WASTE-TO-ENERGY, CLOSED LANDFILLS AND ENVIRONMENTAL JUSTICE

A practical review for Householders' Options to Protect the Environment (HOPE) Inc.

By Georgy Hadwen, HOPE senior researcher UK

Prepared for a general readership | October 2026

Scope: Australian policy, landfill aftercare, resource recovery, selected case studies and proportionate advocacy options.

Table of Contents

Executive summary *3*

What this report is not: 3

1. Why waste issues matter *4*

2. What do the main terms mean? *4*

Closed landfill recovery 4

Landfill mining and materials recovery 4

Landfill-gas capture 4

Thermal waste-to-energy 5

Other biological and chemical routes 5

3. The waste hierarchy and circular economy *5*

Hierarchy of action 5

4. Environmental and climate considerations *6*

Methane and climate 6

Air pollution and ash 6

Ecology, water and land rehabilitation 6

5. Environmental justice and community health *6*

What might a consultation look like? 7

6. Australian governance: who does what? *7*

Federal level 7

State and territory level 7

Local government 8

Governance questions required....8
7. Case study 1: Kwinana waste-to-energy, Western Australia....*8*
What this tells us....8
Questions HOPE could reasonably raise....8
8. Case study 2: East Rockingham, Western Australia....*9*
Lessons for advocacy....9
9. Case study 3: Victoria's thermal waste-to-energy cap....*9*
10. Closed landfill sites: (a separate, long-term problem)....*10*
A proportionate closed-landfill checklist....10
11. A decision framework....*10*
Support in principle when all key tests are met....10
Oppose when fundamental safeguards are absent....11
Treat with caution / request more evidence when....11
12. A practical policy map....*11*
13. Recommended scope:....*12*
What can reasonably be done....12
What should be outside HOPE's remit unless specialist partners are engaged....13
14. Advocacy recommendations....*13*
15. Short advocacy briefing for HOPE members....*13*
Conclusion....*14*
Appendix A. Sources and further reading....*14*
Appendix B. Suggested document checklist for a specific proposal....*15*

Executive summary

This report examines whether recovering materials or generating energy from closed landfill sites and residual waste can support a more sustainable Australian waste system. It is based on the project brief supplied to the author and a review of publicly available government, regulatory and international sources. It is intended to help HOPE Inc. decide what it can usefully say and do but not to substitute for site-specific engineering, epidemiological, legal or environmental assessment.

The core conclusion is that “waste-to-energy” is not one activity. Capturing methane from an existing landfill, extracting reusable materials from an old landfill, and burning residual municipal (LG) or commercial waste are different interventions, with different risks and benefits. They should not be treated as interchangeable.

Australia generated an estimated 75.6 million tonnes of headline waste in 2022–23, or 2.88 tonnes per person. About 25.7 million tonnes were disposed of, and around 22 million tonnes were deposited in landfill. Newer national reporting for 2024–25 records 79.0 million tonnes generated and 25.7 million tonnes disposed of, demonstrating the continuing scale of the challenge (DCCEEW, 2024; DCCEEW, 2026).

Five findings stand out:

1. Prevention and reuse should remain the first priorities. in the waste hierarchy; Energy recovery belongs below avoidance, reuse and recycling; it is not a substitute for them (NSW EPA, n.d.; Australian Government, 2018).
2. Closed landfills can remain toxic environmentally active for decades. Gas, leach-ate, settlement, contaminated soil and groundwater can require monitoring and aftercare long after waste acceptance ends (EPA Victoria, 2018/2025).
3. Landfill-gas capture can reduce uncontrolled methane release (one of the most impactful greenhouse gases) and may generate useful energy; However, performance depends on capture efficiency, maintenance, monitoring and the counterfactual. It does not make landfill disposal sustainable or remove the need to reduce organic waste.
4. Thermal waste-to-energy can divert residual waste from landfill and produce energy, but it creates air-emission and ash-management obligations, can lock in long-term feedstock demand, and may compete with recycling if contracts and policy are poorly designed. Modern pollution controls reduce some risks; they do not justify assuming zero risk (WHO, 2026; EPA Victoria, n.d.).
5. Environmental justice must be part of the decision, not a late consultation exercise. Communities should receive understandable information, independent scrutiny, meaningful influence and long-term monitoring, particularly where existing industrial pollution or social disadvantage is already concentrated.

For HOPE, the recommended position would be to: support waste prevention, reuse, repair, high-quality recycling, organics diversion and properly monitored landfill aftercare; assess landfill-gas capture on its merits; and treat thermal waste-to-energy as a conditional last-resort option for genuinely residual, non-recyclable waste. HOPE as part of its climate remit, should oppose proposals that rely on recyclable feedstock, lack transparent emissions and ash data, understate cumulative impacts, or fail to demonstrate meaningful community participation and long-term financial accountability.

What this report is not:

This is a strategic review, not a technical audit of any particular landfill or facility. It does not establish that any named project has caused harm, nor does regulatory approval prove that every community concern is resolved. Project-specific conclusions require current licenses, monitoring data, environmental assessments, site histories and independent technical advice.

1. Why waste issues matter

Waste is often discussed as a problem of collection and disposal. More accurately, decisions about waste affect resource extraction, product design, climate pollution, land use, local air quality, public expenditure and the distribution of environmental liability. Waste facilities are also long-lived infrastructures which once built, often shape local government waste contracts and investment choices for decades.

Nationally, this picture is large and pcompelling. The Australian Government's National Waste and Resource Recovery Report 2024 estimated 75.6 Mt (Megatonnes) of headline waste generated in 2022–23. Construction and demolition materials made up the largest stream, followed by commercial and industrial waste and municipal solid waste. The report estimated 25.7 Mt disposed of and noted that about 82% of disposed headline waste went to landfill (DCCEEW, 2024). The 2026 report, using data to 2024–25, estimated 79.0 Mt generated, with 67% recovered and 25.7 Mt disposed of; It should be noted these figures use a defined national reporting scope and should be critically compared with differently scoped local statistics (DCCEEW, 2026).

The policy question is not simply whether a facility can make energy. It is whether a particular pathway is better than realistic alternatives over the full life cycle, including avoided production, recycling, transport, emissions, residues, land use and long-term liabilities. A facility may produce electricity while still being a poor option if it draws valuable recyclable material away from recovery or creates a contractual need for high volumes of waste.

2. What do the main terms mean?

Closed landfill recovery

A closed landfill is one that no longer accepts waste, but it is not necessarily inert or safe for unrestricted use. Waste can settle and degrade; methane and carbon dioxide may continue to form; leach-ate can affect groundwater; and historic disposal practices may have left contaminants whose location and composition are uncertain. The necessary aftercare depends on the site's history, engineering, geology and surrounding land uses. EPA Victoria's closed-landfill guidance highlights the continuing need to assess risks, develop rehabilitation and aftercare plans, monitor performance and report to the regulator (EPA Victoria, 2018/2025).

Landfill mining and materials recovery

Landfill mining involves excavating some or all of the buried material, usually to recover metals, soil-like fractions or other materials, create space, or enable redevelopment. Potential benefits include recovering resources and addressing a legacy site. Risks include disturbing contaminated waste, releasing dust or odours, exposing workers and neighbours, damaging caps or drainage systems, and creating a large volume of material that still needs safe disposal. It is not automatically environmentally beneficial: the recovered fraction must have a real, safe market, and demand an assessment of the full impacts of excavation, processing and transport.

Landfill-gas capture

Organic waste decomposes and produces landfill gas, including methane, a potent greenhouse gas. Wells and pipework can collect gas for flaring or energy generation. Flaring destroys methane but does not generate useful energy; electricity generation can provide a productive use for captured gas. Neither option captures all gas, and collection effectiveness can vary with landfill age, cover quality, pressure, moisture and maintenance. The Australian Government has a dedicated method

framework for landfill-gas projects under its emissions-reduction system, reflecting the need to define baselines and demonstrate credible reductions (DCCEEW, n.d.).

Thermal waste-to-energy

Thermal waste-to-energy generally uses combustion or other heat-based processes to recover energy from waste. Modern facilities can include furnaces, boilers, electricity generation and sophisticated air-pollution controls. The process reduces the volume of waste but does not make the material disappear: bottom ash and air-pollution-control residues remain and require testing, treatment and a lawful destination. The environmental case depends on the waste mix, plant efficiency, emission controls, transport, displaced energy source, residue management and what would otherwise happen to the waste. Sudie's outside the remit of this report include Spain Japan and Poland.

Other biological and chemical routes

Anaerobic digestion uses microorganisms to break down suitable organic material and can produce biogas and digestate. It is distinct from burning mixed residual waste and may be appropriate for separated food and other biodegradable waste. Pyrolysis and gasification heat materials with limited oxygen or controlled conditions; actual environmental performance varies by feedstock, process design, emissions control and the quality and use of outputs. HOPE readers should thus move away from assumptions that treating all technologies falls under a single "waste-to-energy" moniker.

3. The waste hierarchy and circular economy

The waste hierarchy is a practical way to order choices. NSW EPA describes avoidance as the first priority, followed by resource recovery. This includes reuse, recycling, reprocessing and energy recovery—and then disposal managed responsibly (NSW EPA, n.d.). The National Waste Policy likewise prioritises avoiding waste, improving resource recovery, increasing use of recycled material, managing material flows to protect health and the environment, and improving information (Australian Government, 2018).

This means active communities asking first why the material became waste, whether its use can be extended, and whether it can be recovered as a material. Recycling usually retains more of the material's embodied value than burning it. Energy recovery may be reasonable for contaminated or mixed residual waste that cannot be safely or practically reused or recycled, but it should not be used to justify weak collection systems, poor product design or the continued production of avoidable waste.

Hierarchy of action

- Prevent waste at source: durable products, less packaging, procurement standards and repair.
- Reuse and repair: keep products and components in use for longer.
- Recycle and compost: separate clean material streams and return materials to productive use.
- Recover energy from genuinely residual waste where life-cycle evidence supports it.
- Dispose safely: use engineered landfill for residues and waste that cannot be managed higher in the hierarchy.

A key warning is the "feedstock lock-in" problem. Thermal plants usually require predictable volumes of waste to repay capital upfront costs. Long contracts or minimum-tonnage clauses can make waste reduction untenable financially for councils or businesses. Ensuring a credible proposal showing that prevention and recycling targets can rise without undermining the plant's viability or creating pressure to import waste is optimal.

4. Environmental and climate considerations

Methane and climate

Methane capture at a closed landfill can be a practical intervention where gas generation remains material and collection can be operated safely. But claims should be based on measured or defensibly modelled gas generation, capture and destruction rates, leak detection, operating records and the expected trend as the landfill ages. The baseline matters: capturing gas that would otherwise escape should be seen as distinct from claiming credit for gas that would already have been collected and flared.

Thermal waste-to-energy emissions depend strongly on the feedstock. Burning fossil-derived plastics releases fossil carbon; burning biogenic material has a different accounting treatment, but still creates air pollutants and may have supply-chain impacts. Electricity generated should be compared with the energy source it actually displaces, not an assumed high-carbon source if the grid is becoming cleaner. Life-cycle assessment should include transport, plant construction, auxiliary energy, residues and avoided landfill methane.

Air pollution and ash

Combustion can generate particulate matter, nitrogen oxides, acid gases, metals and persistent organic pollutants if processes are poorly controlled. Modern plants use high-temperature combustion and flue-gas cleaning to reduce emissions, and regulation can set limits and monitoring requirements. It was noted by the World Health Organization that uncontrolled incineration can be a significant source of dioxin (a highly toxic chemical) releases, while appropriate technology can achieve low emissions (WHO, 2026). That requires rigorous controls, given not all plants perform equally.

Community confidence thus requires transparent, comprehensible reporting of actual emissions, not only predicted compliance at the design stage. Continuous monitoring of key pollutants, periodic testing for pollutants not continuously measured, independent audits, incident disclosure and accessible historical data should be considered minimum good practice. Regulators should also scrutinise upset conditions, start-up and shutdown, bypasses, maintenance and how the plant responds when controls fail.

Ash is a second waste stream, but not insignificant. Bottom ash can sometimes be processed to recover metals or used in specified applications, but only after appropriate testing and regulatory approval. Fine air-pollution-control residues may concentrate hazardous substances and often need more controlled management. This infers any proposal should identify quantities, composition, transport, treatment, final destination, acceptance criteria and contingency arrangements before approval.

Ecology, water and land rehabilitation

Closed landfill projects may and do affect groundwater, surface water, wetlands, vegetation, soil and nearby habitat. Excavation can disturb caps and drainage; new facilities can add traffic, noise, lighting and land-use pressure. Baseline information should cover seasonal conditions, not just a single sampling event. Rehabilitation plans should specify measurable outcomes, responsible parties, maintenance funding and what happens if monitoring identifies a problem.

5. Environmental justice and community health

Environmental justice demands to know who receives the benefits, who bears the risks, who gets to participate, and whose concerns influence decisions. Waste facilities are often located in industrial

areas or near communities that already experience poverty heavy traffic or multiple sources of pollution. A facility's individual emissions cannot be assessed in isolation if residents are already exposed to industry, freight corridors, dust, noise or contaminated sites.

The evidence needed for a fair decision includes a clear description of the local population and land uses; existing air and water quality; cumulative pollution sources; transport routes; sensitive receptors such as schools, homes and aged-care facilities; and the distribution of employment and other benefits. It also requires honest communication about uncertainty. A lack of local health studies does not prove there is no risk, but general concerns about incineration do not establish that a specific modern facility is causing harm.

What might a consultation look like?

- Begin before the site and technology are effectively decided, not after major commitments are made.
- Provide plain-language summaries, translated or accessible materials where needed, and time for communities to respond.
- Publish technical studies, alternatives considered, monitoring results and the reasons for decisions.
- Provide access to independent technical advice, particularly where the proponent controls most of the information.
- Explain how submissions changed—or did not change—the proposal, and why.
- Establish a community reference group and a clear complaints and incident-response process.
- Monitor cumulative impacts and publish results in a format residents can understand.

Environmental justice is not achieved simply by holding a public meeting. Communities need enough information, time, independence and procedural influence to participate meaningfully. Decision-makers should also consider whether a project concentrates impacts into a community already bearing a disproportionate share of environmental risk.

6. Australian governance: who does what?

Waste governance is shared. The Australian Government coordinates national policy, provides funding and data, manages relevant international obligations and regulates exports and imports of certain waste types. State and territory governments have primary responsibility for waste regulation, environmental approvals and licensing. Local governments work within state and territory laws and are central to collection, local planning, contracts, community engagement and land management (DCCEEW, 2024).

Federal level

The National Waste Policy provides a common direction, while national reporting helps compare trends. Commonwealth environmental law may be relevant where a proposal is likely to have a significant impact on matters protected under national legislation, but many facility approvals are still state-based. Federal involvement should not be assumed to replace state environmental licensing or local planning processes.

State and territory level

States and territories set waste strategies, licensing rules, pollution controls, landfill requirements, planning processes and environmental assessment pathways. Approaches differ!

Victoria has a specific thermal waste-to-energy scheme under the Circular Economy (Waste Reduction and Recycling) Act 2021, including a cap on the amount of waste that may be processed. Its published cap is 2.5 million tonnes a year, and separate environmental and planning approvals

are also required (Victorian Government, 2025; EPA Victoria, 2026). This model is designed to prevent over-reliance on thermal recovery while retaining a role for residual waste treatment.

In Western Australia, major proposals are assessed through the state environmental assessment framework. The WA EPA publishes project documentation, assessment reports and ministerial statements for projects such as Kwinana and East Rockingham. These records show the importance of examining each project's conditions and amendments rather than relying on broad claims about the technology (WA EPA, 2015–2023).

Local government

Councils may own closed landfills, manage aftercare, contract waste collection and processing, determine local planning questions and engage directly with residents. They may also enter long-term contracts that influence future waste choices. Councils should disclose contract terms that could constrain waste reduction, identify who pays for monitoring and remediation, and ensure the public understands how the project fits the local waste strategy. This is often not the case and can be determined by specific FOI requests.

Governance questions required

- Who is the statutory decision-maker, and what approvals are required?
- Who is responsible for independent compliance monitoring and enforcement?
- Who owns the site and remains liable after closure or operator insolvency?
- Who pays for long-term aftercare, remediation, monitoring and emergency response?
- How are cumulative impacts and community concerns considered?
- Are emissions, incidents, waste inputs and residue destinations publicly reported?

7. Case study 1: Kwinana waste-to-energy, Western Australia

The Kwinana Waste to Energy Project is a potent example of a major thermal facility progressing through a state environmental assessment process. The WA EPA identifies Kwinana WTE Project Co Pty Ltd and Phoenix Energy Australia Pty Ltd as proponents and describes the proposal as a waste-to-energy plant in the Kwinana Industrial Area. The EPA record includes a Public Environmental Review process and a published ministerial statement (WA EPA, n.d.-a). Later changes to conditions were considered through a section 46 process covering several WA waste-to-energy and resource-recovery projects (WA EPA, 2018–2023).

What this tells us

First, environmental approval is a process with a record: referral documents, environmental review, EPA assessment, ministerial conditions and possible later amendments. Advocates should read the underlying documents and conditions, rather than rely only on the proponent's summary or a campaign claim.

Second, conditions can change over time, so the current approval status and operating data must be checked before drawing conclusions. Third, the industrial context makes cumulative impacts and traffic routes relevant questions even where a project is situated in an established industrial area.

Questions HOPE could reasonably raise

- What waste types and quantities are authorised, and how are recyclable materials excluded?
- What actual emissions data are published, and how are start-up, shutdown and abnormal events handled?
- What are the quantities and destinations of bottom ash and air-pollution-control residues?
- What monitoring is independent, and how can residents access results?

- How are traffic, noise and cumulative pollution assessed alongside existing industrial sources?
- What conditions govern complaints, incident notification, compliance reporting and financial assurance?

The publicly available EPA record establishes the assessment history; it does not, by itself, answer every operational or health question. Any current assessment should retrieve the latest licence, monitoring reports and compliance information. HOPE should distinguish between questions requiring transparency and any allegation of actual harm, which would require evidence.

8. Case study 2: East Rockingham, Western Australia

The East Rockingham Waste to Energy and Materials Recovery Facility is another example documented by the WA EPA. The original proposal was referred for assessment and underwent a Public Environmental Review; the EPA published its assessment report and a ministerial statement in January 2015. A revised proposal was later assessed, with an EPA report published in October 2018 and Ministerial Statement 1090 dated February 2019 (WA EPA, n.d.-b; WA EPA, 2018).

This narrative illustrates why project scope and approval conditions must be checked carefully. A project's name, design, throughput or conditions can evolve between an initial proposal and a revised proposal. For community groups, the most useful approach is to build a dated timeline of the proposal, public comment periods, EPA findings, ministerial conditions, subsequent amendments and current operating status.

Lessons for advocacy

- Keep a clear distinction between the original proposal and any revised proposal.
- Check the environmental factors assessed and the conditions imposed, including social surroundings and ecological matters where identified.
- Ask whether performance data are available in a form that allows comparison with predicted impacts.
- Examine how residues are classified and managed, including any proposed reuse of ash.
- Record what the public consultation process covered and how responses were addressed.

The case does not establish that waste-to-energy is inherently unacceptable or automatically sustainable. It demonstrates the need for project-specific scrutiny, current documents and clear explanations of the evidence.

9. Case study 3: Victoria's thermal waste-to-energy cap

Victoria provides a policy-level case study rather than a single landfill site. Its scheme requires thermal waste-to-energy operators to hold a cap licence as well as relevant environmental and planning approvals. The cap is set at 2.5 Mt per year. In August 2025, seven cap licenses totaling 2.35 Mt per year were issued, with several projects still at feasibility stage and locations not always settled (Victorian Government, 2026; EPA Victoria, 2026).

The policy rationale is important: government can recognise a role for energy recovery while limiting the scale of the sector to avoid undermining waste avoidance and recycling. A cap does not itself guarantee that each project is environmentally acceptable; each facility still requires its own approvals. Nor does a cap prove that every permitted tonne is residual waste in practice. Feedstock controls, reporting and enforcement remain essential.

This example offers a useful advocacy question: should Australia's jurisdictions set transparent limits or other safeguards to ensure that thermal recovery does not expand in a way that competes with recycling or creates long-term dependence on waste generation? The appropriate policy may differ

by jurisdiction, but the underlying principle—recovery should not displace prevention—is broadly applicable.

10. Closed landfill sites: (a separate, long-term problem)

Directives for this reportf links closed landfill reclamation with waste-to-energy, but initiatives should keep these as related yet distinct workstreams. A closed landfill may need gas capture, leachate treatment, groundwater monitoring, cap repairs, vegetation management, erosion control, settlement monitoring or restrictions on future land use even if no energy project is proposed. EPA Victoria's guidance describes the need for risk assessment, rehabilitation plans, aftercare monitoring and ongoing reporting after waste acceptance has ended (EPA Victoria, 2018/2025).

Landfill mining should be considered only after a site-specific feasibility study. Key issues include the reliability of historic waste records, likely contaminants, groundwater and geology, structural stability, dust and odour controls, worker safety, the destination of excavated material and the risk that excavation will damage the cap or trigger new pathways for leach-ate. A project should compare mining with the alternative of continued engineered containment and aftercare.

A proportionate closed-landfill checklist

- Site history: waste types, operating dates, records, previous incidents and remediation.
- Environmental baseline: groundwater, surface water, gas, soil, ecology, nearby receptors and seasonal variation.
- Risk management: cap integrity, leachate, gas migration, fire, settlement, erosion and stormwater.
- Future use: compatibility with residential, recreational, industrial or ecological use, with any necessary restrictions.
- Responsibility and funding: named owner, regulatory oversight, ring-fenced aftercare funds and arrangements if ownership changes.
- Public reporting: accessible monitoring results, incident notices and a clear point of contact.

A site should not be described as safe for unrestricted use merely because it is "closed". Conversely, closure does not mean that redevelopment is impossible. The correct question is whether a proposed use can be made safe and sustainable with credible evidence, enforceable conditions and funding for long-term obligations.

11. A decision framework

We do not need to decide whether every technology is universally good or bad. It can use a consistent screening framework to decide whether to support, oppose or seek more information about a specific proposal. The following framework is designed for community advocacy but not as a substitute for regulatory assessment.

Support in principle when all key tests are met

- The proposal follows the waste hierarchy and targets material that cannot reasonably be prevented, reused or recycled.
- A transparent life-cycle assessment compares the project with realistic alternatives, including recycling, organics treatment, landfill and energy supply.
- Greenhouse-gas claims are based on clear baselines, measured performance where possible and transparent assumptions.

- Air emissions, water impacts, noise, traffic and residues are subject to enforceable standards, independent oversight and public reporting.
- The project does not impose disproportionate burdens on an already disadvantaged or over-polluted community.
- Consultation begins early and includes access to independent advice and a documented response to community concerns.
- Long-term liabilities, closure, aftercare and financial assurance are clearly assigned and funded.

Oppose when fundamental safeguards are absent

- The project depends on recyclable or preventable waste and would undermine adopted waste-reduction targets.
- The proponent refuses to disclose key information on feedstock, emissions, ash, contracts or monitoring.
- Credible assessment identifies unacceptable impacts that cannot be mitigated, or the approval process fails to consider legally relevant risks.
- The proposal lacks a safe and lawful plan for hazardous residues or for long-term landfill aftercare.
- Community impacts are materially unequal and there is no credible plan to address cumulative burdens or participation.

Treat with caution / request more evidence when

- Claims about emissions savings depend on optimistic assumptions or an unclear counterfactual.
- Landfill mining is proposed without reliable site history or a plan for contaminated material.
- Consultation occurs after the principal decisions are effectively locked in.
- Monitoring is proposed but funding, public access, independent verification or enforcement are unclear.
- Long-term contracts create incentives to keep waste volumes high.
- Benefits are quantified, but health, ecology, climate and closure costs are described only qualitatively.

A simple scorecard can be used at an early stage: waste-hierarchy fit; climate case; pollution and residue controls; ecological and land risks; environmental justice; transparency and participation; governance and long-term liability. Score each from 0 (unacceptable or absent) to 2 (adequate and evidenced). A low score should trigger a request for more information or a position of opposition, not be hidden by a high score elsewhere. Some issues—such as unlawful operation or no safe residue destination—should be treated as disqualifying rather than averaged.

12. A practical policy map

Level	Typical responsibilities	HOPE questions / action
Australian Government	National policy and targets; data and reporting; funding and coordination; international obligations and certain waste trade controls; relevant national environmental law.	Use national data to assess trends; advocate consistent definitions, transparent reporting and prevention-focused targets.
State/territory government	Waste strategies; environmental assessment;	Review current approvals, licence conditions, monitoring,

	facility licences; pollution controls; landfill closure/aftercare requirements; planning laws and compliance.	enforcement and state-specific WtE safeguards.
Local government	Collection and local services; contracts; local planning and engagement; some landfill ownership and aftercare; local waste strategies.	Check contract duration and minimum tonnage; ask how recycling and prevention targets are protected; seek accessible community engagement.
Proponent/operator	Design, construction and operation; feedstock contracts; pollution controls; monitoring, reporting and residue management as required by approvals.	Request evidence for claims; compare predictions with actual performance; seek transparent incident and residue reporting.
Community / civil society	Local knowledge, consultation, independent scrutiny and public accountability.	Bring local experience into formal processes; avoid unverified health claims; document questions, responses and gaps.

The responsible authority and approval pathway depend on location, scale, technology, land tenure and the likely environmental impacts. A specific project should be checked against the current laws and regulator records in the relevant jurisdiction.

13. Recommended scope:

The source project brief is ambitious: it combines closed-landfill management, landfill mining, methane capture, thermal waste-to-energy, federal and state policy, local government practice, community health, environmental justice, case studies, a jurisdictional map, a decision framework and an advocacy briefing. This is a broad research programme and as such beyond this more modest HOPE review. A small environmental advocacy organisation can add value by setting clear boundaries and concentrating on issues where public-interest scrutiny is most useful.

What can reasonably be done

- Publish a plain-language position on the waste hierarchy and the conditions under which energy recovery may be appropriate.
- Use selected public records to explain how environmental assessment and licence conditions work, without attempting to reproduce a regulator's technical assessment.
- Develop a checklist for residents and councils covering feedstock, emissions, ash, cumulative impacts, consultation and long-term liabilities.
- Advocate transparent monitoring, accessible reporting, independent compliance oversight and funded aftercare.
- Promote waste prevention, repair, reuse, recycling and organics separation as the first line of action.

What should be outside HOPE's remit unless specialist partners are engaged

- Determining whether a specific facility's emissions are safe or whether it has caused a particular illness.
- Conducting a full quantitative life-cycle assessment or atmospheric dispersion model.
- Certifying that a closed landfill is safe for redevelopment or that excavated material is suitable for reuse.
- Providing legal opinions on compliance, liability or the merits of an appeal.
- Undertaking detailed engineering design, geotechnical assessment, contaminated-site investigation or clinical epidemiology.

These boundaries do not weaken advocacy. They improve credibility by separating what HOPE can establish from questions requiring specialist expertise. HOPE can identify evidence gaps, ask who should fill them, and call for transparent independent assessment.

14. Advocacy recommendations

- Make prevention the headline. Publicly state that energy recovery is lower in the hierarchy than waste avoidance, reuse and recycling.
- Demand transparency by default. Advocate publication of current approvals, licence conditions, actual emissions data, monitoring results, incident reports and residue destinations in accessible formats.
- Protect communities from cumulative burdens. Require assessment of existing pollution, traffic and sensitive receptors, not only the facility's incremental impact.
- Make long-term responsibility explicit. Closed landfill owners and operators should have funded, enforceable aftercare plans and clear responsibility if the operator or landowner changes.
- Scrutinise contracts. Councils should disclose whether minimum waste tonnages or long terms could undermine future prevention and recycling.
- Support independent participation. Community groups should have enough time and access to independent technical advice to interpret complex assessments.
- Use a transparent evidence standard. Distinguish documented facts, reasonable questions, uncertainties and allegations; correct claims when evidence changes.
- Ask for alternatives analysis. Proponents should compare thermal recovery with prevention, recycling, organics treatment, landfill-gas capture and safe containment, as relevant.

15. Short advocacy briefing for HOPE members

HOPE supports a waste system that prevents waste first, keeps materials in use, protects communities and manages unavoidable residuals responsibly. Energy recovery may have a limited role, but it must not become an excuse to burn recyclable materials or lock councils into producing waste for decades.

For any proposed waste-to-energy or closed-landfill recovery project, HOPE should ask: What material will be processed, and why can it not be prevented or recycled? What is the full climate and pollution case compared with realistic alternatives? What happens to ash, contaminated soil and other residues? Who independently monitors performance, and will results be public? How will cumulative effects on nearby communities be assessed? Who is responsible and financially liable for long-term aftercare?

HOPE should support proposals only where the waste-hierarchy case is strong, risks are transparently assessed and controlled, communities can participate meaningfully, and long-term responsibilities are funded. It should oppose proposals with unacceptable impacts or fundamental gaps in safeguards, and treat uncertain proposals with caution until the evidence is available.

Conclusion

Waste-to-energy and closed-landfill recovery can contribute to waste management in some circumstances, but neither is a universal solution.

Landfill-gas capture may reduce methane emissions from existing waste; landfill mining may recover resources or support rehabilitation but can disturb legacy contamination; thermal waste-to-energy can treat residual waste but carries air-emission, ash, climate, contractual and justice questions. Each needs its own evidence and decision pathway.

For HOPE, the strongest and most proportionate position is clear: prevention, reuse and recycling first; safe, transparent management of legacy landfills; and conditional scrutiny of energy recovery. Focus on the public-interest questions that regulators and proponents must answer, maintain a clear boundary around specialist technical conclusions, and advocate for communities to have both information and a meaningful voice.

Appendix A. Sources and further reading

1. **Australian Government, Department of Climate Change, Energy, the Environment and Water (2018).** 2018 National Waste Policy: Less waste, more resources. https://www.dcceew.gov.au/environment/protection/waste/publications/national-waste-policy-2018
2. **Australian Government, DCCEEW (2024).** National Waste and Resource Recovery Report 2024; data for 2022–23. https://www.dcceew.gov.au/environment/protection/waste/publications/national-waste-resource-recovery-reporting
3. **Australian Government, DCCEEW (2024).** Disposal: National Waste and Resource Recovery Reporting. https://www.dcceew.gov.au/environment/protection/waste/publications/national-waste-resource-recovery-reporting/disposal-2024
4. **Australian Government, DCCEEW (2026).** National Waste and Resource Recovery Report 2026; data for 2024–25. https://www.dcceew.gov.au/environment/protection/waste/publications/national-waste-resource-recovery-report-2026
5. **Australian Government, DCCEEW (n.d.).** Landfill gas method under the emissions-reduction framework. https://www.dcceew.gov.au/climate-change/emissions-reduction/accu-scheme/methods-closed/landfill-gas
6. **Environment Protection Authority Victoria (2018; updated 2025).** Closed landfill guidelines. https://www.epa.vic.gov.au/14901-closed-landfill-guidelines
7. **Environment Protection Authority Victoria (2026).** Waste to Energy Scheme. https://www.epa.vic.gov.au/waste-energy-scheme
8. **Environment Protection Authority Victoria (2026).** Waste to Energy Scheme licenses. https://www.epa.vic.gov.au/waste-energy-scheme-licences
9. **NSW Environment Protection Authority (n.d.).** The waste hierarchy. https://www.epa.nsw.gov.au/Your-environment/Recycling-and-reuse/warr-strategy/The-waste-hierarchy
10. **Victorian Government (2025).** Waste to energy: A framework for sustainable and appropriate investment. https://www.vic.gov.au/waste-energy
11. **Victorian Government (2026).** Waste to Energy Scheme licenses. https://www.vic.gov.au/waste-energy-scheme-operating-licences

12. **Western Australian Environmental Protection Authority (n.d.-a).** Kwinana Waste to Energy Project: assessment record and ministerial statement. https://www.epa.wa.gov.au/proposals/kwinana-waste-energy-project
13. **Western Australian Environmental Protection Authority (n.d.-b).** East Rockingham Waste to Energy and Materials Recovery Facility: assessment record. https://www.epa.wa.gov.au/proposals/east-rockingham-waste-energy-and-materials-recovery-facility
14. **Western Australian Environmental Protection Authority (2018–2023).** EPA Report 1623 and subsequent section 46 changes for WA waste-to-energy/resource recovery projects. https://www.epa.wa.gov.au/en/proposals/port-hedland-waste-energy-and-materials-recovery-facility-ministerial-statement-935
15. **World Health Organization (2026).** Dioxins and their effects on human health: fact sheet. https://www.who.int/news-room/fact-sheets/detail/dioxins-and-their-effects-on-human-health
16. **World Health Organization (2024).** Health-care waste: fact sheet. Included for general information on combustion pollutants and the importance of appropriate controls; not a direct assessment of municipal WtE. https://www.who.int/news-room/fact-sheets/detail/health-care-waste

Appendix B. Suggested document checklist for a specific proposal

- Current environmental approval, ministerial statement and amendments.
- Current operating/development licence and all relevant conditions.
- Environmental impact assessment and responses to public submissions.
- Annual compliance reports, actual emissions monitoring and incident records.
- Feedstock specifications, waste acceptance criteria and contracts or minimum-tonnage obligations.
- Bottom ash and air-pollution-control residue testing, classification, transport and destination records.
- Greenhouse-gas and life-cycle assessment with assumptions and sensitivity analysis.
- Traffic, noise, air quality, groundwater and cumulative-impact assessments.
- Community consultation plan, submissions and proponent/regulator responses.
- Closure, rehabilitation, financial assurance, aftercare and operator-insolvency arrangements.

Source and currency note: Web sources were reviewed in October 2026. Government web pages can change; for formal advocacy, check the live version and current approval records before quoting a condition or licence status. The source project brief supplied to HOPE frames the research question and intended deliverables; this report narrows the work to a general-reader policy review and practical advocacy framework.