groundwater recharge and flooding resulting from the urbanisation of rural areas is *negligible* following the harvesting of rainwater systems and flood control mechanisms; and
- Reduced GHG emissions from operations due to energy efficiency and cold storage area preventing decomposition of organic matter is *minor beneficial*.

4.13 Cumulative impacts

Construction-phase residual impacts identified within the Aol:

- Loss of rock strata is *minor adverse* after the implementation of mitigation measures such as reuse and/or recycle excavated material;
- Dust dispersion on landscape and human health is *minor adverse* after the implementation of mitigation measures such as site hoarding, dust suppression techniques, and silt traps;
- Stability of construction pit is *negligible* after the implementation of mitigation measures such as close monitoring during excavation and stabilise as necessary, silt traps to improve sediment control);
- Spillage incident during transportation or storage of hazardous substances on geological strata, soils and water courses is *minor adverse* after the implementation of mitigation measures, namely spill kits, storage areas, bunding systems and oil-water interceptors;
- Flooding of the water catchment resulting from paving of agricultural areas is *moderate adverse*. No mitigation measures were proposed;
- Fragmentation and loss of agricultural land are *moderate adverse*. No mitigation measures were proposed;
- Continuous disturbance within dark/quiet agricultural area resulting from noise-generating construction activities is *minor adverse* after the implementation of mitigation measures, that include streamlining of construction activities between sites, and avoiding sensitive periods for bird and bat species;
- Deviation of excavated material from backfilling is *minor beneficial*;
- Loss of features and change in the context and cultural landscape resulting from excavation and demolition/ dismantling of rural structures is *moderate adverse* depending on the implementation of mitigation measures, such as the integration or relocation of significant features, if possible; and
- Interruptions to water and electricity supply while connecting services to the network is *negligible* after the implementation of mitigation measures, that includes liaison between WSM and contractor.

Operational-phase residual impacts identified within the Aol:

- Change in land use from existing agricultural land is *major adverse* even after the implementation of mitigation measures, namely the implementation of landscaping;
- Expanded capacity for treatment of hazardous waste is *moderate beneficial*;
- Emissions of pollutants from the stack as a result of the incineration of waste from the TTF and WTE plants is assessed as *minor (slight reduction) adverse*;
- Odour and atmospheric emissions from the storage and transport of waste from the proposed facilities is assessed a *minor adverse* after the use of best available techniques; and
- Cumulative noise impacts from the operation of the plant and on-site vehicle movements is *negligible*.

5. Appropriate Assessment findings

Preliminary screening did not satisfactorily eliminate significant, negative impacts that impinge on the integrity of the Special Protection Areas (SPA), Special Area of Conservation (SAC). The full implications of the proposal on the integrity of the habitats and species of the protected sites listed in section 1.1 above were deemed unclear.

In this regard, an Appropriate Assessment (AA) study was requested by ERA in accordance with the Flora, Fauna and Natural Habitats Protection Regulations (S.L. 549.44) to assess whether the proposed development will have a significant effect on the site and its surroundings.

The first AA report was submitted on 27th February 2025 with a final version submitted in July 2026.

The AA identified and assessed the potential adverse effects of the proposed project on SPAs and SAC listed in Section 1.1 above.

Construction-phase related impacts:

- Dust generation from the construction site resulting from excavation, backfilling and building construction is *not significant* on the adjacent terrestrial Natura 2000 sites;
- Contaminated and/or increased rainwater runoff from the site resulting from excavation, backfilling and building construction is *not significant* on the adjacent terrestrial and marine Natura 2000 sites;
- Increased light, vibration and noise generation resulting from excavation, backfilling and building construction is *not significant* on the protected habitats and species within the adjacent Natura 2000 sites;
- Light pollution negatively impacting nocturnal migrating birds resulting from lighting during construction is *not significant*; and
- Colony disturbance, grounding of seabirds fledglings, and associated induced mortality caused by Artificial Light at Night on Procellariiform seabirds, specifically *P. yelkouan* in the adjacent Natura 2000 sites is *not significant* after the implementation of mitigation measures, namely by limiting nighttime activities, reducing light pollution in accordance with published guidelines, avoid (if possible) sensitive periods.

Operational-phase related impacts:

- Contaminated and/or increased rainwater runoff from the site resulting from increased urbanisation is *not significant* on the adjacent terrestrial and marine Natura 2000 sites;
- Increased light, vibration and noise generation resulting from the operation of the facility is *not significant* on the coastal habitats and species within the adjacent terrestrial Natura 2000 sites;
- Colony disturbance, grounding of seabirds fledglings, and associated induced mortality caused by Artificial Light at Night on Procellariiform seabirds, specifically *P. yelkouan* in the adjacent Natura 2000 sites is *not significant* following mitigation measures;
- Exposure of marine avifauna to harmful substances including biohazardous material, reducing life expectancy, physiological health state, reproductive success and disease outbreaks resulting from the emission of pollutant from the stack plume, spills of flyash and bottom ash, spills of contaminated water during standard operation, transport or during accidents, and bioaccumulation is *not significant* following mitigation measures; and
- Cumulative effects impacting biodiversity resulting from habitat loss, rainwater runoff, greenhouse gas emissions, increase in CO₂ due to use of diesel, release of thermal energy, heat island effect from built-up footprint is *not significant*.

The following mitigation measures have been proposed to mitigate impacts related to marine and terrestrial environments:

- Standard good construction practices are to prevent dust emissions and runoff from the site.

The following mitigation measures have been proposed to mitigate impacts related to avifauna:

- Works limited to daylight hours.
- All lighting should follow the Guidelines for the Reduction of Light Pollution in the Maltese Islands (2020).
- Appropriate flue gas treatment technology keeping the emission levels well below threshold levels, as proposed, should be ensured.
- Equipment well maintained to avoid excessive noise.
- Minimise noise spillover by using Best Available Techniques.
- Appropriate protection measures against fires and waste spillage, as well as rapid response plans, must be in place to limit and reduce the potential effects of environmentally hazardous incidents.

6. Summary of the consultants' findings

The EIA Coordinated Assessment has identified a number of residual adverse impacts on agricultural land and terrestrial ecology, change in land use and geology, landscape character and visual amenity, water bodies (groundwater recharge), archaeology.

The AA report concluded that the proposed development is unlikely to have significant adverse effects on nearby Natura 2000 sites due to its considerable distance from these protected areas. Potential impacts are mainly indirect and include light pollution, noise, dust generation, and atmospheric emissions from the facility. The most notable risk concerns light pollution, which could disturb protected seabird species associated with the marine SPA and increase the risk of disorientation and

grounding. Construction activities may also temporarily affect species in surrounding agricultural areas. However, impacts on habitats and species are expected to be effectively mitigated through the implementation of Best Available Techniques (BAT), emission controls, and other good practice measures in line with light pollution guidelines.

Residual impacts on habitats, protected species, and ecological processes are considered insignificant. Consequently, the integrity of the Natura 2000 sites is not expected to be adversely affected, and the conservation status of protected species will remain unchanged. The proposed mitigation measures are consistent with the sites' conservation objectives, ensuring that habitat protection and species conservation targets remain fully achievable.