

T R A N S C R I P T

LEGISLATIVE COUNCIL ECONOMY AND INFRASTRUCTURE COMMITTEE

The Development and Expansion of Waste-to-Energy (WtE) Infrastructure in Victoria

Melbourne – Tuesday 26 May 2026

MEMBERS

Georgie Purcell – Chair

Richard Welch – Deputy Chair

John Berger

Gaelle Broad

Katherine Copsey

Moira Deeming

Tom McIntosh

Evan Mulholland

Sonja Terpstra

WITNESSES

Dr Jen Martin, Chief Environmental Scientist, Environment Protection Authority Victoria;

Tony Circelli, Head, Recycling Victoria, and

Carolyn Jackson, Deputy Secretary, Regions, Environment, Climate Action and First Peoples, Department of Energy Environment and Climate Action;

Jill Riseley, Deputy Chief Executive Officer, Infrastructure Victoria; and

Colleen Peterson, Deputy Secretary, Planning and Land Services, and

Adam Henson, Director, Planning Facilitation, Department of Transport and Planning.

The CHAIR: I declare open the Legislative Council Economy and Infrastructure Committee's public hearing for the Inquiry into the Development and Expansion of Waste-to-Energy Infrastructure in Victoria. Please ensure that mobile phones have been switched to silent and that background noise is minimised.

I would like to begin this hearing by respectfully acknowledging the Aboriginal peoples, the traditional custodians of the various lands we are gathered on today, and pay my respects to their ancestors, elders and families. I particularly welcome any elders or community members who are here today to impart their knowledge of this issue to the committee or who are watching the live broadcast of these proceedings. I also welcome any other members of the public watching via the live broadcast or in the public gallery. As I have reminded in previous sessions, you are very welcome to be here and observe, but this is a formal proceeding of the Parliament, and any interruptions would result in the hearing being closed down.

To kick off, we will have committee members introduce themselves to you. We have got two members on the screen, so we will start in the room with Mr McIntosh.

Tom McINTOSH: Tom McIntosh, Member for Eastern Victoria.

Richard WELCH: Richard Welch, Member for North-East Metro.

The CHAIR: Georgie Purcell, Member for Northern Victoria.

David ETTERS HANK: Hi. David Ettershank, Western Metropolitan Melbourne.

Rachel PAYNE: Hi. I am Rachel Payne from the South-Eastern Metropolitan Region.

Sarah MANSFIELD: Sarah Mansfield, Member for Western Victoria Region.

The CHAIR: I am not sure if Moira is back yet, but Mrs Deeming is also on the call so may join at some point.

Thank you very much for coming and appearing before us today. All evidence taken is protected by parliamentary privilege as provided by the *Constitution Act 1975* and further subject to the provisions of the Legislative Council standing orders. Therefore the information you provide during this hearing is protected by law. You are protected against any action for what you say during this hearing, but if you go elsewhere and repeat the same things, those comments may not be protected by this privilege. Any deliberately false evidence or misleading of the committee may be considered a contempt of Parliament.

All evidence is being recorded, and you will be provided with a proof version of the transcript following the hearing. Then transcripts will ultimately be made public and posted on the committee's website.

For the Hansard record, could you all please state your full names and the organisation you are appearing on behalf of. We might start down here with Adam.

Adam HENSON: Adam Henson. I am from the Department of Transport and Planning.

Colleen PETERSON: Colleen Peterson, Department of Transport and Planning.

Jen MARTIN: Jen Martin, Chief Environmental Scientist, Environment Protection Authority Victoria.

Carolyn JACKSON: Carolyn Jackson, the Department of Energy, Environment and Climate Action.

Tony CIRCELLI: Tony Circelli, Head of Recycling Victoria.

Jill RISELEY: Jill Riseley, Deputy CEO of Infrastructure Victoria.

The CHAIR: Great, thank you. We now welcome your opening comments. Have you organised – yes, great. That makes it even easier. And then we will have questions and discussion after.

Carolyn JACKSON: Thank you. I will also acknowledge that we are on the lands of the Wurundjeri and pay my respects.

Visual presentation.

With the first slide here, this does set out at a high level the roles and functions of the agencies here on the panel today. DEECA's Regions, Environment, Climate Action and First Peoples group sets the policy, and that is what I will be speaking to today. Recycling Victoria, headed up by Tony, to my left, runs the cap licensing scheme. EPA, to my right, regulates environmental and human health outcomes. And planning authorities, at the end, assess land use impacts. Energy Safe Victoria is not on the panel, but they regulate electricity, gas and pipeline safety in Victoria. Where a thermal waste-to-energy facility generates electricity for export to the grid, applicable national energy market requirements also apply. If a facility is a workplace, WorkSafe is responsible for workplace safety under the OH&S Act and the *Dangerous Goods Act*. That separation between agencies is deliberate. Policy intent, licensing controls and independent regulation each reinforce the safeguards that ensure that thermal waste-to-energy facilities meet the short- and long-term needs of the Victorian economy.

Since 2016 the Victorian government has invested over \$538 million to reform waste and recycling in Victoria, and that investment has been at every part of the life cycle. Starting with design – the 'Make' section – there have been supported research, business innovation pilots and scaling of circular solutions across four focus areas, awareness-raising events and business networking. Under the 'Use' section, there has been a 69 per cent reduction of litter from banned, problematic single-use plastic items and funding to community and council for circular initiatives. Under 'Recycle', there has been new legislation to support waste and recycling systems, a container deposit scheme for Victoria with over 630 refund points across the state and 3 billion containers returned, and supporting the use of recycled materials through our Recycled First policy, which has led to over 7.2 million tonnes of recycled materials in Victoria's Big Build of transport infrastructure. Sixty of Victoria's councils offer separate food and garden organic services, and 42 councils offer a separate glass service. There has been 2.1 million tonnes of additional waste and resource capacity and the Small Acts, Big Impacts education and behaviour change campaign to reduce recycling contamination. Under the 'Manage' theme, there has been better coordination of regulators' intelligence and compliance activity to reduce high-risk sites from over 20 in 2019 to three as of March 2026.

In terms of waste-to-energy in a circular economy, Victoria's circular economy policy, *Recycling Victoria: A New Economy*, is clear in that it shows that waste-to-energy has a complementary role. It is not a substitute for avoiding waste, reusing materials or recycling. Today we will largely be talking about thermal waste-to-energy, where residual waste materials are heat treated to produce useful energy – heat, electricity and fuels. It is important to distinguish thermal waste-to-energy from other technologies like biological waste-to-energy and landfill gas capture, which are different processes and are treated differently in the policy and regulatory settings. Under our waste hierarchy, waste-to-energy is a last resort after avoidance, reuse and recycling. Waste-to-energy is the final opportunity to recover value from material that would otherwise go to landfill. An appropriately controlled waste-to-energy sector complements our other circular economy initiatives, which prioritise waste reduction, reuse and recycling. Waste that can be recycled or has not been adequately sorted is banned from thermal waste-to-energy facilities. Under the Acts and regulations, waste-to-energy facilities must not process readily recyclable material, with significant penalties for processing banned waste. In Australia and internationally no jurisdiction is recycling more than around 75 per cent of the waste it generates. Waste-to-energy provides a legitimate pathway to recovering value from some of those materials. This is especially important in Victoria because our landfills are filling up, and we are projected to begin running out of capacity

in the mid-2030s, so infrastructure for managing non-recyclable residual waste is a high priority. The circular economy is identified as a priority in both the Premier's *Economic Growth Statement* and the *Victorian Industry Policy*, and waste-to-energy is identified as a key circular economy initiative.

Even with a strong recycling policy and investment, a significant share of waste will remain non-recyclable, and residual waste volumes are expected to grow over time as Victoria's population grows, which will increase pressure on the waste system. Victoria's landfill space is finite, and overall capacity, as I mentioned, is projected to run out in the nearish term. Waste-to-energy is a necessary part of the solution for non-recyclable waste, but it is deliberately limited. The constraint in terms of landfill capacity is not just in terms of total capacity but also throughput constraints. There are several landfills, including major metropolitan sites, that are approaching end of life, which will place increasing pressure on the system well before total capacity is exhausted. Waste-to-energy is needed before this point to support system resilience. It is not a replacement for recycling; it is the necessary residual solution alongside landfill to maintain system reliability. However, it is not unconstrained. Victoria's cap licensing scheme deliberately limits the scale of thermal waste-to-energy so that it does not compete with recycling. Waste-to-energy will also assist us in meeting Victoria's target to divert 80 per cent of waste from landfill by 2030. No jurisdiction, including high-performing economies in Europe, has been able to reach such a recovery level without waste-to-energy.

This slide shows the regulatory framework set up to keep thermal waste-to-energy in a limited and complementary role within the waste hierarchy. Victoria's waste-to-energy scheme is established under the circular economy Act 2021 and the waste-to-energy scheme regulations 2023. Under the circular economy Act thermal waste-to-energy facilities must not process readily recyclable materials and, as I mentioned, there are significant penalties for processing banned waste. The second control is around scale. The regulations establish the cap licensing scheme, which Recycling Victoria administers to ensure facilities are appropriately scaled to the long-term availability of residual waste. Without controls on how much waste can go to waste-to-energy facilities, disincentives to improve recycling rates from residual waste could be created. The cap guards against this by setting a maximum amount of permitted waste that can be processed by thermal waste-to-energy facilities each year. The cap itself was set through a regulatory impact statement and public consultation, with modelling supporting 2.5 million tonnes per annum as the best balance. This also recognised that there were a number of facilities that had already progressed and were exempt from the cap.

Beyond these settings, facilities must also meet EPA requirements, including best practice emissions controls and monitoring. Facilities also need a range of other approvals, such as land use planning and electricity generation, before proceeding. Facilities are required to consult with communities and build social licence for their projects through the EPA permissioning and planning approvals, and relevant national energy market participation, economic regulation, electrical safety, gas safety, workplace safety, dangerous goods and technical requirements may apply where facilities generate or export energy. Thank you very much for the opportunity to present today. After my colleagues present, I am obviously happy to answer questions. Thank you.

Tony CIRCELLI: Thank you. Chair, good to be here with you and the committee. This presentation – I will obviously try to make it as quick as possible – does take from the policy aspects that Carolyn has just gone through as well. I will not repeat all of those.

Visual presentation.

Tony CIRCELLI: I think a key point here is that we have currently around 5.7 million tonnes of material that is going to landfill at the present time. We have got some of the best modelling in Australia when it comes to looking at what this will look like over the mid and long term and taking into account what we believe is best practice in terms of recycling as well. With population growth we are modelling that the amount of residual material that needs to be treated will increase to 8.9 million tonnes – just to put in context the cap amount. We released our *Victorian Recycling Infrastructure Plan* in 2024. That looked at all the infrastructure requirements for each of the material streams that we are interested in, not just landfill. We did look particularly at residuals and at the available capacity of landfills that we have here in Victoria.

Whilst we have had sufficient capacity to this point, we do know that over the next year or so we have a significant landfill that will be closing. That will start to put quite significant pressure on the existing landfills that remain, and we know that there are others that are closing over the next while. That will mean that we will

be at a deficit by the mid-2030s. Whilst we probably do have capacity for a little bit longer, maybe to the late 2030s, we really do need to make sure that there is an alternative or some additional capacity to deal with this material. As Carolyn mentioned, this does assume best practice recycling. This is not changing any of those policy settings. This assumes best practice recycling and just points out the reality that we are running out of landfill capacity in Victoria.

Again, some of these things have already been touched on, so I will not go into the ones that have been mentioned previously, but probably just also talking about the waste-to-energy cap system, it does a number of things – deals with residual waste, is purposely designed to protect recycling outcomes, allows us to meet our environmental targets in the longer term but, importantly, establishes a competitive market here in Victoria for not just waste-to-energy facilities but also for all facilities that are managing residual waste, so they are a direct competitor to landfill. So we will need landfill capacity into the future. This is not a replacement for landfill. It is basically just taking pressure off landfills, ensuring we do not need further landfills into the future over a 20-year to 30-year period.

The process itself – and I will talk a bit more about that in a minute – with the bidders has been fair. We had more than the 2.5 million tonnes. We had about 3.8 million tonnes actually apply for a waste-to-energy cap licence, so it was a very strong competitive market that we needed to work through. But equally, recognising that the cost of installing these facilities pretty much for the traditional larger scale facilities really starts at a billion dollars and works upwards from there – at the moment it is the going value – you can imagine the amount of proponents that can work with that type of capital is not unlimited. So we had a really strong competitive process, and I will talk a little bit about that in a minute.

I think Victoria also has a good framework to ensure that we are looking at what we call permitted waste. Exempt waste is not part of the cap but can be used, and then we obviously have recyclable materials as part of the banned waste category. Unlike any other state, this is actually regulated here in Victoria to give that confidence longer term that these facilities, once built, are not going to stray into recycled content. I think we have an additional framework here in Victoria that ensures that we only have the amount that we need here in Victoria, but also, once they are operating, we have the ability to make sure that they are only taking the material that we want them to take to protect our recycling outcomes.

Under the circular economy Act there are a number of factors that need to be taken into account in issuing cap licences. This is not exhaustive, but these are some of the key things. Important here is the need to understand who is actually putting these proposals up to make sure that they have got the commercial know-how and they have got the capability and they are the type of people that we want operating these facilities here in Victoria. But we also looked from a geographic perspective at what the greater Melbourne area and surrounds need to make sure that whilst we were not looking at particular locations – because some of these proponents did not have locations as part of their applications, and certainly none of them had any approvals or submissions to approvals for their location or their facility with the pre-existing regulators and planning authorities.

We looked at the geography, looking at the area to make sure that we have got the opportunity to have an as efficient waste infrastructure system as possible. There are very specific fit and proper requirements under the circular economy Act that we looked at in detail for each of the proponents, and we were satisfied that they met that requirement under our Act, and also a mandatory requirement to look at the climate change Act and make sure that we had regard to that. On balance, we had our own model that was prepared as well to provide a strong assessment of what we were receiving from the proponents. What that showed was that the overall benefit from introducing waste-to-energy was a net positive outcome compared to having this material go to landfill.

Importantly, the process took a number of inputs from other groups, including EPA Victoria and the Department of Transport and Planning. We hired a commercial advisory firm to look at the commercial capability of the proponents. We had our own technical and data experts. We also introduced, in addition to what was required under the Act, an additional high-level executive independent panel of Recycling Victoria to have a look at the process and to really challenge and to make sure that we were being fair and equitable across all proponents. You would be aware, so I will not go into this in great detail, that we issued four licenses in late 2023–early 2024 to operators that already had planning approvals in place by 21 November, which was the cut-off date for grandfathering. Then we issued seven licences under the cap scheme. Not all of these were large volumes, but they totalled 2,350,000 tonnes per annum.

I think, probably just finishing on this slide, it is important to understand that the framework that has been put in place to bring waste-to-energy into this state is in addition to any other framework that exists anywhere else in Australia. We have the regulatory and planning systems that everywhere else in Australia has. This is in addition to that to make sure that we are not dealing with facilities that we do not need. We have got a planned approach to make sure that we only have the types of facilities and the proponents that we want for consideration to go through that pre-existing planning and EPA process as well. The other important issue here that is not the case in other states is that we have the ability to withdraw that cap material if they are not meeting their milestones, in terms of the introduction of the facilities here in Victoria, but we also have the ability to suspend or ban or revoke licences during the course of the operation if we find that they are not meeting the terms of their licence, which is very strictly applied with their licences, to make sure they are only processing permitted waste, as well as the number of reporting requirements. Thank you. I will leave it at that.

Jen MARTIN: Thank you. Thank you very much for the opportunity to appear before the inquiry today. By way of introduction and as Carolyn spoke to, EPA Victoria is the state's independent environmental regulator under the *Environment Protection Act 2017*. Our objective is to protect communities and the environment by preventing and minimising harm from pollution and waste through a risk-based, science-led approach.

Visual presentation.

Jen MARTIN: For waste-to-energy, this means only approving facilities where emissions and risks can be effectively controlled. Underpinning our preventative-based regulatory approach is our general environmental duty, which places a positive obligation on duty holders to eliminate or minimise risks of harm so far as reasonably practicable. We apply robust regulatory controls across the full lifecycle, from development licence assessment to ongoing operating licence oversight, which is supported by monitoring, risk management plans and strong enforcement where agreed standards are not met.

I am going to touch on our permissions framework and assessment process now. EPA permissions are one of several key approval types that are required for waste-to-energy facilities. Basically they are one of the steps along the journey to becoming an operational facility. The purpose of EPA's permissioning framework is to ensure risk-based regulation of industries that contribute to pollution and waste. Licences are our highest level of regulatory control, with two key stages, the development licence and the operating licence. The development licence is the first stage and is required prior to construction of a facility to ensure that the technology, design and planning around processes and systems will be fit for purpose. The EPA Act sets out clear requirements about how we can go about assessing those applications, and we consider a range of factors as part of this. They include but are not limited to compliance with the general environmental duty, potential impacts to human health and the environment, principles of environment protection according to the EPA Act and adoption of best available techniques and technologies. If an activity is likely to pose an unacceptable risk to human health or the environment, we must reject it.

We set clear, legally binding licence conditions to ensure that the design, performance and emission standards are delivered in practice, and we will only grant an operating licence once all development conditions are satisfied and agreed standards are demonstrated through a robust commissioning phase, with facilities then subject to ongoing EPA oversight to ensure that they operate safely and do not pose unacceptable risks. Operating licence holders must implement comprehensive risk management and monitoring programs, or RMMPs, and regularly report their performance through permission information and performance statements, and they may be subject to independent audit to ensure that they are meeting the requirements. If the standards are not met, we take strong enforcement action, including stricter controls, fines, prosecution or even revoking licences. When operations end, we require the site to be properly decommissioned.

When we look specifically to waste-to-energy facilities, we require that the proposed technologies demonstrate that the best available technology and techniques and controls are being used to meet international standards for emissions. We assess whether a proposal has achieved this by benchmarking against international best practice, comparing proposals with recognised international BAT – or best available techniques – and best available reference documentation, most notably those associated with the EU industrial emissions directive. These reference documents include clear requirements for waste-to-energy facilities that include multistage controls to address air pollution. We also require evidence of demonstration of performance from full-scale operating facilities with a track record of reliable performance.

Lastly, we require the proponent to demonstrate that the technology can meet stringent emissions criteria and regulatory requirements in Victoria. This includes detailed air quality impact assessments and health risk assessments that show air emissions at the stack will not result in pollution at ground levels in the community that exceed health-based guideline values, including the ERS. Human health risk assessments are required to consider air toxins such as heavy metals, dioxins and furans and criteria pollutants such as particulate matter. We expect these assessments to consider existing background environmental conditions and also to consider multiple exposure pathways – the size, density and vulnerability of the exposed population. The full range of potential environmental risks needs to be assessed, and that includes air, waste handling, noise and odour and contamination of land, groundwater and surface water throughout the proposed operations. We only grant approvals where it can be demonstrated that those risks can be effectively managed, and we set strict licence conditions on emissions. This includes requirements for continuous emissions monitoring within the stack and compliance requirements to ensure emissions remain within those approved limits.

We are also quite aware that waste-to-energy generates residues such as bottom ash, which are a critical part of waste-to-energy facility operations. These residues and flue gas system residues can pose a risk of harm if they are not properly treated and managed, particularly where there are hazardous contaminants present. For that reason, these residues are subject to the highest level of regulatory controls, with strict requirements for transport, tracking, treatment and use. We expect proponents to clearly demonstrate how they will safely manage these residues as part of their application and provide guidance to support this. As technology evolves, we may also update permission conditions to allow improved approaches to managing residues while they maintain strict environmental and human health outcomes to support the circular economy benefits.

Public participation is a core part of the development licence application process and at any part of the operating licence and ongoing operations of a facility. Applicants are expected to engage early and meaningfully with stakeholders, and EPA also runs its own consultation, advertising proposals and inviting community feedback. We use Engage Vic to publish application details, updates and submissions so that the process is transparent and communities can clearly understand proposals and have their say. We also require that licence holders prepare a community and stakeholder engagement plan to support transparency and trust, including regular public reporting on construction progress, operations and emissions.

I would like to acknowledge, in closing, that these projects do cause strong community concerns. Evidence has shown that modern technologies, though, have advanced considerably and that well-designed and operated facilities have significantly reduced emissions. These improvements have only occurred as a result of increasingly stringent international regulations, showing the importance of strong regulatory oversight and improving environmental outcomes. So where EPA receives an application for a waste energy plant, we are committed to rigorous up-front assessment that ensures that the design process and systems in place will manage risk, only issuing an operating licence where the facility can demonstrate it will meet these strict emission limits and by ensuring that the licence conditions in place and ongoing obligations under the general environmental duty are complied with. Thank you.

The CHAIR: Great. Thank you.

Colleen PETERSON: Good afternoon, and thank you very much for the opportunity to present today. My presentation will focus on the planning framework and the assessment processes relevant to waste-to-energy infrastructure in Victoria.

Visual presentation.

Colleen PETERSON: Victoria's regulatory framework for waste-to-energy is integrated and layered. As you have heard from the previous speakers, there is no single approval that accommodates and considers all relevant considerations. The planning component of that regulatory framework focuses on whether waste-to-energy is an appropriate land use in a particular location. Of course, as part of having consideration of whether or not it is an appropriate land use, it will look at relevant environmental, economic and social considerations.

That framework sits under the *Planning and Environment Act*, which creates a statutory framework for land use planning in Victoria. It sets objectives. It governs the establishment of planning schemes and establishes the main processes for planning permits, amendments, appeals and enforcement, all relevant to big projects like waste-to-energy. It is focused on a performance-based framework, so proposals are assessed on their merits

against planning objectives and policies rather than a set of prescriptive tests. Planning schemes themselves provide a statewide template for decision-making around all planning matters in Victoria, and the Victoria planning provisions set that effective template. The VPPs provide for a layering of policy zones and provisions that each municipality then tailors to its own specific areas, its opportunities, its challenges and localises them through policies and zone controls and overlays.

Specific to waste-to-energy, there are broad policy and legislative contexts that these applications are assessed against. Now, a number of those policies sit within the Victorian planning provisions themselves, and others of them sit outside it. The planning system is designed so that it must focus its decision-making having regard to matters that fall within the planning framework and that includes legislation or documents that are specifically referenced within the planning provisions. As you can see here on the slide, there are a vast range of policies, strategies, regulations and policy clauses that relate to settlement, environmental risk and amenity, transport and infrastructure.

The assessment from a planning perspective is also informed by related legislation and strategic or technical guidance. That will include frameworks for environmental protection, transport, freight movement, recycling infrastructure, noise, separation distances and buffers. Those instruments, when we combine them together, provide a comprehensive planning assessment of waste-to-energy proposals. It is also important to set out that in specific circumstances there also may be the requirement for an environment effects assessment. This is the case for particularly significantly or complex proposals that will have adverse impacts on the environment. In a waste-to-energy type proposal, that might be the case where the potential for greenhouse gas emissions will exceed 200,000 tons of carbon dioxide equivalent per annum. That would warrant a referral under the *Environment Effects Act*. That is a decision that is ultimately made by the Minister for Planning, and it is generally triggered through a formal referral process. For the small number of waste-to-energy proposals that we have had before us to date, they have not exceeded that threshold.

In terms of the planning process itself, there are two main pathways that a waste-to-energy proposal could be considered under in Victoria, mindful of the fact that, as I said, we have only had a small number of applications to date. The first, and one that is probably most familiar to you, is the planning permit application process. This is a pathway, whether it is dealt with by the Minister for Planning or by local government, that will include public notice, referral to statutory authorities like the EPA, the opportunity for communities to participate through public notice and the potential for VCAT review. Now, in changes to the Victoria planning provisions about three or four years ago, for any facility that has a generated capacity of 1 megawatt or greater, the minister is now the responsible authority. But importantly, regardless of whether the minister is the responsible authority or a council is the responsible authority, there is no exemption around third-party notice or rights of appeal to the tribunal, so those rights are upheld regardless of which pathway. There is an exemption to this. There is a possibility that the minister could consider an application under clause 53.22 of the planning provisions, which allows for significant economic development. In those particular cases the minister is the final decision-maker and there are no third-party appeal rights. However, no waste-to-energy application has been accepted under that provision to date.

The second pathway relates to planning scheme amendments, which are used in exceptional circumstances where there would be strategic justification to change the controls that apply to a site or a proposal, and that might be in the instance where a proposal would be prohibited under the planning zone controls but there was considered to be merit in a change in those controls. That amendment process, if it goes that way – again, it can either be dealt with through the Minister for Planning or with a local council – would include exhibition to all affected parties, consideration of submissions lodged, and that would, if the minister was the responsible authority, include local government. There would generally be, on the assumption that there would be submissions opposing the proposal, an independent panel review before making a final decision. Whilst the Act does allow for the minister to exempt themselves from public notice where that is considered warranted in the interests of Victoria, there has been no such proposal that takes that path to date, and in fact there is been no waste-to-energy through the planning scheme amendment process either.

In terms of what do we consider, as a responsible authority, when considering waste-to-energy proposals, there are a broad range of considerations. We have human health and safety; environmental risks, which could include flood or fire or contamination; amenity impacts, which would include noise, odour and the visual impacts of these large incinerator units; and land use compatibility. We will look at matters such as separation distances and buffers – that is where advice from the EPA is very important; the economic and social impacts

of a proposal; transport and infrastructure; built form and design; sustainability; and the landscape. These matters are addressed through planning permit applications and would be supported by plans and technical reports alongside policy submissions and referral advice. That process is largely the same regardless of whether or not it was a planning permit application or if it was a planning scheme amendment process. Ultimately, the decision-maker is bound under the provisions of the planning provisions to determine whether or not a proposal delivers net community benefit.

In terms of community engagement, that is embedded in the planning system, and for planning scheme amendments, as you have heard me say before, this occurs through public exhibition, submissions and panel hearings. For planning permit applications affected community members may object after a public notice, and the Act allows for a review of the decision-maker through the tribunal. If the minister is the responsible authority and determines that there are particular technical matters with which they need assistance, they are also able to set up an advisory committee that would provide independent advice, and there would be a public hearing pertaining to that advice. That might involve particularly complex and technical matters. We have not had one for a waste-to-energy proposal to date, given they are so few in number. To give you an understanding of other large, complex projects where the minister has sought an advisory committee, they would include the Hexham Wind Farm and the Kentbruck energy park project and mineral sands – they are the sorts of projects where we might see an advisory committee to assist the minister in their decision.

In conclusion, Victoria has a comprehensive framework for assessing waste-to-energy infrastructure. Planning decisions of course require an integrated assessment to determine net community benefit. There is a wrapping up of considerations, including human health, amenity, environmental and transport impacts, built form and design, recognising that planning sits within a broader regulatory system with community consultation built into the process.

Jill RISELEY: In the interests of time I might make just a brief opening statement. Infrastructure Victoria welcomes the opportunity to provide a submission and appear before you today. Infrastructure Victoria is an independent advisory body established by the *Infrastructure Victoria Act 2015* and has three functions: preparing a 30-year infrastructure strategy for Victoria, which we review and update every three to five years; advising the Victorian government on specific infrastructure-related matters; and publishing research on infrastructure-related issues. *Victoria's Infrastructure Strategy 2025–2055* was tabled in Parliament in November. It includes two recommendations about waste and recycling that relate to this inquiry. One was:

Prepare for more recycling and waste infrastructure

The government should:

Identify and map locations for new recycling and waste infrastructure where it is needed and publish them in the next update to the *Victorian Recycling Infrastructure Plan*.

The other was:

Set future waste levy prices and audit landfill.

The government should:

Publish waste levy rates for the next 5 years to provide investment certainty for waste and recycling infrastructure. Conduct a waste audit to document which materials go into landfill.

Further details and the rationale for these recommendations were in our submission. In the interests of time, I will not repeat that today, but I am happy to answer any questions.

The CHAIR: Great. Thank you so much. We will move to questions. Members, we have scheduled up till 4 o'clock for this one if we need it, so I will leave the timer still on 7 minutes, and we will try to do two rounds. We will kick it off with Mr Welch.

Richard WELCH: Thank you, Chair. Thank you everyone for coming in today. Mr Circelli, we have heard a lot already about standards, consultation and due diligence et cetera, et cetera, but we now have three highly contested projects in Victoria. What has gone wrong?

Tony CIRCELLI: I think there has obviously been a strong public dialogue, which is very common for most waste infrastructure of this nature. I have had a long experience in this sector, and I have seen that right across the world. I am not sure I would describe it as anything having gone wrong. What has happened here in

Victoria is that we have put a separate framework – a more onerous framework – on these facilities. As you have seen today, there is a lot of work yet to be done by these proponents and by government to actually establish these facilities here in Victoria. All we have really done is got people to the starting line to make sure that we are dealing with people that we have confidence can actually go through the rest of the process.

Richard WELCH: But we have just heard that across about four different bodies there has been meticulous consultation – ‘meticulous’, ‘extensive’ and ‘repeated’. There must be four different bodies doing consultation, including the proponents themselves, and yet we still seem to be in a position where the public has not been brought along with this. Why is that?

Tony CIRCELLI: Look, I respect the question of course, but my role is very specific under the circular economy Act. As I said at the start, it is a role that was designed in addition to all our existing approvals processes. We have actually had facilities that have been approved here in Victoria. Only one is operating as a waste-to-energy facility, but we have got other facilities that have gone through that planning process successfully. What we have done now is to make sure in this next phase that we only look at the facilities that we actually need, and part of my process and my responsibility is to go through that competitive process.

Richard WELCH: So you do not think the public sentiment against them that is out there is material or is your responsibility to address?

Tony CIRCELLI: I think it is all our responsibility to address. Certainly we respect and acknowledge the commentary that has happened in the public discourse. There is a long way to go on this.

Richard WELCH: A lot of proponents are saying that the real problem is misinformation. They have also said that between Recycling Victoria and the EPA they do not feel they have got a strong partner in correcting that misinformation. How would you respond to that?

Tony CIRCELLI: I would probably like to understand more about what the misinformation is.

Richard WELCH: Well, we asked them too, and people are being unscientific, apparently, and there is the use of language – ‘toxic’ versus ‘hazardous’ and things of that nature.

Tony CIRCELLI: I have seen waste-to-energy facilities all across the world. People should be curious and should be concerned about any facilities like this, and it is up to government and the regulatory authorities to provide that assurance that if and when they get these approvals they are the right people and they are in the right location.

Richard WELCH: I guess what makes me curious – and it certainly can be answered by some of the other bodies, who can chip in – is that if your process has been as meticulous as you have just outlined here, then why is the gap so big with the public? You have all spent a considerable part of each of your presentations telling us how meticulous your preparation, planning, consideration and consultations have been, okay – which is great, as it should be. But there is a massive gap between what you have done and what seems to be the result on the ground. I am just trying to find out why.

Tony CIRCELLI: Others can comment as well, but again, for me, we are very much starting. This is not the end of a process; this is prior to the start of any other processes in any other state in Australia. So we are putting an additional process in place to make sure that we have those conversations with the proponents that we actually need.

Richard WELCH: Those three projects: how far into the process are they?

Tony CIRCELLI: From my understanding, they have not put in an application yet for an EPA licence – as far as I am aware. I will let the EPA comment.

Richard WELCH: The Wollert one has not?

Jen MARTIN: Not yet – there was an application that was put in but withdrawn, and we are still in the pre-application phase now.

Richard WELCH: So they would have gone through the process then on the original application?

Jen MARTIN: It only ever reached that pre-application stage. I think, maybe to reflect on Tony's comments, we are in some of these cases at the very beginning of a journey, and that engagement stage does take quite some time to work through what it is that is being proposed, how risks are looked at and how that relates to that area.

Richard WELCH: How long would that engagement process take? Because these communities have been concerned about this for how long – years?

Jen MARTIN: Throughout the entire development licence process, we will be actively engaging with community, but we would also be expecting the proponents themselves to be actively engaging with the community.

Richard WELCH: They are saying there is misinformation and that the EPA and Recycling Vic are not mitigating against that or are not addressing that misinformation in the marketplace and the community.

Jen MARTIN: When we have a proposal in front of us that we are assessing, like I say, we place it on Engage Vic. That is where we can start to work through what that proposal is about and be clear about the technologies that are being proposed and what is included in terms of health risk assessments. Then there is the broader community engagement events where we really do start to unpack a lot of those key concerns.

Richard WELCH: Would you say that at this point then the community concerns are premature?

Jen MARTIN: I would not say premature. I think we have got a highly engaged community that are absolutely very interested in a technology that, when it is very well regulated, can work very effectively with very low risk. But I think it is fair to be engaged and interested.

Richard WELCH: Okay, I will stop there for the moment. Thank you, Chair.

The CHAIR: Thanks, Mr Welch. We are going to Mr McIntosh.

Tom McINTOSH: Thank you all for being here. A week or two ago we had the first hearings out at Sunbury, and we had members from Sunbury and Lara and various communities turn up. There is definitely community concern around these projects and, Dr Martin, I might continue with you. I think it would be just good to hear your perspective; it sounds from your accent that you are a bit familiar with Europe in some ways. Where is the technology at in other parts around the world? We heard about a lot of the concerns around toxins in the air coming from smokestacks. We heard about reporting timeframes and whether that included servicing. We heard stories about Western Australia and whether their local EPA were monitoring year-round and reporting, as was previously required. If I can put to you that they are a few examples that I recall of community concerns. Just where do you think the technology is at? I will let you go from there.

Jen MARTIN: Absolutely. Firstly, within Victoria we do have the general environmental duty. That really very much puts the onus on the proponent. When they are operating, they really must actively, continuously manage their risks so far as reasonably practicable. You cannot wait until EPA knocks on the door to be taking action. You absolutely must be, ongoing, managing your operations. In terms of the technologies and where they are at now, there have been considerable changes in the technologies, really stemming from when the EU introduced the waste incineration directive. Prior to that point, it was very much a way of treating waste effectively. There were limited to no air pollution controls in place. The combustion efficiency that can actually control the generation of a lot of pollutants was not particularly good. So there has been a significant change in what you are seeing in terms of pollution and emissions. It is very well documented at this stage that that means things like dioxins and furans have drastically reduced, down 99 per cent-plus compared to historical plants, and similarly seeing significant reductions in terms of particulate matter and other contaminants. This is why I say it is very important that these plants are designed very, very well and that they do meet best available techniques and technologies, and that they are strongly regulated, because we do need to know that those pollution controls are operating very well.

There is quite a lot of literature out there now at this stage, where people have done monitoring around more up-to-date plants to understand how they are actually performing, and many of them by universities, so it is quite independent. But probably one of the most recent reviews in terms of things in relation to health impacts was done by the UK Health Security Agency, and that was done last year. They looked specifically at waste-to-

energy in the context of the post waste incineration directive. A lot of the studies that are out there right now refer to older plants. The UK Health Security Agency did a systematic review looking at epidemiological evidence and found that there is no clear evidence for associations between exposure to emissions from modern and well-regulated waste-to-energy plants with morbidity, cancers or adverse birth outcomes. They felt confident that that these types of facilities are not a significant risk to public health, which is why the UK is still supportive of, like I say, modern, well-run waste-to-energy facilities.

Our focus is very much on ensuring that in that development licence stage we really are making sure that the design will meet best available techniques and the best available techniques associated emissions limits, some of which are actually genuinely below health-based guideline values. But the technology can get there. So I think it is really important that we continuously aim for improvement, that we are not just focusing on a current standard. So it is about reducing your harm so far as reasonably practicable.

Tom McINTOSH: Okay. Thanks, Chair.

The CHAIR: Thanks, Mr McIntosh. We will go to Ms Payne.

Rachel PAYNE: Thank you, Chair, and thank you all for presenting before us today. I might start with Carolyn, if that is possible. In relation to circular economy policy more broadly, why aren't manufacturers legally required to use recyclable, compostable or biodegradable packaging wherever possible, and is there an opportunity there for policy reform? Rather than communities being asked to accept the environmental burden of waste infrastructure, can governments actually try to prevent some of those wastes?

Carolyn JACKSON: Yes. Thank you for the question. Just a couple of points – the first one, obviously there has been significant Victorian government investment since the release of the Recycling Victoria plan. That has seen a lot of additional capacity in terms of resource and recycling – over 2 million tonnes that has been invested in by government as well, and obviously proponents. Banning of single-use plastics has been significant. The CDS scheme has led to a significant reduction in litter. So there are a number of initiatives that have been implemented already that are leading to positive environmental outcomes. There is still more work to be done and that we are doing, so in terms of product stewardship for plastics and packaging, that is certainly something that is being discussed nationally through the environment ministers meetings, and there has been a commitment to look at a national scheme. That product stewardship would basically require manufacturers to sort of see it through to end of life. And there is also work that we are doing in Victoria specifically in relation to the recycling of soft plastics. I know the committee heard about that earlier today. That is something that we have been exploring through our service standards and looking at the potential and the ability to put soft plastics into your yellow-lidded recycling bin. So there is definitely a lot of things that have been done to date, and there are still a number of things that are in train. We are absolutely still continuing, regardless of waste-to-energy, to be looking at opportunities to further reduce, reuse, recycle, noting that both landfill and waste-to-energy are sort of at the last resort end of the spectrum.

Rachel PAYNE: Thank you. And just in relation to some of the policies that we have heard, particularly in reference to the EU, now they are moving to include waste incineration into their emissions trading scheme by 2028, as far as I am aware, reflecting evidence that a significant proportion – around half – of emissions from incinerators are fossil derived. Does this have any implications for climate policy in Victoria, and is this something that would be considered by the department?

Carolyn JACKSON: Thank you for the question. We definitely have been looking at the emissions profile of waste-to-energy facilities. It is something that has been considered. It is worth noting that when you look at the emissions over the lifetime of a project, waste-to-energy facilities do have a lower emissions impact than sending waste to landfill. That is because sending waste to waste-to-energy facilities avoids substantial landfill methane emissions that would otherwise occur and also displaces emissions from fossil fuel electricity generation. So it is something that was taken into account and is still being taken into account, and the emissions over the life are less than landfill, and the impacts of methane in particular.

Rachel PAYNE: Excellent. Thank you. Dr Jen Martin, if I may, some questions in regard to the EPA: does EPA Victoria accept that many overseas regulators now require broader pollutant monitoring regimes than what Victoria currently accepts, including monitoring ultrafine particles, dioxins, PFAS, PHAs and continuous real-time emissions disclosure, and what plans for monitoring are going to be put into place?

Jen MARTIN: Thank you. We do require monitoring of dioxins. PFAS I think is at this point somewhat emerging in terms of emissions from waste-to-energy plants, somewhat similar to dioxins and furans. A lot of the processes in place with the current air pollution controls that are in place, they actually destroy quite a lot of the PFAS. Initial assessments, for example, if we are looking at even your residuals, we will always require that they are actually tested for PFAS, along with other broader characterisation requirements. Continuous emissions monitoring is also required for those contaminants where that is feasible, as well as supplementary periodic sampling where it is not feasible to run continuous emissions monitoring as well. So we are certainly absolutely looking at that broader range.

Rachel PAYNE: Thank you. Just in relation to the EPA's recent Supreme Court case against Veolia, I note that there was a \$1 million settlement where it was identified Veolia had breached the general environment duty, particularly around Hampton Park. Is the EPA still considering a regulatory framework for waste-to-energy that relies heavily on self-reported data or from a facility operator? Or is it something where this is a bit of a work in progress?

Jen MARTIN: Waste-to-energy plants are highly complex. We expect that at every stage of the process the duty holder will actually be across where those critical controls are and how they are monitoring them, and then that is backed with your environmental monitoring at the stack. I think it is really important that we always are aware of where that data that actually helps you understand whether your controls are working or not is placed. You know, once you get to the emissions, it is actually at the other end. So it is really important that there is that ongoing self-reporting, that self-monitoring; that is where the general environmental duty comes into play. The onus is very much on the proponent and the duty holder, but we do back that with those compliance and enforcement actions. We do back that with those regular inspections, and particularly where you have got higher risk types of sectors or where there is, maybe, additional interest, we will always back that with compliance and enforcement actions.

Rachel PAYNE: I think, for myself, I was curious about the \$1 million fine. I mean, it seems like a lot of money, but when you are talking about multinational companies that, you know, run on – I think Veolia is sitting at around US\$48 billion, as in how much they make each year. But the \$1 million – is that the cost of doing business? That is the question that I am getting to. Is there consideration around some of these breaches? I guess \$1 million to a company like Veolia may be seen as more of a cost of doing business. Is there any sort of review process that is going on now, considering that Supreme Court ruling?

Jen MARTIN: Certainly I cannot comment on the amounts – I can certainly take that on notice – but just more broadly, that whole restorative justice program of works is certainly being looked at as to how we implement it.

Rachel PAYNE: Okay. Thank you. Thanks for your time.

The CHAIR: We will go to Dr Mansfield.

Sarah MANSFIELD: Thank you. And thank you for your time today. I might start with Dr Martin. Regarding the EPA's standards that are currently used to assess waste-to-energy, currently the EPA still relies on guidelines which are older than those that are used in the EU. The EU has updated its standards. Now, you mentioned before that if these facilities are run using the best available techniques and technologies and well regulated, they can be safe. But we are not assessing them to the, I guess, current best available standards. So I am just wondering if the EPA intends to update those guidelines.

Jen MARTIN: Our air quality guidelines or the standards that we look to are actually international. The guideline for assessing and minimising air pollution in Victoria was actually only recently updated, last year. So just maybe if you want to talk through those particular standards?

Sarah MANSFIELD: Look, my understanding is that there is a more recent EPA standard that is used, which the EU use for their waste framework directive – that they have updated that to include, I guess, more recent data and more stringent health requirements.

Jen MARTIN: No, absolutely, in terms of how the plants are designed and operated, we do look to best available techniques regardless. Maybe what I might touch to, though, is these ultimately control what might be emitted from the stack. We complement that with very detailed air quality or impact assessments that help us

understand where and how those emissions could be – you know, what might end up with the community at a ground level, so that then gives us an understanding about potential risks of harm to people through inhalation.

We also seek an assessment of what might deposit to the ground and how that could be in the soil that people might be exposed to, how that could get into things like your fruit and veggies in your back garden. We do seek a very comprehensive multiple pathways assessment of potential risks to human health for a wideranging number of contaminants. The standards in effect that we are looking at we do review on a fairly regular basis, and they were most recently updated last year.

Sarah MANSFIELD: You have said that you do assessments for a wide variety of contaminants. How is that done? Is there baseline, for example, soil testing done and then regular retesting around those sites performed by the EPA?

Jen MARTIN: How standards are actually set, even more generally for contaminated land, for example, is that there is data available around people's broader exposures. If you can imagine, we are not just exposed to contaminants maybe in our general environment. It is also through our food or personal products, things like that. There is actually data around what those general baseline exposures might be. For those contaminants we are able to understand what your health-based guideline value is, what the actual background exposure is for other sources and then what this project brings to that equation. Ultimately you do not want to be exceeding the health-based guideline values. The project itself cannot contribute to exceeding those health-based guideline values.

Sarah MANSFIELD: Just to drill into that a little bit more, is that assessment done based on specific local exposures? For example, the baseline exposure for someone living in an area that has a lot of industrial activity around it or has a history of significant industrial activity is going to be different to someone who is living in a much more remote area potentially.

Jen MARTIN: There is certainly a lot of background data available already through a variety of different programs. It is also a risk-based perspective. If you are seeing that what is likely to come out from the top of a stack is actually very, very minute, then it really does not become something that needs comprehensive testing. It has to be somewhat proportionate to the potential risk basically. But there is quite a bit of additional data that is out through various programs that talks to urban soil contamination, for example.

Sarah MANSFIELD: What you are saying is that potentially for some of these waste incineration facilities the assessment will be that from the EPA's perspective the risk is so small for what is going to come out of the stack that there is no need to do any additional testing around that site?

Jen MARTIN: Yes. Maybe to put that in context, some of the studies from plants in Italy at the moment – for example, dioxins and furans have gotten so low that the contribution from a waste-to-energy facility is in the order of 10,000 times lower than just normal vehicular emissions. When you are starting to get that low, you actually will not be able to measure any additional difference. It is too small a contribution to be able to actually even see. At that point it becomes too challenging.

Sarah MANSFIELD: But in a sense, rather than real measured levels, you are relying on claims, assertions and commitments, I guess, from the proponents and developers of these sites rather than any real-life assessment of those emissions.

Jen MARTIN: That is exactly where the emissions monitoring comes into play for your operations. You absolutely have to be able to back it and validate that that is what is actually being generated. There are absolutely requirements for emissions monitoring.

Sarah MANSFIELD: This is following on from some questions Ms Payne asked. PFAS is not currently considered a hazardous material under Australian standards, but it is internationally. I am just wondering whether the EPA is planning to look at PFAS in the context of waste incineration plants and potentially match the current standards used in the EU.

Jen MARTIN: We look at PFAS across pretty much most of our industries; we look at it in terms of our waste characterisation. PFAS is a very well known issue to manage, and we absolutely do consider it as part of our assessments.

Sarah MANSFIELD: Okay. I just wanted to ask about the precautionary principle, because that is something that the EPA says – that they adopt the precautionary principle. In the study you cited earlier from the UK I think the conclusion was that they could not find evidence of a link, but the studies within that systematic review were mixed; some of them did find a connection. There were problems with differing timelines and methodologies that made it difficult to draw any strong conclusions. But as we know in this space, the absence of a clear, direct evidence base – and it is difficult to collect evidence in this space – does not mean there is no impact. And we have had many submissions to this inquiry calling for us to adopt that precautionary principle when it comes to waste incineration. I am just interested in your perspective on that.

Jen MARTIN: Yes. There absolutely have been challenges in terms of the duration of some of the studies. When you look at that UK study where they did find there are questions around a potential association, the exposure timeframes actually preceded and went to those plants prior to being updated and implemented, so it was very challenging to pull that type of information apart. I would also reflect, I suppose, that even public health Australia in terms of their own reviews, when they have looked at the quality of the studies they rarely met above grade D from an NHMRC level in terms of reliability, which is actually a very low level of reliability, and it is very hard to base significant decisions on it beyond that. I think they only could find five studies that met grade C, which is still considered to have a low level of reliability. Overall I think this is where even the WHO themselves came out in 2023 and said that given the level of significance of improvement in how those technologies have performed, the risks of harm broadly to the public are actually very low.

Sarah MANSFIELD: I would just like to ask one more question about the Lara waste incinerator. There are a lot of community members who are perplexed as to why there is still a development approval from the EPA, despite the fact that that facility has not received a licence under the cap from Recycling Victoria. So I am just wondering whether there are any plans to revoke that EPA development licence.

Jen MARTIN: I might have to take that on notice around the development licence. But it is actually, like I say, one part of the broader approvals process. The EPA has looked at it in the context of how the plant would operate in relation to emissions. I might maybe hand to my colleague here around the cap licence question.

Sarah MANSFIELD: Okay. Thank you.

Tony CIRCELLI: Thank you. I am not quite sure what I need to add there, to be honest, because we had, as I mentioned, a number of applicants that applied for a waste cap. We looked at both the applicants and also the relative location – not the specific location, but the relative location – of what we needed for greater metro Melbourne, and we made the decisions on that basis.

Carolyn JACKSON: If I can just add, there are obviously multiple hurdles that proponents need to jump. Recycling Victoria and the cap licence is one of them, and the EPA and planning are others. There is not a requirement that you do one before another, and so that instance is probably an example where a proponent has gone to the EPA and gone through that process first and then gone through and been unsuccessful in terms of the licensing cap. I think that the takeaway is you need a waste-to-energy licence from Recycling Victoria to have an operational facility. The Lara site does not have one.

Sarah MANSFIELD: Okay. Thank you.

The CHAIR: Thank you. We had a previous witness give evidence who said that the most dangerous pollutants are formed outside the stack and outside the air pollution control systems. Is that something that is acknowledged by your various departments and agencies? Is it something that you test for outside the stack?

Jen MARTIN: Do you have any more context?

The CHAIR: I can read you the quote from the transcript if you like. It said:

The first reason is called the de novo synthesis. This is a technical term to describe the fact that the most dangerous pollutants are formed outside the stack, outside the air pollution control systems. As they exit the stack and cool down, these dangerous, persistent organic pollutants are reformed and attached to the very emissions that incinerators make, which are soot and ash. The dioxin attaches to the graphite, the carbon particles that burning material creates, so it is an industry that is inherently polluting, and the de novo synthesis shows that you cannot make it safe.

Jen MARTIN: Yes. That is part of that fundamental change in waste-to-energy facilities since the waste incineration directive. The air pollution controls that have been brought in inherently bring in how to avoid de

novo synthesis throughout. That starts in the primary combustion chamber with making sure you can get your temperature control right. There are afterburner stages that then go to further destroy those contaminants, but absolutely some of the precursors can then reform if you have a slow cooling period between that and the next stage. There is actually a step within the process that seeks to do rapid quenching to prevent that de novo synthesis, and then there are further pollution controls along the way to stop that from happening. I think maybe just to put it in context, we are actually now beginning to see some plants – let us say in Denmark, for example – where they are getting the dioxin and furan levels down below the detection limit. The dioxin and furan issue absolutely has been an issue in the past – there is no doubt about that. But the modern technologies that have been brought on board are very much looking at how they can address that, not just in the context of your initial dioxin and furan formation but also further down the track through that de novo synthesis process.

The CHAIR: Thank you. And so that is the case for every waste-to-energy –

Jen MARTIN: Fundamental to being able to assess whether the risks can be managed or not is how these air pollution control steps are actually included within the design. They form part of the best available techniques, so if you go to the best available techniques reference documentation from the EU, they literally list the types of controls that can prevent these types of issues occurring, and they have become part of our conditions for any particular waste-to-energy plant.

The CHAIR: Forgive me, because I am not at all an expert in this, but do you still continue testing to ensure that that is occurring –

Jen MARTIN: Yes, absolutely.

The CHAIR: outside the stack?

Jen MARTIN: Yes, absolutely. They have to do continuous emissions monitoring, and we absolutely expect them to do that monitoring to confirm it. But like I say, that is why we are really seeing evidence from independent studies across Europe where they have seen significant reductions in the dioxin and furan formation out in the community – in the environment.

The CHAIR: Have there been any scenarios where this has not met the criteria despite the system being in place?

Jen MARTIN: Not that I am aware of. I can certainly seek further confirmation on that, but what we have is more consistent evidence that absolutely these controls have actually managed this particular issue. But they have to operate, and that is why that strong regulation is critical to this, and that is why our role in this is to make sure that they are designed, the processes and systems are in place and that they are actually operated appropriately.

The CHAIR: That would be amazing if you were able to take that on notice and provide any testing statistics or information to the committee to help us understand that more. Obviously, there are overseas examples, but local ones would be –

Jen MARTIN: Because we have not got those plants operational, we cannot actually do local scenarios.

The CHAIR: Yes, of course.

Jen MARTIN: But we can absolutely do it for overseas.

The CHAIR: Of course. But you have got the information that this is applied – is it set in regulation?

Jen MARTIN: In terms of what is covered in the development licences and what has been included for date? Yes, absolutely. Because written into the assessment reports is what is required in terms of –

The CHAIR: And how testing would occur if approvals happen, and is there anything on regularity or –

Jen MARTIN: They will be required to set up an air emissions monitoring plan as part of those conditions. Some are related to things that can be continuously monitored – that might be called out directly – but

otherwise there will be an air quality assessment plan that is required. Some of these things then are developed as you head towards that operational licence as well.

The CHAIR: Okay. Thank you. I am going to go to Mr Ettershank.

David ETTERS HANK: Thank you, Chair. Thank you all very much for coming today. It is really appreciated. Just at the outset, I think there are probably some things we can agree on. Obviously, there is a waste problem. We are not denying the reality of the sheer amount of waste and garbage that is being produced and that something has to happen with it. I think there is also, though, a social licence problem. Having spent the weekend at Sunbury, I think that was felt very clearly by all who were present – the deep scepticism. I think there is also a transparency problem. For example, we previously, in the upper house, passed a resolution seeking documents relating to the Recycling Victoria tender process, and – along with 126 other requests for documents, I think, so far in this Parliament – we were told that there is just not time to do it, which of course is not really building confidence in the community as to why we should have trust. This morning we obviously heard from proponents that that trust and that social licence are major concerns to them.

I might start, if I may, with Mr Circelli. I am having real trouble working out these 2.5 million tonnes, because I am looking at your website and you have got the seven that were announced in August, and they come to 2.35 million tonnes. Then I am looking at previous ones, which are also on your website, and there are another four there. One is a duplicate, which is Recovered Energy Laverton. But doesn't that add something like 750,000 tonnes to the 2.5 million tonnes, which takes us to around 3.25 million tonnes?

Tony CIRCELLI: My colleague might want to talk about how the cap was established?

Carolyn JACKSON: Thank you. The cap is set at 2.5 million tonnes, and Recycling Victoria has issued licences under that cap for, as you say, 2.35 million tonnes. There were four facilities that had already received planning approval and so they were, in effect, grandfathered and received separate cap licences, which Mr Circelli mentioned were issued in late 2023 and early 2024. So the total cap licence that has been issued is just over 3.5 million tonnes, in round figures. That does not necessarily mean that there will be facilities that lead to the processing of 3.5 million tonnes. They are cap licences. Those proponents, if they do not already have planning approval, still need to go through the EPA and through the planning process, so there are still hurdles before all of those facilities get up. But it is probably worth noting, and we did cover it in the presentation, the residual waste that we are seeing in Victoria, and in 2024 that was 5.7 million tonnes. With 3.5 million tonnes potentially going through waste-to-energy down the track if all the facilities are built and commence operations, there will be still a gap between what is going to waste-to-energy facilities and the residual waste that we are generating. That waste is projected to get to 8.9 million tonnes by 2053.

David ETTERS HANK: I think we have seen the numbers. I am just conscious of time, but I thank you for that. Can I say it has been worth coming today just to get that question resolved. We are in fact talking about 3.5 million tonnes, not 2.5 million tonnes. While I have got you, though, Ms Jackson, can I pick up on the comment you made before about there not being one sequence? My understanding was that Prospect Hill International, the proponents for Lara, were rejected for a licence. They applied and they were rejected. Now you are saying that they are still in the race, so I am wondering: are you flagging that there will be another potential round?

Carolyn JACKSON: No. What I said is they have EPA development approval. They had received that prior. My comment was that there is not one process where you go through the Recycling Victoria process and then you can go to the EPA and then you can go to planning. Proponents could choose to go to the EPA first, for example, which is what occurred in this instance. They have not received a cap licence from Recycling Victoria. Waste-to-energy facilities require a licence under the cap in order to operate, and they do not have one.

David ETTERS HANK: So Lara is as dead as a dodo, is it?

Carolyn JACKSON: I cannot say what might happen in the future.

Tony CIRCELLI: Maybe I can just add to that. I cannot apply any more tonnage to anybody above the cap. It is a limitation on my powers under the circular economy Act under the waste-to-energy cap framework system. So unless more cap material comes available over the next five, 10 years to have a look at and reassess

that, at this point in time there is no intention to open up a system where there is no capacity to issue more licences. There is a small gap there. The 100 –

David ETTERSHANK: Can I just ask you, though, before you move on from that: a number of these do not have a residential address, if I can put it that way. Residential is probably the key word for many of the people that are concerned here.

Tony CIRCELLI: A site address, yes.

David ETTERSHANK: Can they be moved to the Lara site?

Tony CIRCELLI: They would need to make an application towards that. You can transfer cap licences, but equally in that transfer process that would have to come through I guess my jurisdiction, and I would need to have another assessment to look at whether that is something we need in Victoria – is that the location that we actually need? There is nothing stopping people from making applications. But there is a very prescribed system under the circular economy Act to make sure not only that the proponent is capable of bringing the facility online and is fit and proper and all those things, but also from a strategic perspective that it is actually what we want and what we need,

David ETTERSHANK: So the door is still open theoretically to Prospect Hill to be able to get other people's licences located.

Tony CIRCELLI: Nothing is impossible.

David ETTERSHANK: No, it is all right. I think, again, this has been another subject of much discussion. Can I ask you, in terms of your reference to the regulatory compliance history – and this is probably equally one for Dr Martin, possibly – I guess a lot of people were rather surprised to see HiQ on the list, given I think they have had something like 30 regulatory breaches that were prosecuted successfully by the EPA in the last few years. Some people might say that is a bit of a problem, but apparently you did not. I mean, that is a lot of breaches, including things like asbestos storage and management. How low is the bar set that someone can have that history and put it behind them?

Tony CIRCELLI: I appreciate that. It is a really good question. Fit and proper considerations occur under lots of jurisdictions and they are a bit different too. I am pretty sure the EPA's fit and proper considerations are similar but not the same as the fit and proper considerations that I took into account for all the proponents. We looked at each individual part of the fit and proper requirements under the Act. The fit and proper requirements do not mean that you have not had a conviction, but they need to be of a certain scale and a certain significance. Under the right situations there is a fit and proper consideration about breaches when operating as a waste-to-energy facility under frameworks that control that as opposed to breaches that might occur under other Acts of Parliament. There are general provisions as well, but the thresholds for those are set pretty high. We obviously took information from each of the applicants. We looked at their compliance history. We engaged with other regulators around any information they had, and I am comfortable with the assessment that we made.

David ETTERSHANK: Okay. Could I just get Dr Martin to also address this question?

The CHAIR: Of course, go for it.

David ETTERSHANK: We know that HiQ, from this morning's evidence, will in the next few weeks have their application with you, which I am sure is an exciting prospect. Could I ask you the same thing? I mean, without pre-empting, obviously, the process.

Jen MARTIN: That was exactly what I was going to say.

David ETTERSHANK: I know. I am sorry about that.

Jen MARTIN: We do not have an application, obviously, at the moment. But what I can say is as part of our assessment process for any licence – not just for waste-to-energy either – we do look at the compliance history, obviously, of a particular proponent. Part of that, as Tony said, is to actually understand what the nature of any potential breaches were and the background and the context to that and forming that in the context of

what this particular project and proposal is about. So that then can also inform things like conditions, for example, and things like that. But at the moment we do not have an application in front of us.

David ETTERS Hank: Okay. Thank you. Thank you, Chair.

The CHAIR: Thanks, Mr Ettershank. I think Ms Payne just had a few more questions, and then we will finish up.

Rachel PAYNE: Yes, will do. Thank you. I am just going back to Dr Martin, if you do not mind. The EPA has a legislative obligation under the climate change Act 2017 to consider climate change and greenhouse gas emissions in its decision-making, specifically when assessing development applications for waste-to-energy facilities. Can you outline how that obligation is applied in practice and, specifically, what methodology you use to assess emissions, how you weigh them against other factors, and at what point emissions become a determining factor in approval or refusal?

Jen MARTIN: Yes. We last year released a statement of regulatory intent for climate change, and that looks at our journey over the next, I think until 2027, around how we are looking at climate change within our regulatory strategy. There are a couple of ways in which we look at climate change. Even in relation to the general environmental duty, we look at a potential facility and the how it may operate, managing and adapting to climate change impacts. So are there potential additional risks that might be caused by things like bushfires or flooding? We also, under the general environmental duty, require or look and seek that there is a greenhouse gas emissions assessment, and we do look and seek that scope 1, 2 and 3 emissions are accounted for. Typically what we would expect to see from a proponent is that those assessments are undertaken in line with guidance, such as those outlined by the GHG protocol, and that will be factored into those assessments. But we have not at this stage actually had an assessment that has come through where the greenhouse gas emissions have been the determining factor in relation to it. But we would certainly expect, not just in terms of the licenses themselves but actually through the general environmental duty, that the proponents are looking at all opportunities to reduce greenhouse gas emissions.

Rachel PAYNE: Thank you. And just to follow on, given the Act requires the EPA to consider greenhouse gas emissions, can you explain whether there are any defined thresholds, benchmarks or decision criteria that would lead the EPA to refuse a proposal on climate grounds?

Jen MARTIN: In terms of benchmarks, we will absolutely be looking at what it is that the technology is looking at in terms of best available techniques and technologies. Are they meeting it? Are they actually looking and seeking to reduce the greenhouse gas emissions so far as reasonably practicable? And that will be slightly individual depending on the technology that you are addressing for any particular industry. Those will be the thresholds that we will be looking at – what is feasible, what is reasonable – and the same will go for the energy efficiency aspect of the energy generation aspects of the waste-to-energy plant as well.

Rachel PAYNE: Fantastic. Thank you.

The ACTING CHAIR (Tom McIntosh): I am just going to take the role of Acting Chair while Ms Purcell is out of the room. I might just ask a couple of questions, Mr Ettershank, and then come to you. I am going to come to you again, Dr Martin. Sorry. Look, I think a big part of so many people turning out is community concern and questions about the science, and I think hence why we keep coming back to you. You have talked about Italy before. You talked about, I think, Denmark. Are you able to just point to countries or regions where you see best practice, so people listening to this can go and do some of their own researches as well, or just so it is on the record?

Jen MARTIN: What I would say is that when we are looking or assessing, we expect that any proponent coming through is meeting best available techniques. The EU obviously has some very good, clear information in terms of their reference documentation. I think that is a good place to start, to look at those BAT reference documents, because they do call out some of those types of controls that are required or expected to be put in place to meet best available techniques and technologies. After that, it then does sort of vary even within countries as to different plants and how they operate, and I certainly would not have the gauge on every single plant across Europe. So I think you would probably start with your European standards, and then I know we have taken it on notice to provide a little bit more information on some of those, particularly things like

academic papers that talk to some of the environmental monitoring findings and things like that that we can provide.

The ACTING CHAIR: Okay, yes. I think that would be really helpful. Thank you. Mr Ettershank.

David ETTERS HANK: Thank you, Acting Chair. Much appreciated. Dr Martin, if I could come back to you. I am sorry, you seem to be getting a bit of the lion's share here. Talking about transparency and public trust, in Sunbury we had a case there where there was an illicit garbage dump you may have heard of, in Riddell Road. This gentleman was on rented land, bringing in a couple of thousand tonnes of waste through a housing estate for two years. It was estimated he was pulling somewhere between \$150,000 and \$200,000 in cash a week. It was not until direct representations were made to the minister and it was raised in the house that we finally saw the EPA take action, at which point in time he was found to be acting improperly – not a surprise to anyone – and fined the staggering sum of \$10,157. I am wondering, in terms of faith in the EPA, is there a lesson for us there?

Jen MARTIN: I would absolutely have to – in terms of timeline and activity, EPA can actually be quite involved in things quite early on. We are quite an active regulator, is what I would say. We certainly focus as well on – we have got community reference groups that we engage with when we look to something like these waste-to-energy plants. We really do seek to try and engage as much as possible when we have got that application in to be able to provide information to community and to give opportunities for feedback to be taken on board, and we very genuinely take the feedback that we get, which sometimes can be quite significant in the number of submissions that we get through. To be able to bring that in, distil and actually be able to try and address some of those key concerns the community would have we do take a very active role around community engagement. In relation to the specifics of that particular case, and when we were first involved versus maybe when it was spoken about in Parliament, I would actually have to take that on notice and get a bit more detail.

David ETTERS HANK: I am happy for you to take it on notice. Given it was in the *Age*, the *Herald Sun*, TV news and the front page of all of the local rags, I guess I am raising this as a matter of, if that is where the bar is set. I think we have already established possibly that on the probity question or the regulatory compliance question, it is probably going to be easier to get a licence for a \$2 billion waste-to-energy incinerator than it is for a 14-year-old to get bail in this state these days. I guess the question in my mind, in that context where there are clearly very important judgements that are going to have to be made, is 'How do people have confidence?' So, for example, an issue that has been raised is the question of non-permitted waste being burnt. So do you have the resources to actually be able to ensure that there are not possibly highly toxic materials that are not meant to be in there being burnt? How do you do that? How do you audit that, or is that self-regulating?

Jen MARTIN: One, yes, absolutely, there is the general environmental duty. I think it really does need to be – there is quite a degree of power behind the general environmental duty. The onus absolutely is on the proponent. If they go about doing something that is not aligned with managing risks of harm so far as reasonably practicable, there are consequences for them. We do have a robust compliance inspection scheme. There are very real – I think even from efficiency perspectives, there are real challenges if you introduce other types of waste streams into these plants. It is not necessarily in your best interest, is maybe how I would put it. But from our perspective, our focus is absolutely on ensuring, even in terms of the development licence, and then when you go on to the operating licence, that there is a waste characterisation process – pretreatment, all of that front-end, it is well designed, the systems and processes are in place. Then when we are out doing those inspections and we are auditing any of the reports coming through to us we can see that they are genuinely doing as they have agreed and committed to.

David ETTERS HANK: Okay. Can I ask you, in terms of the BAT or the BREF – I am not sure which is right anymore, but I think we know what we are talking about in terms of the best available technologies or techniques – in the EU, that is legislated across multiple countries. Am I correct in understanding that it will be basically up to the EPA to decide whether and to what extent those sorts of standards apply?

Jen MARTIN: In terms of the best available techniques, that is our expectation. We will absolutely require that through our licence conditions, for example. In fact if you look to some of the development licence assessment reports, the conditions in place actually talk to the fact that the technologies will actually evolve, that we will continue to see improvements. That is how the world evolves. We expect that so far as reasonably

practicable, these plants and facilities are actually looking at that and ensuring that they have the ability to upgrade in the future if that is ever required or if that is ever an opportunity. The ongoing improvement in terms of technologies is something that we do actually seek to support through licence conditions so that you are not actually restricting –

David ETTERSHANK: Could I ask – and I would be very happy if you took this on notice; likewise Recycling Victoria – would you be able to provide us with some advice as to what environmental standards you will be seeking to apply? I guess future tense for EPA, past tense for RV. Are you able to provide that to the committee so that we have an understanding of just how stringent and how thorough it is? Because I think that strikes to a lot of the concerns in the community.

Jen MARTIN: The very first place I would direct people to is the guideline for assessing and managing air pollution in Victoria. That is on our website. It has a comprehensive list of standards that we apply and also the tiered risk assessment process that we would expect to see. But we can absolutely take that on notice and add to it.

David ETTERSHANK: I think we all understand those general standards. I guess we are keen to understand exactly what RV has had to go through in terms of waste-to-energy-specific standards that –

Tony CIRCELLI: We are happy to give you some specific information, but we have made it pretty clear what the requirements were that we expected from the proponents. They are more focused around the market need and the waste issue and the waste problem. As I said, we are not replicating the other regulatory authorities at this table. We are adding to the actual needs. But we also have an ongoing standard as well – so it is not just that it is done and that is the end of the regulation under the circular economy Act – as well as the compliance and enforcement requirements under the *Environment Protection Act*, the powers to suspend a licence immediately, to revoke a licence. They are very powerful tools, and with all due respect with the example that you provided, this proponent, whoever is successful, is stumping up over a billion dollars. They have quite a lot at stake to make sure that that investment exists over a long period of time, and those sorts of punitive, black-and-white powers available under the circular economy Act really, I think, strengthen and complement the Environment Protection Authority.

David ETTERSHANK: Can I say I am really happy – I am just cognisant of time and I do not mean to cut across you – for you to take that on notice. I think I tried to set a bar before, which was like, you may well have those huge powers, but obviously when we look at something like the Riddell Road dump it was a \$10,000 fine. So I think we would love to see that. Two quick questions: Ms Jackson, in terms of the decision to merge the EPA with Recycling Victoria or absorb Recycling Victoria into the EPA, a number of submissions we have received and this morning also the industry peak body suggested that this would substantially weaken strategic system coordination and that it raises some significant issues in terms of having a single body that has got licensing, regulation and policy functions. I think that is not really cutting-edge good governance that they are talking about there. How do we understand that decision to merge it other than hopefully it not just being a Silver response?

Carolyn JACKSON: Thank you for the question. You are right; it was in the Silver review, and government in their response agreed with that recommendation to merge the two. It is probably worth noting that the powers that Recycling Victoria have are under the circular economy Act. Those powers will, in effect, shift to the EPA. So it is not as if we are removing the functions that Recycling Victoria have and the powers that they have; they are shifting across to the EPA. There will still be the same regulatory functions, I guess, that exist now. It will just be that they will be, in effect, co-located in the one organisation. My understanding is that –

David ETTERSHANK: There will be a separation between the two in terms of their responsibilities?

Carolyn JACKSON: That is probably a question for the EPA, in terms of how they are designing things once it transfers across.

Jen MARTIN: Yes, 100 per cent. I am obviously currently in preparation for this change, but the market functions and the *Environment Protection Act* functions would absolutely be separated.

David ETTERSHANK: Okay. Thank you.

Carolyn JACKSON: Just very quickly, the policy functions sit in my group, and they are remaining in my group, so the circular economy policy function remains within the department.

David ETTERS HANK: It should make for a great lunch every now and then. Okay. Thank you. Last question: Ms Peterson, can I ask you – you did a heroic job in terms of trying to explain those bits there, and we have obviously had some chats before in terms of planning, so thank you for that as well. I am just a little confused, and I am sure you can help me out here. We have heard this is not a correct sequence through the three, but I do not think you get a planning permit until it has gone through the EPA. I will put another bit into that question, if I may, first. You said the trigger for an environment effects statement is 200,000 tonnes of carbon dioxide, and obviously a three-quarters of a million tonnes incinerator is going to surpass that by a country mile. Am I understanding correctly that what you could have then is a sequence where it is going to go through Recycling Victoria, then EPA is going to go through it and then it is going to come to you, and you are then going to ask for an environment effects statement after those other two stages? Is that how it is going to work before a planning permit is issued?

Colleen PETERSON: Certainly a planning permit will not be issued before the environment effects assessment has been undertaken. I think it is fair to say we do not have sufficient history of these projects to understand. There will be a commercially sensible way in which they manage the process, and one would reasonably expect that the environment effects component would be earlier in the process, not at the latter end, given the cost and level of scientific scrutiny that is required to go through that process.

David ETTERS HANK: So a proponent could get a planning permit from you with an EES, and then it would go back to the EPA, potentially?

Colleen PETERSON: Potentially, yes, because in seeking a planning permit, we will refer the matter to the EPA. The EPA's consideration will focus on buffer distances and making sure that that land use has sufficient distance to deal with the potential health risks. Then when it goes to the EPA for its development licence, they are looking then at much more technical issues, again, around the performance of the actual infrastructure.

David ETTERS HANK: Okay. Thank you. That was a very –

Colleen PETERSON: Did I summarise that reasonably simply?

Jen MARTIN: Yes.

David ETTERS HANK: Okay. Thank you very much. I appreciate that.

The CHAIR: Thank you, Mr Ettershank. We might wrap up there. Thank you so much for coming along today and for doing such a long session with us. We really do appreciate it. That concludes the public hearing, and all Hansard and broadcast equipment can be turned off. Thank you.

Witnesses withdrew.