



Environmental  
Defenders Office

# Energising Net Zero in the Energy Industry



# About EDO

Environmental Defenders Office Ltd (EDO) is a community legal centre specialising in public interest environmental law. We help people who want to protect the environment through law. Our reputation is built on:

**Successful environmental outcomes using the law.** With over 30 years' experience in environmental law, EDO has a proven track record in achieving positive environmental outcomes for the community.

**Broad environmental expertise.** EDO is the acknowledged expert when it comes to the law and how it applies to the environment. We help the community to solve environmental issues by providing legal and scientific advice, community legal education and proposals for better laws.

**Independent and accessible services.** As a non-government and not-for-profit legal centre, our services are provided without fear or favour. Anyone can contact us to get free initial legal advice about an environmental problem, with many of our services targeted at rural and regional communities.

[www.edo.org.au](http://www.edo.org.au)

# Acknowledgement of Country

EDO recognises and pays respect to the First Nations Peoples of the lands, seas and rivers of Australia. We pay our respects to the First Nations Elders past, present and emerging, and aspire to learn from traditional knowledges and customs that exist from and within First Laws so that together, we can protect our environment and First Nations' cultural heritage through both First and Western laws. We recognise that First Nations' Countries were never ceded and express our remorse for the injustices and inequities that have been and continue to be endured by the First Nations of Australia and the Torres Strait Islands since the beginning of colonisation.





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## Scope of the report

This report reviews the Net Zero commitments and climate related claims of the major players in Australia's energy industry. By assessing their Net Zero commitments, its aim is to drive better understanding of climate claims and unpack some common claims to give consumers an informed choice as to the climate related impacts of the products they choose and the companies they invest in.

Climate related claims should incorporate consideration of the risks posed by a changing climate. While reporting on climate related risk is still evolving, directors of publicly listed companies must report on material risks to the business in its operating and financial review (**OFR**) component in its annual report.

The Australian Government is introducing mandatory climate related financial disclosure requirements. Currently, there is international recognition of the Taskforce on Climate-related Financial Disclosure (**TCFD**) guidance which most companies use to report on potential climate related risks to the business.

Where a company has not reported on its climate-related physical risk it is arguable that there is potential for a claim of misleading and deceptive conduct under the relevant legislation. It is arguable that where a company should reasonably be aware of potential climate-related physical risk and does not include it in its annual report or prospectus, it is misleading the consumers who are relying on the information to make informed decisions.

Climate claims, Net Zero commitments and associated advertising which are misleading have the potential to delay action on climate change as consumers are unaware of the true environmental impacts of products. Australia's regulatory bodies are increasingly focused on corporate greenwashing to ensure consumers are afforded an informed choice and promote fair and transparent markets.<sup>1</sup>

For more detail on Greenhouse Gas Emission types, including Scope 1, 2 and 3, and what constitutes Greenwashing, see **Appendix A** and **B**. The information in this report is accurate as of when this report was finalised in December 2023.



# Key themes and trends

The audit has identified the following key themes and trends across net zero and climate-based claims:

- Most commitments **do not include Scope 3** emissions.
- There is **heavy reliance on nature based and technological offsets**, without clarification or quantification, rather than absolute reduction of emissions to meet goals or targets. This is compounded by the questionable credibility of these forms of offsets.
- **None of the companies have committed to phasing out fossil fuels**, with heavy reliance on fossil gas for the energy transition.
- There is a **lack of science based short- and medium-term targets**.
- While Net Zero target commitments are best practice, some companies are representing that they have a form of net zero commitment while **continuing to operate on a business-as-usual basis**, relying on uncertainty of federal or state legislative requirements or global ability to reach net zero to justify little to no action.
- There are **a variety of terms used to describe net zero commitments**, together with a variety of methods for defining and reporting an organisation's greenhouse gas emission boundaries which creates confusion, complicates comparisons and obfuscates significant differences in ultimate emissions levels.
- There is **cherry-picking of different emission scenarios** which results in inconsistent approaches and an inability to compare commitments.
- Despite their stated alignment with the Paris Agreement targets, many companies have engaged in political advocacy or are members of industry associations that **engage in political advocacy against more effective emissions regulation**.
- There is a significant **lack of disclosure of energy companies' exposure to climate-related physical risk**.



# Background

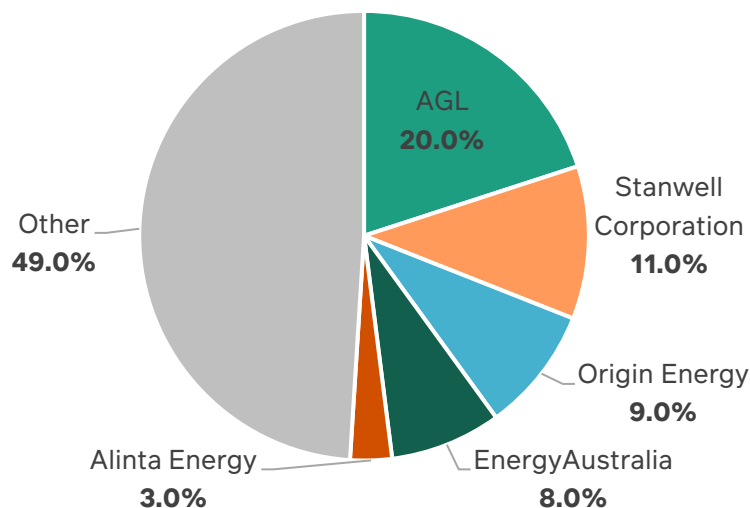
Australia's energy sector is comprised of companies that generate electricity (through burning fossil fuels such as coal and gas, as well as through renewable sources such as solar), companies that transport energy (in the form of liquid natural gas and electricity) and companies that retail energy to consumers.

Many companies audited in this report are involved in all three steps of the process. This includes **AGL**, **Origin Energy** and **EnergyAustralia** who are Australia's largest energy companies.<sup>2</sup> **Alinta Energy**, a Perth based company also operates across generation, transport and retailing but controls a much smaller share of the market.

**Australian Gas Infrastructure Group** (which owns Australian Gas Networks and Multinet), **AusNet** and **Jemena** operate in electricity transmission and gas transport. A range of state-owned companies and small companies make up the rest of the market.

The companies audited in this report were chosen for the size of their market share and their diversification across the generation, transport and retailing activities that make up the sector.

## Market share of fossil fuel energy generation in Australia



Source: IBIS World



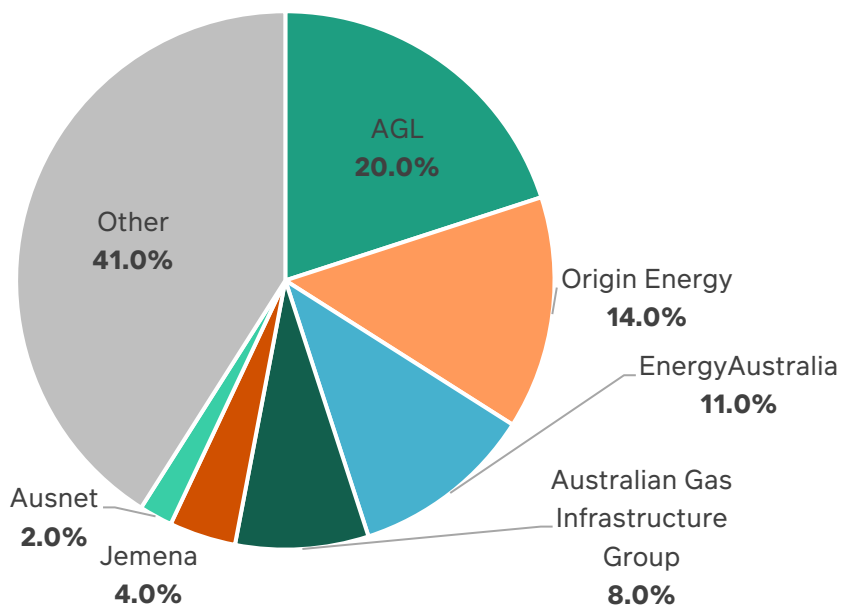
# Background

In 2021-22, 54.6% of Australia's total energy consumption came from coal and gas.<sup>3</sup> Renewables provided 9%.<sup>4</sup> The sector provided \$374 million of GDP per petajoule consumed in 2021-2022.<sup>5</sup>

In the same period the fossil fuel industry received \$11,636 billion in subsidies from both federal and state governments.<sup>6</sup>

As of March 2022, emissions from electricity generation, direct combustion of fuels such as liquid natural gas, and fugitive emissions (emissions that occur during the production, processing, transport, storage, transmission and distribution of fossil fuels) made up 64.1% of Australia's total greenhouse gas emissions.<sup>7</sup>

**Market share of gas supply in Australia**



Source: IBIS World



# Net Zero Commitments

The Net Zero Commitment should be of sufficient scope and ambition, setting out concrete ways to reach net zero in line with the IPCC or IEA net zero GHG emissions modelled pathways that limit warming to 1.5 degrees with no or limited overshoot. At a minimum it should not be aspirational, a goal or ambition and should:

1. Include **all emissions**, particularly **Scope 3**
2. Prioritise deep reductions for rapid decarbonisation, **not relying on offsets** or include expansions
3. Include **all GHG gases**
4. Include **separate targets** for all material non-CO2 gases such as **methane**
5. Be assessed over **short-term** (2025) and **medium-term** (2030 – with a 50% reduction) and **long-term** (2050)
6. Rely on **credible sector pathways** to Net Zero (such as IPCC or IEA)
7. Include specific targets aimed at **ending the use of and/or support for fossil fuels**
8. Cannot allow for companies to undertake deforestation or other environmentally destructive activities
9. Cannot allow for companies to lobby to undermine ambitious government climate policies either directly or through associations or bodies

**Source:** UN High Legal Expert Working Group on the Net Zero Emissions Commitments of Non-State Entities<sup>8</sup>

While many of the audited companies claim to make Net Zero commitments, an analysis of the substance of the claims raises questions of credibility, mirroring the UNHLEG findings.

**The lack of a credible Net Zero Commitment undermines public trust. Consumers may be misled by bold claims that have no foundation. Without a credible Net Zero Commitment, companies cannot show how they will successfully deliver on their claims.**



# Summary of audit findings on Net Zero commitments

Company	Do they purport to make a Net Zero Commitment?	Do the stated targets include all emissions (Scope 1, 2 and 3)?	Do they avoid relying on offsets?	Do they include all GHG gases (i.e.CO2e)?	Do they include separate targets for non-CO2 gases i.e. methane?	Are there stated targets for 2025; 50% reduction targets for 2030; and 2050 targets across all Scopes?	Do they rely on credible pathways? <sup>9</sup>	Are there targets aimed at ending use of fossil fuels (including fossil gas and blue/grey hydrogen)?	Do they commit to avoid deforestation and other environmentally destructive activities?	Do they lobby against climate policies? <sup>10</sup>
<b>AGL Energy</b>	✓ 11	✗	✗	✓	✗	✗	✗	✗	✗	12
<b>Origin Energy</b>	✓	✗	✗	✓	✗	✗	✗	✗	✗	✗
<b>Energy Australia</b>	✓	✗	✗	✓	✗	✗	✗	✗	✗	✗
<b>Stanwell Corporation</b>	13	14	15	✓	✗	16	✗	✗	✗	16
<b>Alinta Energy</b>	✓ 17	✗	✗	✓	✗	✗	✗	✗	✗	✗
<b>AusNet Services</b>	✓ 18	✗	✗	✓	✗	✗	✗	✗	✗	19
<b>Australian Gas Infrastructure Group (AGIG)</b>	✓ 20	✗ 21	✗	✓	✗	✗	✗	✗	✗	22
<b>Jemena/SGSP Assets</b>	✓	✗	✗	✓	✗	✗	✗	✗	✗	✗



## Targets vs ambitions, aspirations, aims or goals

The use of the terms ambition, aspiration, aim or goal indicate a desire or hope rather than an ambitious, clearly identified and measurable target to attain Net Zero by 2050.

The strategic choice of non-committal language by some companies conveys to consumers the appearance of genuine commitment to reaching net zero by 2050 when in fact they may only aspire to achieve it.



## Case study – Energy Australia

EnergyAustralia has a Net Zero commitment (for Scope 1 and 2) and an ambition for Net Zero Scope 3. It discusses closures and retirements of assets and percentage reductions of emissions. However, EnergyAustralia's Climate Transition Action Plan<sup>23</sup> acknowledges that its current efforts are not aligned with the AEMO ISP pathway to 1.8°C of warming:

The delivery of NEM decarbonisation consistent with 1.8°C alignment remains an ambitious undertaking and is subject to a wide range of policy, market, economic and technology dependencies. The scale of investment required is enormous, and the success of the pathway is not assured...

We acknowledge that the decarbonisation efforts described within this Climate Transition Action Plan do not yet align our portfolio emissions intensity with the NEM average shown in AEMO ISP's 1.8°C pathway (noting estimates for EnergyAustralia's assets are included in this NEM average). EnergyAustralia will continue to pursue portfolio development projects, investments and innovations that move us closer to this benchmark.

This is an acknowledgement, without being explicitly stated, that EnergyAustralia is not meeting the UNHLEG minimum requirements for a credible net zero commitment to limit warming to 1.5°C. EnergyAustralia's Net Zero commitment may therefore mislead consumers into believing that more action is being taken than there really is.



## Targets vs ambitions, aspirations, aims or goals

### Case study – AusNet

AusNet makes a “commitment” to net zero<sup>24</sup> as extracted, and provides the extracted definitions.<sup>25</sup>

The “industry peers” referred to are BHP Climate Transition Plan 2021 and APA Climate Transition Plan 2022. The emissions include Scope 1 and 2 only, Scope 3 are excluded.

The chosen language does not facilitate a concrete pathway to reach Net Zero, rather, it is vague or generalised language open to interpretation which can result in consumers being misled.

The claims that are aspirational, a goal, aim or ambition are not of sufficient scope to meet the identified credibility criteria and may be classified as greenwashing and have the potential to mislead consumers.

### Emissions reduction target

We commit to an overall goal of net zero GHG emissions by 2045 for our Scope 1 and 2 emissions and an interim target<sup>7</sup> of 50 per cent reduction by 2030 relative to a 2022 baseline (Figure 5).

### Key definitions

To provide clarity about our approach to reducing emissions, AusNet has adopted the following definitions, in line with industry peers:<sup>51</sup>

- **Target:** An intended outcome about which we have identified one or more pathways for delivery of that outcome, subject to certain assumptions or conditions.
- **Goal:** An ambition to seek an outcome for which there is no current pathway(s) but for which efforts will be pursued towards addressing that challenge, subject to certain assumptions or conditions.





## Scope 3 emissions and different accounting approaches

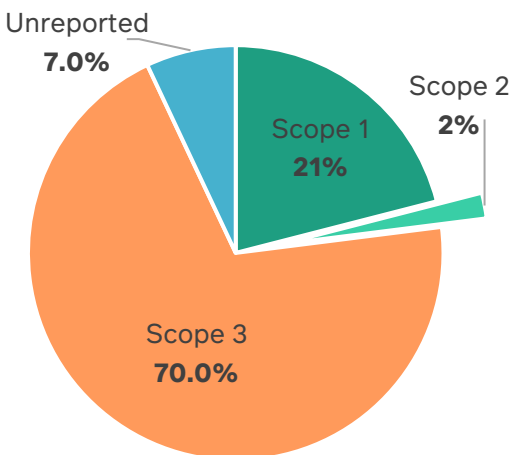
Electricity generation is the largest contributor to Australia’s greenhouse gas emissions, currently accounting for about one third of Australia’s emissions.<sup>26</sup> Reducing Scope 3 emissions is a challenge for the energy industry as it requires the phasing out of energy generation dependent on fossil fuels.

While most of the companies purport to have a Net Zero Commitment, only Origin Energy’s commitment includes Scope 3 emissions. There is concern however, that these purported commitments do not account for the true position of the company, nor for the responsibility the companies are taking to reduce these emissions.

While Origin purports to make a Net Zero commitment, its emissions are estimates, and while including the scope 3 emissions, Origin says it takes no responsibility for them. Finally, the Net Zero commitment does not consider emissions from any new gas projects under consideration.

The reliability of the Net Zero commitment is, based on these statements, questionable.

### Origin Energy’s reported emissions



Source: Origin Energy’s 2023 Sustainability Report, p 34.



## Case study – Origin Energy

Origin Energy does not include a clearly stated, verifiable process to address the company’s reported scope 3 emissions, which, in 2023 made up just over an estimated 70% of total emissions.

In relation to its Scope 3 emissions, Origin’s Climate Transition Action Plan states:

“Including these emissions in the calculations should in no way be construed as an acceptance by Origin of responsibility for these emissions.”

Further, while Origin’s Net Zero Commitment includes scope 3 emissions; Origin’s Net Zero commitment explicitly excludes emissions from any future developments such as the Beetaloo Basin.



## Scope 3 emissions and different accounting approaches



### Case study – Alinta Energy

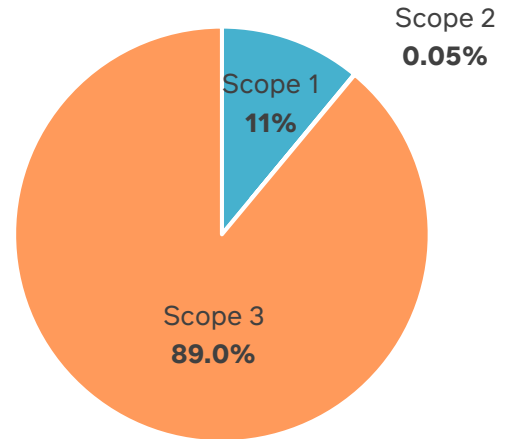
Alinta’s net zero commitment states ‘we have committed to achieve net zero carbon emissions by FY50.’<sup>32</sup>

The Pathway to Net Zero Plan details the two-step approach: reducing scope 1 and 2 emissions as close to zero as possible and offsetting residual emissions using credible offsets or renewable energy certificates.<sup>33</sup>

Alinta’s reported Scope 3 emissions account for 89% of its emissions yet they are excluded from the Pathway to Net Zero.

The Net Zero commitment can therefore be said to be misleading as it does not clearly reflect Alinta’s true position in relation to its emission reduction commitment.

### Alinta Energy’s reported emissions



Source: Alinta Energy Sustainability Report FY21, p 6.

The lack of clarity around what the Scope 3 emissions are, the variety of methods used for collecting and reporting the data (including estimates), and the discretion employed when identifying relevant categories of Scope 3 to include in the reporting make it extremely difficult to measure and compare a company's environmental performance.

Of most concern is that very few of the audited companies address the reduction of Scope 3 emissions in their Net Zero commitment. Given Scope 1 and 2 emissions make up a small percentage of total emissions, consumers may be misled into believing companies are taking far greater action than they really are.



## Reliance on carbon offsets rather than actual emissions reductions

Across the sector there is excessive reliance on carbon offsetting through removal and avoidance offsets.

Removal offsetting is the removal and sequestration of an equivalent quantity of greenhouse gas emissions already in the atmosphere for at least as long as the underlying emissions are expected to remain in the atmosphere.<sup>35</sup>

Avoidance offsetting includes actions taken to avoid emitting prospective greenhouse gas emissions, based on a theoretical counterfactual, the emissions that would have occurred had the avoidance action not been taken, the verification of which is highly subjective.<sup>36</sup>

Offsetting is achieved in several ways; through the acquisition and retirement of carbon credits, predominantly Australian Carbon Credit Units (**ACCUs**) to offset actual emissions; through the direct investment in Nature Based Solutions (**NBS**) such as AGL's Westmere Regeneration Project,<sup>37</sup> which avoid or reduce emissions by protecting or enhancing biodiversity; and through technology solutions such as Carbon Capture and Storage or Use (**CCS/U**) which avoids greenhouse gas emissions. An excessive reliance on offsets undermines Net Zero commitments as it replaces concrete action to reduce absolute emissions which is the priority this decade.

There is concern about the veracity of the ACCUs, with claims that up to 80% of the carbon credits issued are flawed or devoid of integrity, achieving little in the way of abatement and additionality.<sup>38</sup> Often low-integrity credits are being used to offset emissions which allows real emission increases, rather than representing genuine and additional abatement.<sup>39</sup>

A recent investigation into a large supplier of carbon offsets found that more than 90% of the rainforest offset credits do not represent genuine offsets and were likely to be 'phantom credits'.<sup>40</sup>

**Non-state actors must prioritise urgent and deep reduction of emissions across their value chain. High integrity carbon credits in voluntary markets should be used for beyond value chain mitigation but cannot be counted toward a non-state actor's interim emissions reductions required by its net zero pathway.<sup>34</sup>**

The Science Based Targets initiative's (SBTi) Corporate Net Zero Standard says that the use of carbon credits must not be counted as emission reductions toward the progress of companies' near-term or long-term science-based targets, and carbon credits may only be considered as an option for neutralising residual emissions or to finance additional climate mitigation beyond their science-based emission reduction targets.<sup>41</sup>



## Case studies

Alinta states that it intends to use carbon credits to offset all scope 2 emissions,<sup>42</sup> AGL intends to use carbon credits to offset scope 1 and 2 emissions from specific sources,<sup>43</sup> and EnergyAustralia states that it will use carbon offsets for scope 1 emissions from its Tallawarra B gas-fired peaking plant and for its programs that help consumers reduce their emissions (which are Energy Australia's scope 3 emissions).<sup>44</sup>

Origin states that it envisions offsets playing a limited role for hard to abate emissions but provides no more clarification about what these consist of.<sup>45</sup> Neither Jemena, AGIG nor AusNet provide any information regarding the use of offsets.

For most companies that intend to use offsets there is no verification provided as to where the offsets are likely to come from or whether there will be any verification process in place to ensure their legitimacy. Only EnergyAustralia specifically outlines what type of credits it will use for which projects and that it will engage external assessors to ensure vetting and quality assessment.

# Case study – ‘carbon neutral’ energy products and Climate Active certification

Energy Australia (Go Neutral), Alinta Energy (Carbon Balance), Origin Energy (Go Zero) and AGL (Carbon Neutral) offer Carbon Neutral energy.<sup>47</sup>

Carbon Neutral

**Make a difference.  
Go Carbon Neutral.**

Carbon Neutral options are available on most of our products. So, whether you're using AGL energy, internet or mobile, you can make a difference.

**Support a better future  
with Carbon Balance**

Sign up today to reduce your carbon footprint and help make a difference.

**Opt in for carbon neutral for your home energy – your electricity or gas, or both - and have a positive impact on the environment.**

We know one of the largest sources of greenhouse gas emissions is from burning fossil fuels for energy. These carbon emissions increase the effects of climate change.

When you opt in to our carbon neutral product, Go Neutral, we calculate the emissions associated with your household energy use – your electricity or gas, or both – and purchase corresponding carbon offsets to cancel out the emissions, making your home energy use carbon neutral.

And it's all at no extra cost to you.

Origin Go Zero – is an optional carbon offset “add on” that you can add to the same power that you buy today, except we offset the emissions associated with the generation, supply and use of the electricity or gas consumed by your business. GreenPower and Origin Go Zero are different products that offer different benefits.

These products rely on the purchasing of ‘certified’ Climate Active carbon credits to offset carbon emissions. There are concerns and now a court challenge that the use of the Climate Active trademark program and its carbon neutral claims may be misleading or deceptive.<sup>48</sup> The program contemplates the use of offsets or carbon credits, rather than an absolute reduction in emissions which is not considered best practice in accordance with best available science, the Paris Agreement or the UNHLEG Report.

Further, the use of the trademark on products can be confusing and unclear to consumers who may assume the entire business has been certified, not just the product. The certification is not yet registered as a certification trademark, and the application, lodged in 2019, has been suspended until further notice. The reliance on this certification then brings into question the net zero commitments which rely on the certification and offsets rather than absolute emission reduction to meet the commitments.

There needs to be greater transparency about how and what offsets are being issued for, whether the projects provide true abatement projects, and whether the projects are sustainable to ensure the claimed abatements are met for the life of the emissions for which they were claimed. The public should be able to see the forests that are being credited or understand if the carbon credits are instead avoidance emissions. The heavy reliance on offsets by the audited companies raises concerns with the credibility of the Net Zero commitments. The lack of certainty as to how the offsets are being used and whether they are being used in place of actual reductions to meet net zero commitments may result in potentially misleading practices and greenwashing.







## Scenario shopping

Emissions scenarios are used to assist in climate change analysis for the assessment of impacts, adaptation and mitigation.<sup>51</sup>

The most widely recognised emissions scenarios are the Intergovernmental Panel on Climate Change (**IPCC**) which sets out the Representative Concentration Pathways (**RCPPs**), four pathways that describe different levels of greenhouse gases that might occur in the future.

Additionally, the International Energy Agency (**IEA**) has developed the Net Zero Emissions by 2050 Scenario (**NZE**) which it describes as a “normative scenario that shows a pathway for the global energy sector to achieve Net Zero CO<sub>2</sub> emissions by 2050.”<sup>52</sup>

The audits have revealed that there appears to be a practice of “scenario shopping” to justify approaches to emissions reduction or give credibility to statements made in Climate or ESG reports. Further, where the recognised IPCC and IEA scenarios are deemed inappropriate, companies are relying on alternative scenarios as the basis of their modelling.<sup>53</sup>

Net Zero commitments are powerful signals to consumers and the market that a company is taking climate change seriously and has a plan to reduce its emissions to the degree and with the speed required. The reliance on scenarios that, while meeting net zero, do not keep warming to 1.5 degrees, in line with the Paris Agreement, needs to be clearly outlined. Where this is not the case, consumers may be misled to believe the companies are taking greater action than they really are.



### Case studies

Both AGL and EnergyAustralia have chosen AMEO ISP scenarios that align with a 1.8 degrees of warming pathway.<sup>54</sup>

Both companies claim that uncertainties around policy settings and the speed at which the national energy system can transition mean it is unlikely they will be able to close their coal-fired assets in line with 1.5 degrees modelling. They have therefore chosen to rely on a pathway that will result in 1.8 degrees of warming.



## No definitive commitments to phase out fossil fuels by 2050

While some companies audited have set clear timelines for phasing out some fossil fuel assets from their portfolios, no company has set a clear trajectory for complete exit from their use. Most companies audited make no commitment at all.

The UNHLEG Report states:<sup>60</sup>

All net zero pledges should include specific targets aimed at ending the use of and/or support for fossil fuels in line with IPCC and IEA net zero greenhouse gas emissions modelled pathways that limit warming to 1.5 degrees with no or limited overshoot, with global emissions declining by at least 50% by 2030, reaching net zero CO2 emissions by 2050, followed by net zero greenhouse gas emissions soon after.

The absence of a commitment to phase out fossil fuels is inconsistent with a net zero commitment resulting in these claims being potentially misleading.

## Case studies

### EnergyAustralia

Energy Australia has set closure dates for its coal- and gas-fired power stations.<sup>55</sup> However, EnergyAustralia have also begun construction of the Tallawarra B gas-fired power station with no statement about how long it will operate for. They state the intention that the asset will blend renewable hydrogen but acknowledge that there is no certainty around the commercial or practical viability of blending greater amounts of hydrogen.<sup>56</sup> This essentially means the company is accepting the potential to be involved in natural gas power generation beyond 2050. The company states it intends to use credits to offset Tallawarra B's emissions.

### Origin

Origin has committed to closing its Eraring coal-fired power station by 2025,<sup>57</sup> but has not made any commitments to phasing out production or supply of natural gas to both domestic and international markets. Origin states that it expects 'operations to grow in the coming years, with increases in the number of wells online, the number of workovers performed and the network of gathering pipelines.'<sup>58</sup> This conflicts with Origin's commitment to have net zero scope 3 emissions by 2050.

### Alinta

Alinta Energy have a range of fossil-fuel powered power stations (gas, diesel, and coal) and supply gas via their transmission pipelines. The company has not made any commitment to close these or reduce its supply of natural gas.<sup>59</sup>



## Reliance on fossil gas

Fossil gas is mostly comprised of methane, significant quantities of which are released into the atmosphere at every point along the gas supply chain. In addition to greenhouse gas emissions associated with extraction and production of gas, the combustion of fossil gas to produce energy releases significant quantities of greenhouse gases.

When accounting for fugitive emissions during extraction, processing and transport, gas has significant greenhouse gas emissions.<sup>61</sup> According to a report by Climate Analytics, data from the National Energy Market demonstrates that average greenhouse gas emissions per unit of gas generation in Australia is 61% that of coal.<sup>62</sup>

## Case studies

### AGL

AGL will continue to rely on its gas peaking plant and offset Scope 1 and 2 emissions following closure of its coal-fired power stations.<sup>63</sup>

### Origin

Origin believes that there will continue to be a long-term role for natural gas to maintain energy security and support the energy transition.<sup>64</sup>

The reliance on natural gas by the companies the subject of the audit undermines the credibility of their Net Zero commitments.



## Use of different terminology to define boundaries for GHG reporting

While seemingly innocuous, the difference in the terminology can be significant.

Emission intensity is the volume of emissions produced against another relevant unit, such as emissions per unit of output or dollar generated.<sup>65</sup> When relying on emission intensity, if production or dollars generated grows then so do emissions.

Absolute emissions reduction is the reduction of the physical amount of greenhouse gases emitted into the atmosphere over time.<sup>66</sup>

Net emissions contemplate the balance between greenhouse gas emissions produced and greenhouse gas emissions taken out of the atmosphere.<sup>67</sup>

Operational emissions are those emissions from sites operated by the relevant company. Where there are joint ventures, those emissions may be allocated between the respective companies.

Equity emissions are those emissions from operations and assets attributable to a company based on its share of equity of the operation. It is argued that this is perhaps the simplest and most straightforward accounting method.<sup>68</sup> Under the control approach, a company accounts for the emissions from operations over which it has control. This does not include emissions from operations it has a financial stake in but does not control.

The inconsistency of terminology makes it difficult to understand whether emissions are being reduced to meet Net Zero targets. It also makes it difficult for consumers to compare the environmental performance of different companies.

The UNHLEG Report<sup>69</sup> states:

Non-state actors cannot focus on reducing the intensity of their emissions rather than their absolute emissions or tackling only a part of their emissions rather than their full value chain (scopes 1, 2 and 3).

### Case studies

Origin and Alinta frame their emissions reduction targets in terms of emissions intensity rather than absolute emissions.<sup>70</sup>

As outlined above, there is no consistency in the reporting of emissions. The audited companies use a variety of approaches to account for and define their emission boundaries. Reporting refers to emissions intensity, absolute emissions, operated (or operational) and non-operated (or non-operational) emissions, total equity emissions or absolute emissions, and cumulative equity emissions. Some companies use a variety of approaches within their emissions reporting.

The variety of ways used to define emission boundaries, report and account for emissions makes it extremely difficult for consumers to understand and compare the true position of environmental performance of these companies. The use of a variety of approaches within their emissions reporting can lead to a distortion of the true position and can be potentially misleading.



## Reliance on hydrogen

Most companies audited rely to some degree on hydrogen energy generation to meet their emissions targets.

Green hydrogen produces no greenhouse gas emissions, as it is made by using clean energy to split water into hydrogen and oxygen.<sup>71</sup> While green hydrogen may be clean,<sup>72</sup> there is significant uncertainty about when and to what extent it may be commercially viable.<sup>73</sup>

### Case studies

AGL, Energy Australia, AGIG and Jemena's strategy to reach net zero emissions by 2050 relies on the integration of hydrogen into their current asset portfolio. These companies state they will only use green hydrogen, not blue or grey hydrogen which rely on fossil gas and produces emissions.<sup>74</sup> AGIG and Jemena term green hydrogen 'renewable gas'.<sup>75</sup>

The degree of uncertainty regarding the viability of hydrogen means that net zero statements that depend on it may not be able to demonstrate that they have a reasonable basis.<sup>76</sup>

Further, the current gas infrastructure and in-home appliances only allow for up to approximately 10% blended gas.<sup>77</sup> Without considerable capital expenditure and new infrastructure, companies cannot integrate greater volumes of hydrogen into the mix.<sup>78</sup> This is particularly relevant for AGIG as its entire transition plan depends on introducing 100% hydrogen in its transmission pipelines by 2050 at the latest and 2040 as a stretch target.<sup>79</sup>





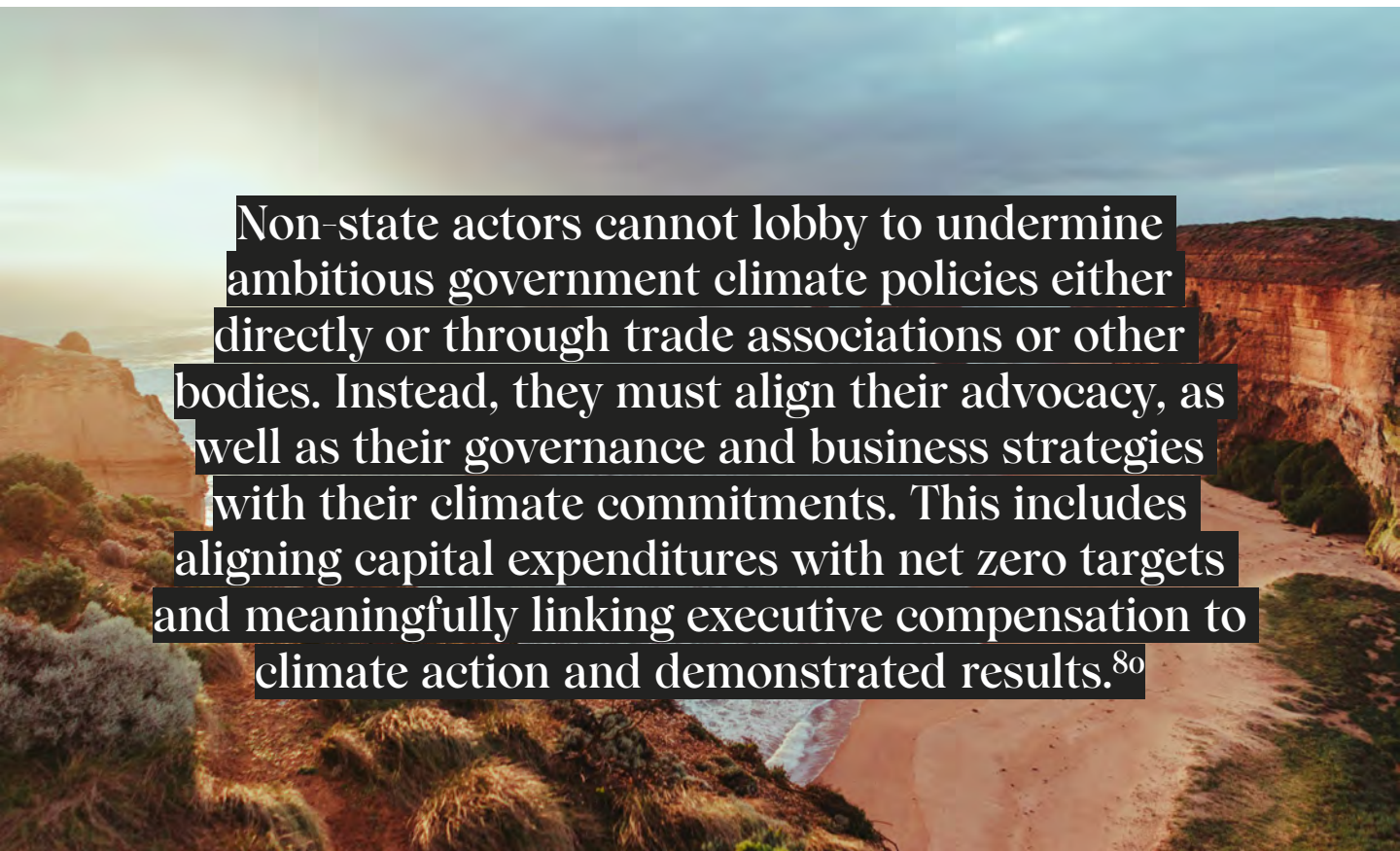
## Lobbying and advocacy

Lack of support for regulation designed to curb Australia's emissions has been demonstrated through companies lobbying government, either directly or via member associations. This contradicts any net zero commitments the companies purport to make and can therefore mislead consumers.

Origin opposed the proposal to limit Safeguard Mechanism facilities' access to Australian Carbon Credit Units (ACCUs) through the Emissions Reductions Fund (ERF) and advocated for the inclusion of international offsets.<sup>81</sup> This means they supported greater access to and use of credits rather than being forced to undertake genuine emissions reductions.

AGL has actively supported improving the efficacy of climate-related legislation. In 2023 AGL declared support for declining baselines in support of Australia's emissions targets and opted not to support provisions for Emissions-Intensive Trade-Exposed Facilities in the safeguard Mechanism.<sup>82</sup> This demonstrates AGL's support for implementing regulation that places more demanding expectations on high emitting industries.

A companies' public facing claims must align with the lobbying and advocacy that the companies either directly or indirectly participate in. Based on the above summary, it cannot be said that, overall, this is being achieved.



**Non-state actors cannot lobby to undermine ambitious government climate policies either directly or through trade associations or other bodies. Instead, they must align their advocacy, as well as their governance and business strategies with their climate commitments. This includes aligning capital expenditures with net zero targets and meaningfully linking executive compensation to climate action and demonstrated results.<sup>80</sup>**



## Uncertainty

### Case study – AGL

AGL identify 16 issues as material risks to achieving its targets and commitments.<sup>83</sup> These include lack of supportive market structures, discoordination between federal and state governments, environmental regulation and infrastructure.

Most of the audited companies refer to the lack of certainty around regulation, reporting requirements and emissions reduction requirements or the global trajectory to justify their inaction.

While the audited companies have largely made Net Zero commitments, there is significant reliance on global uncertainty, and policy uncertainty within Australia to justify inaction to make Net Zero commitments or to act on their purported commitments. This inaction contradicts the commitments made, which could therefore be considered greenwashing.



# > Physical risk to the business

In the Commonwealth Treasury’s consultation paper on climate-related financial disclosure, it observed that:

*Climate change is recognised internationally as a material risk to the global financial system – a risk which needs to be managed by capital markets, regulators and corporations. This includes both the physical risks of climate change and the transition risks associated with policy, regulatory and technological change brought on by efforts to mitigate climate change.*<sup>84</sup>

Physical risk resulting from climate change can present a material risk to a business. It includes both longer-term changes in climate (chronic risk) as well as changes to the frequency and magnitude of extreme weather events (acute risk), which cause direct damage to assets or property, changes to income and costs, and changes to the cost and availability of insurance.<sup>85</sup>

Climate-related physical risks have financial implications for companies including reduced revenue from decreased production capacity due to interruptions in the supply chain or access to operations being cut, increased operating costs because of inadequate water supply and reduced revenue and higher costs from negative impacts on the workforce.

This table summarises whether the identified companies have included physical risk to the business in their reporting or prospectuses.

Company	Do they identify physical risks to the business from climate change?	
<b>AGL Energy Limited</b>	✓	86
<b>Origin Energy Ltd</b>	✓	87
<b>EnergyAustralia Holdings Limited</b>	✓	88
<b>Stanwell Corporation Ltd</b>	✗	89
<b>Alinta Energy Pty Ltd</b>	✗	90
<b>AusNet Services Ltd</b>	✓	91
<b>Australian Gas Infrastructure Group (AGIG)</b>	✗	92
<b>Jemena/SGSP Assets Pty Ltd</b>	✗	93

Alinta, AGIG, and Jemena only provide brief statements that they acknowledge physical risks may have some impact on their operations. All three state they intend to begin aligning their reporting with the Taskforce on Climate-Related Financial Disclosures<sup>94</sup> - which requires a comprehensive identification of physical risks, consequences and risk management approaches - by 2024.<sup>95</sup>





## Case studies – physical risk to the business

**Origin Energy** offers only a simplistic categorisation of physical risk, no asset specific assessment and only high-level statements about likely impacts on their business.<sup>96</sup>

Physical Risks		
Chronic Risk time horizon: Short – Long	Changing weather patterns may influence the demand for energy, which could impact Origin’s revenues and future financial performance.	<ul style="list-style-type: none"> <li>Origin is applying advanced data analytics capability to better predict customer demand and to increase our supply of renewables and flexible capacity to meet changes in demand.</li> <li>More details are in the ‘Changes in demand for energy’ strategic risk above.</li> </ul>
Acute Risk time horizon: Short – Long	Changing and more frequent and severe weather conditions, including floods, droughts, bushfires, and extreme temperature events could disrupt our operations or impact the efficacy of our assets, and supporting distribution and transmission infrastructure. This could lead to increased operating costs, increased maintenance and capital expenditure, the risk of environmental incidents and higher insurance costs or restrictions on accessing insurance.	<ul style="list-style-type: none"> <li>Origin has extreme weather event preparation processes including comprehensive seasonal readiness activities and emergency response plans.</li> <li>Our operational planning and design processes incorporate extreme weather events, while investment decisions for major growth projects, incorporate potential financial losses from natural disasters.</li> </ul>

1 Pursuant to the methodology outlined in the Climate Transition Action Plan.

**Time horizons:** Short-term: up to three years; Medium-term: three to 10 years; Long-term: beyond 10 years

**Source:** Origin Energy, 2023 Annual Report, 45.

In contrast, **AGL** provides in-depth asset specific assessment, and detailed identification of potential consequences.<sup>97</sup>

Table 5.3.2.1: Change in risk from 2020 to 2030 for impacts on availability - thermal assets

Physical hazard	AGL Macquarie power stations Accel Energy	Torrens Island Power Station Accel Energy	Barker Inlet Power Station AGL Australia	Loy Yang A Power Station Accel Energy	Somerton Power Station AGL Australia	Kwinana Swift Power Station AGL Australia
Extreme wind events	○	○	○	○	○	○
Extreme rainfall and floods	○	○	○	○	○	○
Extreme fire weather days	↗	↗	↗	↗	↗	↗
Extreme heat wave events	↗	↗	↗	↗	↗	↗
Storm surge and coastal flooding	○	↗	↗	○	○	○
Extended drought periods	↗	○	○	↗	○	○

Key: ↗ Increasing risk, ↗ Small increase in risk, ○ Stable risk

Table 5.3.2.2: Change in risk from 2020 to 2030 for impacts on availability - renewable assets

	Qld. wind AGL Australia	NSW wind AGL Australia	Vic. wind Accel Energy	SA wind Accel Energy	NSW hydro AGL Australia	Vic. hydro AGL Australia	NSW solar AGL Australia
Extreme wind events	↗	↗	↗	↗	○	○	○
Extreme rainfall and floods	○	○	○	○	○	↗	○
Extreme fire weather days	↗	↗	↗	↗	↗	↗	↗
Extreme heat wave events	↗	↗	↗	↗	○	○	↗
Storm surge and coastal flooding	○	○	○	○	○	○	○
Extended drought periods	○	○	○	○	↗	↗	○

Key: ↗ Increasing risk, ↗ Small increase in risk, ○ Stable risk

**Source:** AGL, Accelerating Our Transition FY2021 TCFD Report, 23.

AGL’s disclosures in relation to and assessment of physical risk include the following:

Table 5.3.1.1: Electricity sector physical climate risk matrix (source: ESCI Project<sup>1</sup>)

Energy sector issues							
	Underlying customer demand	Embedded generation & storage	Networks-ratings	Networks-failures	Generation markets	Customer impact from outage	
Impacts from climate change	Extreme heat	Changing mean and extreme weather influences customer behaviour	Higher temperatures reduce panel and inverter performance	Equipment may de-rate at higher temperatures, particularly plant and transmission lines, due to sagging	Equipment under stress may fail more frequently	Generation plant may reduce output at higher temperatures	Higher fatality rate, higher discomfort
	Destructive events (wind, heavy rainfall, flooding)	Minor regional change to customer behaviour	Minor regional change to availability	De-rating due to expected failure	Circuits and equipment may be damaged or trip with exposure	Circuits and equipment may be damaged or trip with exposure	Desire for rapid restoration times
	Reduced streamflow					May reduce hydro generation and cooling water availability	
	Bushfires	Minor regional change to customer behaviour	Minor regional change to availability		Circuits and equipment may be damaged or trip with fire exposure	Regional changes to availability and possible plant damage	Increased severity and frequency of network outages caused by bushfires
	Increased dust or smoke		Reduction in rooftop solar	De-rating caused by dust and smoke	Increase in pole-top fires and arcing		
	Sea level rise	Minor regional change to customer behaviour	Minor regional change to availability		Relocation of some transmission assets may be required	Some generation assets may be in low lying areas	
	Extreme cold	Changing mean and extreme weather influences customer behaviour		Ice may result in de-rating	Equipment under stress may fail more frequently	May reduce hydro generation	Higher fatality rate, higher discomfort
	Droughts	Changing agricultural viability influence regional population and economies					
	High levels of wind variation	May influence felt experience				May reduce wind generation	

1. ESCI Project, Report for the First Weather and Climate Risk Scenario, May 2019, Figure 1 - Weather and climate - NEM interaction inventory, available at [climatechangeinaustralia.gov.au](https://climatechangeinaustralia.gov.au)

Key

High linkage	Moderate linkage	Some linkage	No linkage
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Source: AGL, Accelerating Our Transition FY2021 TCFD Report, 22.

ASIC considers that disclosing and managing climate-related risk is a “key director responsibility,”<sup>98</sup> and that “directors and officers of listed companies need to understand and continually reassess existing and emerging risks that may be applicable to the company’s business, including physical and transitional climate risk.”<sup>99</sup> Further work needs to be done to ensure consumers and investors are aware of the potential climate-related risks to the companies they are investing in.

# ➤ Potential greenwashing in environmental statements, claims and use of terms

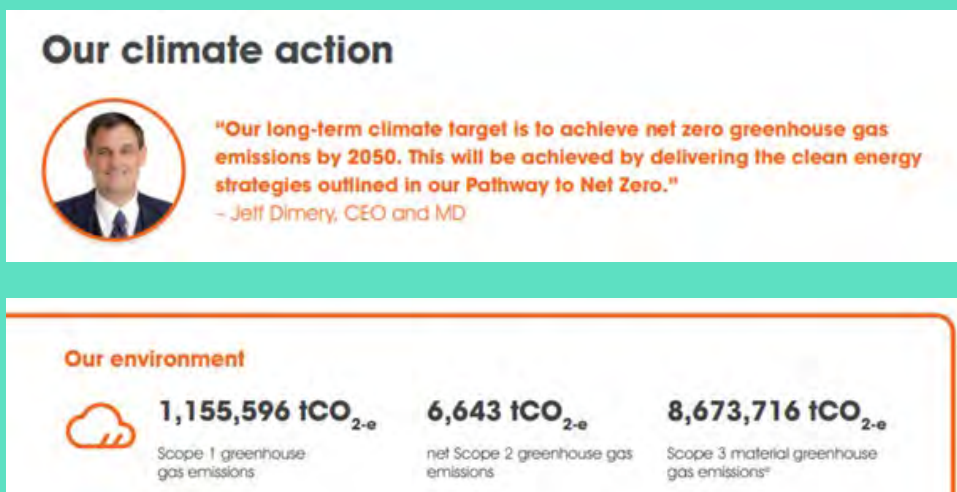
There is growing awareness of the issues associated with potential greenwashing.<sup>100</sup>

To determine whether the identified companies may have made claims that could be considered greenwashing, a sweep of their websites, social media, prospectus, product disclosure statements and market statements was undertaken. Case studies have been used to discuss examples found during the sweep.



## Case study – Alinta Energy Group

Alinta has published an intention to achieve net zero emissions by 2050. Its net zero statement does not clearly articulate what scope of emissions the commitment is intended to apply to. As described by the ACCC Draft Guidance, any conditions or qualifications that may affect the truthfulness of an environmental claim must be fully explained.<sup>101</sup> Scope 3 emissions make up 88% of Alinta's total emissions. The way the information is presented would indicate Scope 3 emissions are included in Alinta's climate action. The lack of clarification of whether they are included under the target has significant implications for consumers.<sup>102</sup>



**Source:** Alinta Energy Group, *Sustainability Report 2021-2022*, 4.

Much later in the report it becomes clear that Scope 3 emissions are excluded, that is Alinta’s Net Zero commitment only covers 12% of its total emissions. When applying the UNHLEG requirement that net zero claims should address the full lifecycle of a product or process, that is scope 1, 2 and 3,<sup>103</sup> the exclusion of scope 3 emissions brings into question the credibility of the net zero commitment. Further, it raises the concern that the initial statement on climate action is misleading.



**Our climate targets**  
The climate targets discussed throughout this report are summarised below.

Target <sup>a</sup>	Timing	
	By FY25	By FY50
Renewable generation and/or storage capacity <sup>b</sup>	1,500MW	No target set
Net Scope 1 emissions <sup>c</sup>	40% reduction <sup>d</sup> in emission intensity to 0.400 tCO <sub>2</sub> e/MWh of total generation	Net zero Scope 1 and Scope 2 emissions <sup>e</sup>
Net Scope 2 emissions <sup>c</sup>	Net zero	

**Source:** Alinta Energy Group, *Sustainability Report 2021-2022*, 44.

Alinta has currently only published interim targets for 2025, not the short, medium and long-term targets based on a 1.5 degrees model as set out in the UNHLEG Report. This lack of a verifiable and measurable climate transition plan contradicts ASIC’s requirement that environmental statements must have a reasonable basis.<sup>104</sup> Where the reasonable basis is not provided, there is potential for a finding of greenwashing.



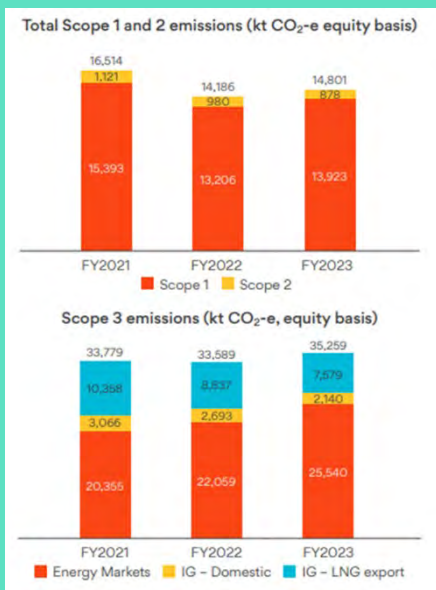
## Case study – Origin Energy



Source: Origin Energy, *Climate Transition Action Plan*, 10.

Commitments to reduce emissions intensity rather than absolute emissions leaves the possibility that even while emissions intensity decreases, actual emissions will increase.<sup>105</sup> This makes it difficult for consumers to assess the actual impact Origin’s commitments will have on overall emissions reductions. It also makes it difficult for consumers to compare Origin’s claims with other companies in the sector who have aligned themselves with the UNHLEG requirement to measure reductions by percentage of absolute emissions.

Origin’s commitment to a 20 metric tonne reduction in CO<sub>2</sub>-e by 2030 may cause confusion for consumers as Origin reports its emissions in kilo tonnes of CO<sub>2</sub>-e. The inconsistency in the units of measurement for the target and reporting may be misleading.



Source: Origin Energy, *2023 Sustainability Report*, 34.

The company’s total scope 1, 2 and 3 emissions for 2023 amounted to 50,060 kt CO<sub>2</sub>-e. To assess what portion 20 mt CO<sub>2</sub>-e represents of this total requires an extensive understanding of climate metrics and calculation that the average consumer or investor is unlikely to have.

The ACCC Draft Guidance requires companies use clear and easy to understand language and clarify potentially misleading claims. The use of different terms and metrics rather than clear percentages of absolute emissions reductions fails to satisfy this standard. Further, Ads Standards require that statements result in benefits to the environment. Reductions based on emissions intensity are not guaranteed to deliver this. These omissions from the representations raise concerns that the information is misleading and may be examples of greenwashing.



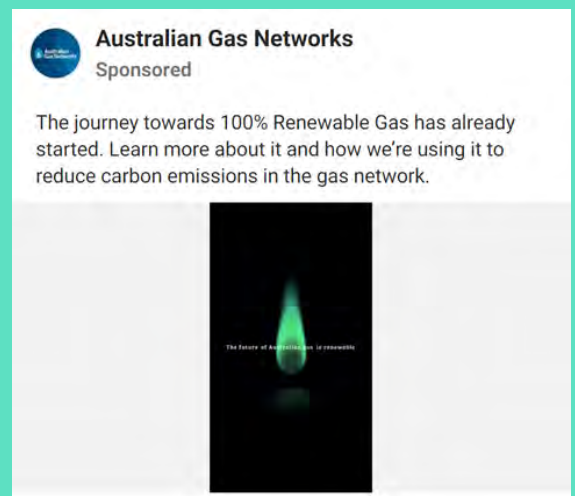
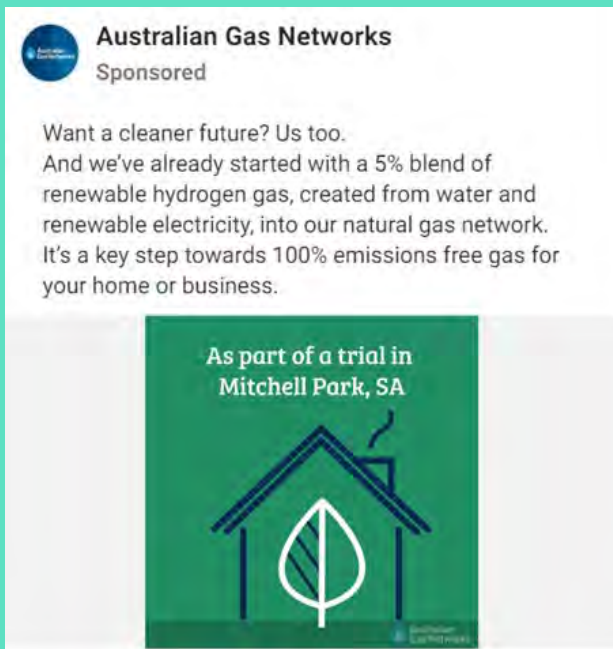
## Case study – AGIG ‘renewable gas’ claims

AGIG’s emissions reduction targets depend entirely on transitioning from natural gas to hydrogen and biomethane. Their targets include blending 5% of hydrogen in their network by 2030 and 100% by 2040 as a stretch target and by 2050 at the latest.<sup>106</sup> The company has engaged in a targeted campaign to market their ‘renewable gas’ product to consumers. Renewable gas is a term increasingly used by players in the gas industry to describe hydrogen that is created using electricity generated by renewable energy sources such as wind and solar.



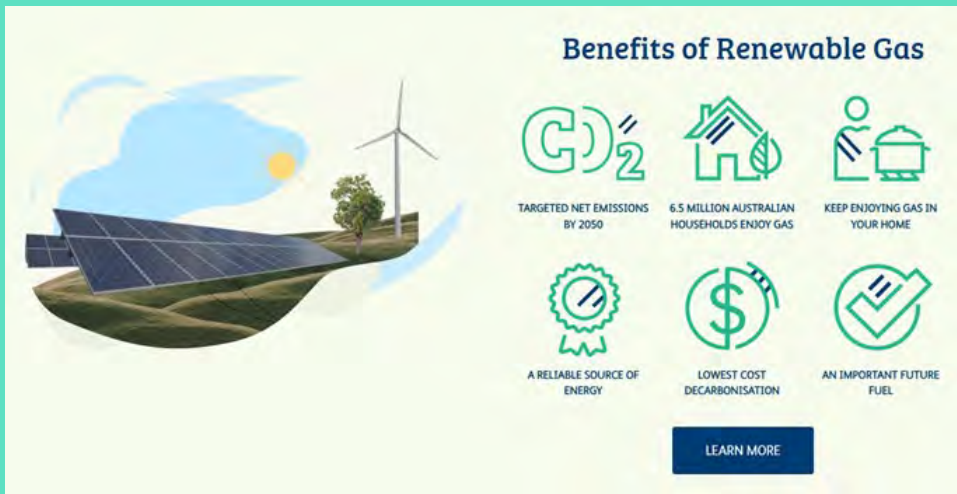
Source: [Renewable Gas | AGIG](#)

The advertisements also create the impression that renewable gas is broadly available and that the total make-up of the gas being received is renewable. In fact, as of March 2023 only 4,000 homes in South Australia received gas with 5% renewable gas included. The other 95% of gas in that blend, and all AGIG’s other gas supply around Australia, is currently still constituted by the production of natural gas.



Source: [Ad Library \(facebook.com\)](#)

Further, AGIG’s advertisements imply that 100% hydrogen is both viable and a cost-effective way to reduce emissions. A recent study by the International Renewable Energy Agency (IRENA) found that while blending renewable gas with natural gas can be an option to use existing gas infrastructure it faces multiple challenges.<sup>107</sup> The benefits of blending in terms of reduced CO2 emissions is small, it increases gas prices, is only at pilot project scale and is not an option that is readily available. Based on this reasoning, blending is not included in IRENA’s analysis of viable options as the challenges outweighed the benefits.<sup>108</sup>



**Source:** [What is renewable gas | Australian Gas Networks](#)

AGIG directly encourages consumers to continue to use gas, stating that it will ‘work in the background’ to decarbonise gas supply. Its advertisements do not clarify the current limited availability of renewable gas, the 10–30-year timeframe for delivery of that promise and the potential that 100% renewable gas may not be technically viable.



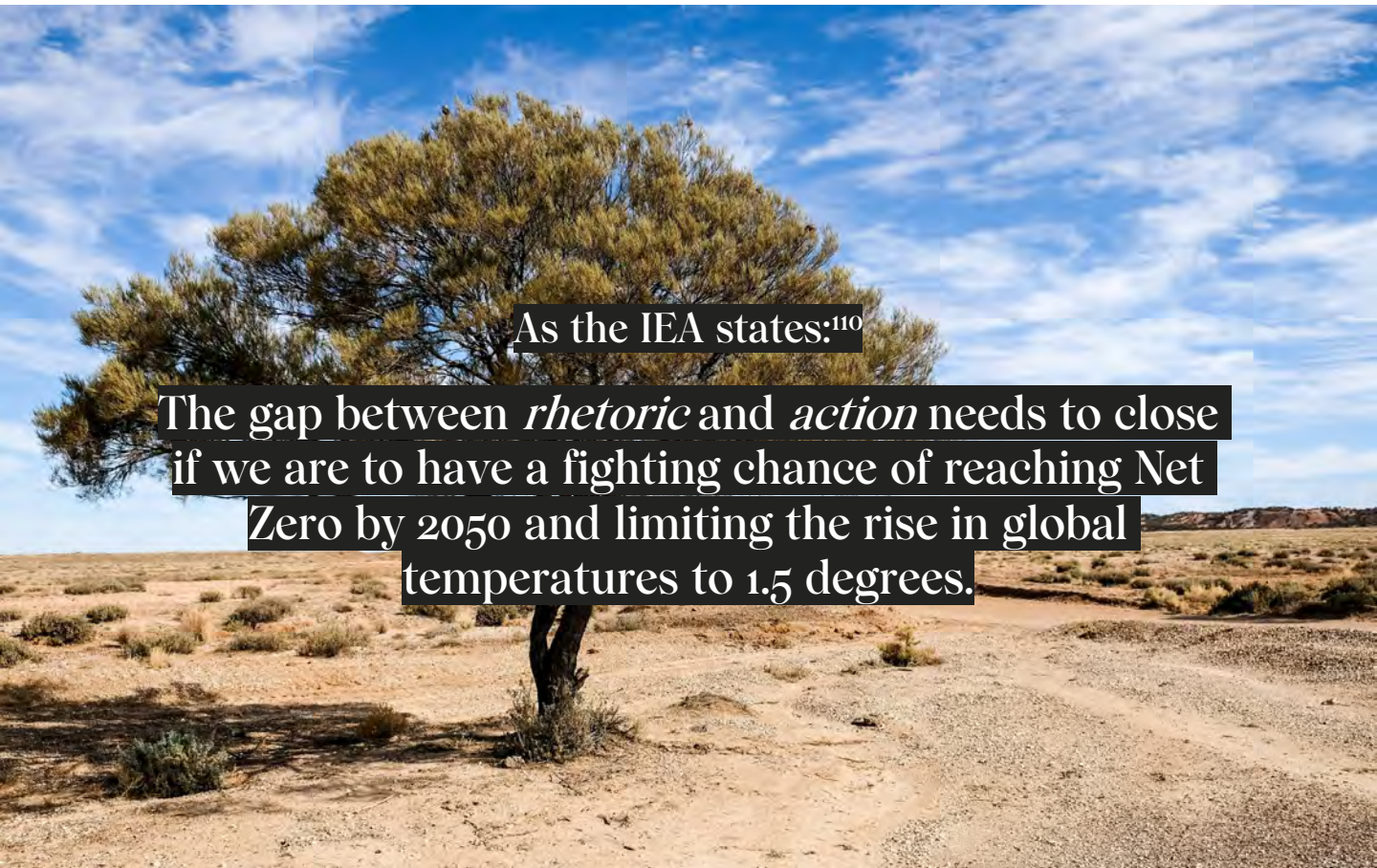
**Source:** [What is renewable gas | Australian Gas Networks](#)

The ACCC’s draft guidance requires that companies making environmental claims do not leave out or hide information, that they explain conditions that qualify their claims and avoid broad and unqualified claims.<sup>109</sup> AGIG’s advertisement of its renewable gas product does not satisfy this standard and may amount to misleading and deceptive conduct.

## > Conclusion

There are encouraging signs that some leading players in Australia's energy sector are taking up the challenge of the transition and, to some degree, are aligning their practical actions with their public statements regarding reaching net zero. However, some crucial players are yet to fully embrace the change and there remain crucial gaps in each audited company's commitments and action plans.

The energy sector plays a foundational role in Australia's social functioning. Individual companies must back up their claims with long overdue action to ensure the industry's activities no longer undermine the health and wellbeing of our society.



As the IEA states:<sup>110</sup>

The gap between *rhetoric* and *action* needs to close if we are to have a fighting chance of reaching Net Zero by 2050 and limiting the rise in global temperatures to 1.5 degrees.



# > Appendix A

## What is a credible Net Zero plan?

Achieving “Net Zero” is the process in which greenhouse gas emissions are cut as close to zero as possible and any remaining emissions are re-absorbed from the atmosphere to ensure that anthropogenic emissions produced do not exceed emissions taken out of the atmosphere.<sup>111</sup> The Net Zero by 2050 target was set with an aim of limiting global warming to below 1.5°C and then maintaining that temperature so as to avoid wide-scale, irreversible environmental harm. As of 2022, Net Zero pledges cover over 91% of the global economy, an increase from 68% in 2021.<sup>112</sup>

A recent report by the United Nations High Level Expert Group on the Net Zero Commitments of Non-State Entities (**UNHLEG Report**) was developed with the specific aim of preventing the concept of “Net Zero” from being undermined by false claims, ambiguity and greenwashing.<sup>113</sup> It outlines specific recommendations for providing a credible Net Zero plan, sometimes referred to as a transition plan. The report suggests that Net Zero claims should address the full lifecycle of a product or process, that is scope 1, 2 and 3 emissions. It also recommends that companies should have short term science-based targets to support the long-term pledges. Plans should also show how the company intends to transition away from fossil fuels and should align their external policy and engagement efforts with their goals.

We have used this report to assess the credibility of Net Zero claims within the energy industry, and to highlight where they may be potentially misleading under the Australian Consumer Law or the *Corporations Act*.<sup>114</sup>

## Scope 1, 2 and 3 emissions

The Australian Government Clean Energy Regulator defines Scope 1, 2 and 3 emissions as follows:<sup>115</sup>

- **Scope 1:** Emissions released into the atmosphere as a direct result of an activity or series of activities at a facility level. They are sometimes referred to as direct emissions.
- **Scope 2:** Emissions released to the atmosphere from the indirect consumption of an energy commodity. These are sometimes referred to as ‘indirect emissions’ which come from the use of electricity produced by the burning of fossil fuels in another facility.
- **Scope 3:** These are indirect emissions, other than Scope 2, that are generated in the wider economy. They result from the activities of a facility but from sources not owned or controlled by that facility’s business.



# Appendix B

## What is greenwashing?

The increased awareness of the impacts of greenhouse gas emissions on climate change is leading to a global transition to a Net Zero economy. Consumers are increasingly interested in purchasing sustainable or environmentally friendly products which will assist in the reduction of greenhouse gas emissions.

Companies, in an endeavour to increase their market share in this space, are publishing environmental and sustainability claims in relation to their business and products. Claims may be product specific, where they appear on websites, advertisements or social media; company-wide claims, appearing on websites or in reporting documents or corporate social responsibility documents; or claims using logos and symbols (such as certification trademarks) which can appear on websites or advertising.

Concerns arise where the claims made by businesses may be false, misleading, or have no reasonable basis. This is often known as 'greenwashing'.<sup>116</sup> Misleading climate claims, or greenwashing, is subject to the laws of misleading or deceptive conduct.<sup>117</sup>

## Greenwashing and environmental claims

The ACCC, in its draft guidance, has identified eight principles to help companies comply with their obligations under the Australian Consumer Law in relation to environmental and sustainability claims.<sup>118</sup> These include: make accurate and truthful claims; have evidence to back up the claims; don't leave out or hide important information; explain any conditions or qualifications on the claims;

avoid broad and unqualified claims; use clear and easy-to-understand language; visual elements should not give the wrong impression; and be direct and open about your sustainability transition.<sup>119</sup>

One of ASIC's priorities for 2024 includes enforcement action on greenwashing.<sup>120</sup> ASIC are increasingly taking regulatory action on company's misleading statements to promote fair and transparent markets.<sup>121</sup> ASIC wants to ensure that retail investors and financial consumers are well informed and not misled about the 'green credentials' of investments and listed companies.<sup>122</sup> ASIC is focusing on Net Zero statements and targets and claims of decarbonisation that do not appear to have a reasonable basis or are factually incorrect. Further, the use of terms such as 'carbon neutral', 'clean' or 'green' have been reviewed to ensure there is a reasonable basis for the claim. These statements, targets, claims and terms were used across prospectuses, websites, product disclosure statements, and market announcements.<sup>123</sup>

In recognition of the increased use of environmental claims in advertising, the Australian Association of National Advertisers and Ad Standards have adopted the Environmental Claims Code (**the Code**). The Code assists advertisers to fulfil their obligation to be truthful in their claims and not mislead or deceive consumers about the environmental benefits of their products and services. The Code sets out the three key elements advertising must meet as a truthful, factual presentation; a genuine benefit to the environment; and must be able to be substantiated and verifiable.<sup>124</sup>

# References

1. For more detail on Greenhouse Gas Emission types, including Scope 1, 2 and 3, and what constitutes Greenwashing, see **Appendix A** and **B**.
2. As of October 2023, Origin is in negotiations with Canadian investment company Brookfield Asset Management for the sale of the company. If the deal goes ahead Origin's net zero statements and transition plan may change significantly. This audit was conducted based on Origin's current position. See for example Peter Hannam, 'ACCC approves \$18.7bn Origin Energy Buyout to 'accelerate renewables rollout'', *The Guardian* (online, 10 October 2023)  
<<https://www.theguardian.com/australia-news/2023/oct/10/accc-approves-origin-energy-buyout-to-accelerate-renewables>>.
3. Department of Climate Change, Energy, Environment and Water, *Australian Energy Update 2023* (Report, 29 September 2023) 7  
<<https://www.energy.gov.au/sites/default/files/Australian%20Energy%20Update%202023.pdf>>.
4. Department of Climate Change, Energy, Environment and Water, *Australian Energy Update 2023* (Report, 29 September 2023) 7  
<<https://www.energy.gov.au/sites/default/files/Australian%20Energy%20Update%202023.pdf>>.
5. A petajoule is the equivalent of the amount of electricity used to power 37,183 households in a year: Department of Climate Change, Energy, Environment and Water, *Australian Energy Update 2023* (Report, 29 September 2023) 1, 5  
<<https://www.energy.gov.au/sites/default/files/Australian%20Energy%20Update%202023.pdf>>.
6. The Australia Institute, *Fossil Fuel Subsidies in Australia: Federal and State Government Assistance to the Fossil Fuel Producers and Major Users in 2021-2022* (Report, March 2022) 9  
<<https://australiainstitute.org.au/wp-content/uploads/2022/03/P1198-Fossil-fuel-subsidies-2022-WEB.pdf>>.
7. Department of Climate Change, Energy, the Environment and Water, *Quarterly Update of Australia's National Greenhouse Gas Inventory: March 2022*, (Report, 2022) 9, 11, 13, 16.  
<<https://www.dcceew.gov.au/sites/default/files/documents/nggi-quarterly-update-march-2022.pdf>>.
8. UN High-Level Legal Expert Group on the Net Zero Emissions Commitments of Non-State Entities, *Integrity Matters: Net Zero Commitments by Businesses, Financial Institutions, Cities and Regions* (Report)  
<[https://www.un.org/sites/un2.un.org/files/high-level\\_expert\\_group\\_n7b.pdf](https://www.un.org/sites/un2.un.org/files/high-level_expert_group_n7b.pdf)>.
9. Where available, information taken from: *Are you Paris compliant? Find out how companies are tracking on their CO2 emissions* (Web Site)  
<<https://www.areyoupariscompliant.com/>>.
10. Based on results from LobbyMap: LobbyMap, *LobbyMap Scores* (Webpage)  
<<https://lobbymap.org/LobbyMapScores>>.
11. AGL has committed to having net zero emissions for scope 1 and 2 emissions by the closure of their coal fired power stations, with final closure set for 2035. AGL has an ambition to have net zero scope 3 emissions by 2050: AGL, *Climate Transition Action Plan* (Report, 29 September 2022) 5  
<<https://www.agl.com.au/about-agl/sustainability/our-approach-to-the-environment>>.
12. AGL has been seen to be supporting of the Federal Government's approach to climate policy but has been less supportive of the NSW government's policy suggesting that targets should be set by the Federal Government.
13. Stanwell Corporation is owned by the Queensland government and is incorporated within its net zero commitment. The Queensland government has set the following targets.
  - 50 per cent renewable energy by 2030
  - 30 per cent reduction in emissions from 2005 baseline by 2030
  - 70 per cent renewable energy by 2032
  - 80 per cent renewable energy by 2035
  - Net zero emissions by 2050There does not appear to be a publicly available transition plan specific to Stanwell's operations. Instead the Queensland government's transition plan applies across various sectors: Queensland Government, *Queensland Climate Action Plan* (Web Page)  
<<https://www.des.qld.gov.au/climateaction/theplan/qld-climate-action-plan>>.
14. It is unclear whether all Scope 1, 2 and 3 emissions are being covered.
15. It is unclear whether there is reliance on nature based offsets however other Queensland Government departments are relying on nature based offsets to meet Net Zero commitments.
16. There is no information on Stanwell's lobbying activities as it is a government owned entity.

# References

17. Alinta Energy has a target to be net zero for its scope 1 and 2 emissions by 2050: Alinta Energy, *Sustainability Report – 2021-2022* (Report, 2022) 4 <<https://www.alintaenergy.com.au/about-us/sustainability>>.
18. AusNet Services, *Climate Change Position Statement* (Statement) <<https://www.ausnetservices.com.au/sustainability/environment-and-climate>>. AusNet's parent company, Brookfield has a target of net zero emissions across all assets under management. Brookfield Asset Management, *2021 ESG Report* (Report, 2022) <[https://www.brookfield.com/sites/default/files/2022-07/bam\\_esg\\_report\\_2021\\_final\\_2.pdf](https://www.brookfield.com/sites/default/files/2022-07/bam_esg_report_2021_final_2.pdf)>.
19. Brookfield Asset Management appears to have generally positive but limited engagement on climate policy. However, it does not appear to have published a review of its industry associations.
20. AGIG's Environmental, Social and Governance Report 2022 does not clearly include scope 1, 2 and 3 emissions. Instead, the company states that it will "target net zero emissions from its transmission and midstream assets by 2050." There are no interim targets to demonstrate how AGIG will achieve this. The company does have a clearly formatted plan to replace natural gas with hydrogen in its pipelines with targets for 10% hydrogen by 2030 and 100% hydrogen by 2040 as a stretch target and 2050 at the latest. There is no evidence that these targets are science-based on 1.5°C modelling. There is no provision for progressive reporting: AGIG, *Environmental, Social and Governance Report 2022* (Report 2022) <<https://www.agig.com.au/media-release---agig-releases-2022-esg-report>>.
21. AGIG does not currently report Scope 3 emissions as information is currently unavailable: AGIG, *Environmental, Social and Governance Report 2022* 10 (Report 2022) <<https://www.agig.com.au/media-release---agig-releases-2022-esg-report>>.
22. AGIG is owned by CK Infrastructure Holdings led consortium, a Hong Kong based company. Little information is found on the lobbying activities of the group.
23. EnergyAustralia, *Climate Transition Action Plan* (Plan, 2023) 19 <<https://www.energyaustralia.com.au/sites/default/files/2023-09/ClimateTransitionActionPlan.pdf>>.
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86. (cont.) AGL acknowledge the impacts of the disruption to business, including effects on coal haulage, caused by the 2022 floods in NSW and Queensland: AGL, *2022 Annual Report* (Report 2022) 4, 14, 15, 17 <<https://www.agl.com.au/content/dam/digital/agl/documents/about-agl/investors/2022/220819-agl-energy-annual-report-2022.pdf>>; AGL, *FY23 TCFD Report* (Report, 2023) <<https://www.agl.com.au/content/dam/digital/agl/documents/about-agl/investors/2023/230810-agl-energy-tcf-d-report-2023-5-5.pdf>>; AGL, *Climate Transition Action Plan* (Report, 29 September 2022) <<https://www.agl.com.au/content/dam/digital/agl/documents/about-agl/sustainability/ctap.pdf>>.
87. Origin identifies that climate change poses physical risks to the company but does not provide an in-depth explanation of the risk. The company identifies chronic risks as “changing weather patterns that may influence Origin’s revenues and future financial performance.” It identifies acute risks as “Changing and more frequent and severe weather conditions, including floods, droughts, bushfires, and extreme temperature events could disrupt our operations or impact the efficacy of our assets, and supporting distribution and transmission infrastructure.” Origin outlines the potential consequences of these events as “increased operating costs, increased maintenance and capital expenditure, the risk of environmental incidents and higher insurance costs or restrictions on accessing insurance.” This provides only a high-level explanation. There is no discussion of risks to specific assets or to region specific risks and no detail of the potential scale of financial consequences. The “risk time horizon” for Origin’s chronic and acute risks are categorised as being “short-long”, with short-term defined as up to three years and long-term defined as beyond 10 years. This means Origin has assessed its risks as potentially occurring at any time in the future. This amounts to an essentially useless metric that, when combined with high level, generalised risk identification means Origin’s physical risk disclosure does not provide potential investors with the required level of detail to make informed investment decisions: Origin Energy, *Climate Transition Action Plan* (Report, 26 August 2022) 44–45 <[https://www.originenergy.com.au/wp-content/uploads/Climate-Transition-Action-Plan-2022\\_FINAL.pdf](https://www.originenergy.com.au/wp-content/uploads/Climate-Transition-Action-Plan-2022_FINAL.pdf)>.



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90. Alinta makes only a perfunctory acknowledgement of climate-related physical risk and does not provide any asset specific assessment or risk categorization nor any detailed analysis of the consequences of the risks occurring. The company states “we recognise that climate-related risks pose a threat to business continuity”. (cont.)
90. (cont.) This includes physical risks posed by acute and chronic changes to weather patterns and natural disasters such as bushfires, cyclones, and increasing temperatures”. This is the only climate related risk disclosure in the report: Alinta Energy, *Sustainability Report – 2021-2022* (Report, 2022) 25. <<https://www.alintaenergy.com.au/nsw/about-alinta-energy/sustainability>>. Alinta states that they plan to publish a Task-Force on Climate-Related Financial Disclosures report for FY23, one requirement of which is full disclosure of climate-related physical risk: TCFD, *Recommendations of the Task Force on Climate-related Financial Disclosures* (Final Report, June 2017) <<https://www.fsb-tcf.org/publications/>>. As of October 2023, this has not occurred.
91. AusNet Services is owned by Canadian company Brookfield Asset Management (BAM) which has investments and businesses in many regions of the world. The company’s 2022 Sustainability Report provides a broad overview of the types of risks its assets are exposed to, their vulnerability (how the risk impacts the asset) and likelihood of the risk occurring from ‘no risk’ to ‘increasing risk.’ The company states that it has conducted screening assessments of all assets and has in place risk mitigation and adaptation strategies. These detailed assessments are not publicly available. The company states that ‘our geographic diversification has the effect of lowering potential impacts of physical risk across our investments’ suggesting overall financial consequences from physical risks are low: Brookfield Asset Management, *2022 Sustainability Report* (Report) 31, 36, 37 <<https://www.brookfield.com/responsibility/2022-sustainability-report>>.
92. AGIG provides minimal information regarding physical risk. In its Environmental, Social and Governance Report 2022 the company states that ‘we acknowledge that we are exposed to both the physical and transitional risks of climate change. Our Low Carbon Vision seeks to navigate transitional risk. With respect to physical risk, being predominately underground, our infrastructure has inherent climate resilience. External influences, such as extreme temperatures, sea-level rise, bushfires or severe wind conditions, typically have minimal impact on our assets. (cont.)

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92. (cont.) During 2022 we took our first steps towards full alignment to the TCFD.’ This disclosure does not provide the required degree of detail regarding type and severity and likelihood of risk nor any information regarding potential consequences on AGIG’s finances or operational capacity. The company states also that it intends to provide risk reporting that is fully aligned with the TCFD Framework by 2024: AGIG, *Environmental, Social and Governance Report 2022* (Report 2022) 21, 63  
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