MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

COVERSHEET

Minister	Hon Dr Megan Woods	**Portfolio**	Energy and Resources
Title of Cabinet paper	Proposed Energy and Emissions Reporting Scheme	**Date to be published**	29 September 2023

List of documents that have been proactively released		
Date	**Title**	**Author**
August 2023	Proposed Energy and Emissions Reporting Scheme	Office of the Minister of Energy and Resources
2 August 2023	Proposed Energy and Emissions Reporting Scheme DEV-32-MIN-0159	Cabinet Office
17 July 2023	Energy and Emissions Reporting Scheme	Ministry of Business, Innovation and Employment

Information redacted **YES / NO**

Any information redacted in this document is redacted in accordance with MBIE's policy on Proactive Release and is labelled with the reason for redaction. This may include information that would be redacted if this information was requested under Official Information Act 1982. Where this is the case, the reasons for withholding information are listed below. Where information has been withheld, no public interest has been identified that would outweigh the reasons for withholding it.

Some information has been withheld for the reasons of Confidential advice to Government.

Coversheet: Energy and Emissions Reporting Scheme

Advising agencies	Ministry of Business, Innovation and Employment
Decision sought	Policy decisions to be taken by Cabinet
Proposing Ministers	Minister of Energy and Resources
Date finalised	17/07/2023

Summary: Problem and Proposed Approach

Problem Definition
What problem or opportunity does this proposal seek to address? Why is Government intervention required?

A lack of accurate information on firms' energy use and emissions performance is a barrier to decarbonising business energy use, reducing energy emissions and achieving a just transition to a low emissions economy.

Better information would have significant benefits for the public, investors and government policy development. The lack of energy use data creates a coordination barrier between energy users and suppliers of clean energy infrastructure such as electricity infrastructure development and bioenergy providers. More visible energy and emissions performance data at the corporate level also increases the motivation for firms improve their environmental impact.

Intervention is required to improve the government's ability to develop, assess and meaningfully consult on appropriate policy responses to meet our emission reduction and economic targets. More available, frequent and detailed energy use and emissions data will:

- enable government to develop robust policy to support emissions reduction
- ensure that New Zealand's efforts to meet emission budgets and targets can be effectively monitored and adjusted over time
- improve coordination of energy use and low-emissions energy supply.

Summary of Preferred Option or Conclusion (if no preferred option)
How will the agency's preferred approach work to bring about the desired change? Why is this the preferred option? Why is it feasible? Is the preferred approach likely to be reflected in the Cabinet paper?

MBIE proposes that mandatory reporting of energy use and emissions for large stationary energy users is the best method to address the information failure. The Energy and Emissions Reporting Scheme (EERS) will improve the quality and transparency of data available to government, the public and investors. Its purpose is to:

- provide data to government to inform the development and monitoring of energy and climate policy and programmes, including to enable good policy across emissions budget periods

- provide data to the public and investors on the emissions performance of firms, enabling meaningful consultation on government policy and to inform investment and purchasing decisions
- increase the motivation for firms to effectively assess and minimise their environmental impact.

Under the proposed EERS, large stationary energy users with annual corporate emissions greater than 2000 tonnes of carbon dioxide equivalent (2kt CO_2-e) would be required to report on their energy use and emissions. This would include:

- annual reporting to the EERS register, based on financial year
- senior officer sign off of reports
- independent third-party assurance of reports from the second year of reporting.

Entities would be required to submit both site-specific and entity-level reporting. Only some entity-level data would be made available to the public. Table 1 below sets out the EERS reporting requirements under this option.

Table 1. Reporting requirements to Government and the Public

Reporting category	Available to government	Available to public
Annual energy use by fuel (e.g. coal, diesel) and end-use (e.g. heating, stationary motive power)	Site-specific data	Entity-level data
Annual energy intensity metric(s) based on physical production or business metric, determined appropriate by the reporting entity (e.g. kilojoule of fuel per kg of total product or kWh per square metre)	Site-specific data	n/a
Annual emissions intensity metric(s) based on physical production, determined appropriate by the reporting entity (e.g. CO2 per kg of total product)	Site-specific data	n/a
Annual greenhouse gas emissions	Site-specific data	Entity-level data

Further details on the information that must be disclosed to the regulator would be set out in secondary legislation. This would consider international and national protocols and guidance, Carbon Neutral Government Programme requirements and the climate standard published by the External Reporting Board (XRB). Currently some entities voluntarily report their emissions and/or energy use, on their own accord or due to membership requirements of groups such as the Climate Leaders Coalition (CLC). However, there is low uptake of voluntary schemes; just 16 per cent of large energy users are part of the CLC. There are also a number of different reporting methodologies, which reduces the comparability of the data and its usefulness.

To determine energy use and emissions, the government currently:

- relies on energy supply data, along with some data provided by very large energy users on a voluntary basis for its annual national-level reporting
- ad-hoc data initiatives on a voluntary basis, such as the regional heat demand database.

Other existing and proposed government-led emissions reporting mechanisms do not meet the policy objectives, including:

- the climate-related disclosures regime

- reporting under the NZ ETS
- the proposed energy performance ratings for owners of large buildings
- the Climate Neutral Government Programme.

These schemes only partially target large energy users and emitters, do not provide a sector-wide view of energy use and emissions, and do not require energy data to be reported at the level of detail required to meet the policy objectives.

Increased data availability could have indirect benefits, including the ability to identify regions of future demand for renewable energy, leading to more efficient allocation of capital through better informed investment decisions, and catalysing the development of low emission fuel markets.

This information will be used for a range of applications, including:

- measuring and monitoring progress towards meeting emissions budgets
- policy and programme design
- Statistical purposes and energy publications.

MBIE proposes that entities have different reporting requirements to government and to the public. Public data would be focused on entity-level emissions, while more granular site-specific data would be reported to government with appropriate data confidentiality and sharing protocols. Many firms will already be measuring site-specific energy use, and there are range of internationally and nationally recognised guidance and protocols for measuring energy use and greenhouse gas emissions.

Section B: Summary Impacts: Benefits and costs

Who are the main expected beneficiaries and what is the nature of the expected benefit?

The main expected beneficiaries from increased transparency of energy use and emissions data are:

- **Central government** – availability of energy use and emissions data will enable government to develop robust policy to support emissions reduction and ensure that New Zealand's efforts to meet emission budgets and targets can be effectively monitored.
- **Transpower, electricity distributors** and **other electricity market players** – the regional breakdown of energy use by fuels and geographical map of high emitting sites will enable the national electricity grid and system operators, and electricity distributors to predict future energy demand and identify areas that will require upgrades to electricity networks to prioritise infrastructure investments and enable electrification. The information might also assist generators and other market players (third parties) identify process heat electrification products and services.
- **Fuel suppliers** – increased data availability will improve fuel suppliers' confidence to invest in supply-side infrastructure.
- **Energy users** – coordinated region-specific information will help energy users to make more informed choices on fuel choice and timing.
- **Bioenergy companies** and **forest owners** – the regional breakdown of energy use by fuel type will support bioenergy companies to understand the potential future conversion to biomass for future market opportunities.
- **Public and consumers** – availability of information and transparency from businesses enables consumers to make educated purchasing decisions and the public to make informed submissions to government on policy.
- **Local government** – increased availability of regional data to develop greenhouse gas inventories. Regional greenhouse gas inventories support local governments to support their region's response to climate change.

In general, the scheme will support New Zealand's emissions reduction outcomes, which will benefit all New Zealanders.

Where do the costs fall?

A cost benefit analysis for an energy and emissions reporting and auditing scheme was conducted in 2019 by Sapere Consulting. The costs were split between the reporting and auditing components. Only the costs for the reporting scheme are outlined below. There will be costs to both the Crown and the regulated parties. The costs estimates have been updated to reflect 2023 incomes and to include external assurance.

The regulated parties' costs will accrue from:

- incremental annual costs of gathering and collating energy consumption data and the associated emissions

- incremental annual record keeping, including reporting for senior officer sign-off, extra costs to annual reporting
- annual notification of compliance
- independent third-party assurance.

The estimated reporting costs per entity for year one and ongoing are $79,363 and $46,948 respectively. The costings are guided by the findings of the costs associated with the mandatory reporting scheme in the UK, but this information is based on New Zealand salaries (broken down into daily costs for employees). The estimated costs for third-party assurance are based on the costing for the Climate-Related Disclosures regime. A breakdown of the expected costs is outlined in Table 2 below. All costs are averages.

Table 2. Estimated EERS entity cost breakdowns

Cost	Year 1	Year 2	On-going
Internal	$8,761	$8,958	$8,958
External	$4,452	$5,201	$5,201
Additional	$1,149	$289	$289
Assurance	$0	$65,000	$32,500
Total	$14,363	$79,447	$46,948

Internal costs are the costs associated with staff time to perform implementation and compliance activities with the scheme. External costs are the outsourcing of implementation and compliance activities, for example consultants, rather than completing the task internally. Additional costs are associated with the installation of meters and their ongoing maintenance, which can be directly attributed to the EERS (noting that businesses will already have some metering in place). Assurance costs are obtaining independent third-party assurance of the entities' energy use and emissions data. These costs will start from year two of the scheme and are expected to reduce in later years.

Some entities will already have measured and independently assured their emissions and have the data available in the required formats. It will be more costly for firms that have only high-level or patchy data.

Costs to the Crown will accrue from administration, monitoring and enforcement of the scheme. The estimated costs to the Crown for year one and ongoing are $1.42 million and $0.933 million respectively. The costings are guided by other New Zealand climate-related disclosure schemes and similar international mandatory energy reporting schemes. Budget 2022 included funding for MBIE to establish and administer the scheme. A breakdown of the expected costs is outlined in Table 3 below.

Table 3. Estimate cost breakdown to Crown

Cost	Year 1	On-going
OPEX	$920,000	$933,000
CAPEX	$500,000	$0
Total	$1,420,000	$933,000

OPEX costs include FTE costs, as well as software and maintenance. CAPEX costs are associated with building the register. We also expect there to be costs associated with an evaluation of the scheme after 3-5 years (around $0.33 million).

What are the likely risks and unintended impacts? How significant are they and how will they be minimised or mitigated?

Overlaps with other schemes

There are seven existing or proposed reporting requirements that are complementary and may overlap with the EERS. However, none of these are sufficient to meet the policy objectives.

There are at least 20 companies captured by the proposed EERS that will also be required to make climate-related disclosures under the Financial Sector (Climate-related Disclosures and Other Matters) Amendment Act 2021. The climate-related disclosures (CRD) requirements are set by the External Reporting Board (XRB), which is an independent Crown entity. The XRB published the final Climate Standards in late-2022. Officials have already and will continue engage regularly with the XRB to identify and minimise potential alignment issues between the two regimes. For example, it is proposed that the EERS require reporting for the financial year, rather than the calendar year, which aligns with CRD requirements.

Some government agencies have reporting requirements under the Carbon Neutral Government Programme (CNGP). MBIE proposes that the legislation enable the Minister of Energy and Resources to provide exemptions for certain entities, or for entities to be exempted from reporting certain requirements, if the Minister is satisfied that those entities are already reporting that information to another government body, and the information can be shared with the EERS Registrar.

Finally, some entities may be captured by both the EERS and the proposed energy performance rating scheme for large buildings if they are also the owners of those buildings. The potential for duplicating requirements will be addressed in the development of secondary legislation for each scheme.

Commercially sensitive information

Large energy users have expressed concern regarding the release of commercially sensitive information. To address this concern, we recommend separate reporting requirements to the public and to government. The publicly released information will be in an aggregated format to enable companies to keep the energy intensity of their products and processes private.

MBIE routinely receives and stores confidential information in accordance with robust and well-tested information security policies which take account of commercial sensitivity. While such information could be sought under the Official Information Act, there are grounds for withholding the information where it would be likely to unreasonably prejudice the commercial position of the person who supplied the information. Additionally, MBIE is working with Statistics New Zealand and MfE on appropriate data standards for sharing information between agencies.

Compliance cost

This scheme will incur an additional cost on large energy users at a time when many businesses are also being asked to make substantial capital investment in decarbonisation, while facing uncertainty regarding future energy prices. Reporting scheme costs may coincide with a particularly difficult operational time for these firms.

These costs are mitigated in several ways:

1. The scheme was first consulted on in 2019 so there has been a relatively long signal for businesses to prepare for corporate reporting
2. The government has since introduced significant investment in decarbonising industry, such as the Government Investment in Decarbonising Industry fund in Budget 22, and the expansion of the EECA's business support services for identifying emission reduction opportunities in Budget 2021
3. The legislation itself contains several provisions to manage compliance cost:
    a. The first mandatory reports will only be required 18 to 28 months after commencement (depending on the commencement date and the entity's financial year), due to requesting reports to be submitted within four months following the reporting entity's first full financial year.[1]
    b. In the first year of reporting, independent assurance will not be required
    c. In the first year of reporting, the regulator will not be empowered to seek penalties.
4. We also note the forecast costs for compliance with the EERS are very modest in comparison to the annual budgets of the target entities.

[1] For example, if commencing August 2025, first reporting for FY 26-27, reports may be due by Dec 2027 (28 months).

Section C: Evidence certainty and quality assurance

Agency rating of evidence certainty?

We have medium confidence in our evidence base.

- In June 2019, Sapere consulting conducted a cost benefit analysis for an energy and emissions reporting and auditing scheme.
- The greatest uncertainty in the cost benefit analysis was driven by assumptions around the impact that reporting could have on investment in energy efficiency and renewable energy (and therefore emissions reduction) but the potential benefits were estimated to by far outweigh the costs. MBIE has chosen to note these as indirect benefits, rather than monetise them in the cost benefit analysis. This is line with the Climate Implications of Policy Assessment (CIPA).
- Some of the data on the compliance cost was based on the cost-benefit analysis of a mandatory reporting scheme in the UK. The use of international data could increase error in the estimated costs used in the analysis, but New Zealand average salaries and indicative evidence from EECA's energy services were applied in the calculation to reduce error. The estimated costs have been updated to reflect 2023 incomes and the addition of independent assurance costs. Independent assurance costs were really estimated as part of the climate-related disclosures scheme.

The proposals have also been informed and tested through three different public consultations and working with other government agencies and policy portfolios.

To be completed by quality assurers:

Quality Assurance Reviewing Agency:
The Ministry for Business, Innovation and Employment
Quality Assurance Assessment:
MBIE's Regulatory Impact Analysis Review Panel has reviewed the attached Impact Statement prepared by MBIE. The panel considers that the information and analysis summarised in the Impact Statement meets the criteria necessary for Ministers to make informed decisions on the proposals in this paper.
Reviewer Comments and Recommendations:

Impact Statement: Energy and Emissions Reporting Scheme

Section 1: General information

1.1 Purpose

The Ministry of Business, Innovation and Employment (MBIE) is solely responsible for the analysis and advice set out in this Regulatory Impact Assessment, except where indicated. This analysis and advice were produced for the purpose of informing policy decisions to be taken by Cabinet.

1.2 Key Limitations or Constraints on Analysis

A limitation in the evidence provided in the cost benefit analysis conducted by Sapere is that some of the data and assumptions are informed by the UK's equivalent scheme and analysis. This data was used due to limited available data on the costs of a reporting regime in a New Zealand context.

We have assumed that there is adequate expertise within New Zealand, in particular within large energy users, to measure energy use and emissions at a site and aggregated level. While there are various pieces of market information and evidence on reporting practices as outlined in this document, we have assumed that there is a lot of variability in energy and emissions measurement and reporting with entities falling into various categories:

- Entities that do not have good information on their own energy and emissions
- Entities that measure energy and emissions but this information may not be reported at the entity-level (i.e. is not visible to senior managers and directors)
- Entities that measure and report emissions to the corporate level
- Entities that measure and report publicly.

The EERS has also been tested with other agencies, including the Energy Efficiency and Conservation Authority (EECA), Ministry for the Environment (MfE), Ministry of Transport (MoT), Ministry for Primary Industries (MPI), the External Reporting Board (XRB) and Statistics New Zealand.

1.3 Responsible Manager (signature and date):

Daniel Brown
11/07/2023

Manager, Energy Use Policy
Buildings, Resources and Markets
Ministry of Business, Innovation and Employment

Section 2: Problem definition and objective

2.1 What is the current state within which action is proposed?

There is a lack of accurate information on energy end-use and emissions from New Zealand's large stationary energy emitters.

Government currently relies on energy supply data to determine energy end-use and emissions, along with some data provided by some very large energy end-users on a voluntary basis. This provides an ad-hoc overview of the energy end-use in New Zealand. In some cases, such as EECA's energy end-use database, the information is collected but at a lower frequency (e.g., every five years rather than annually) or as a one-off project such as the regional heat demand database.

The lack of accurate data limits an individual or business' ability to minimise their environmental impact, government's ability to develop and assess appropriate policy responses and for the public and investors to make informed decisions.

Data that is collected is often unable to be shared between government agencies as it was collected for specific purposes, such as statistical reporting, reducing its ability to provide evidence-base for policies and decision-making.

How is the situation expected to develop if no further action is taken?

Estimates and measures of aggregated energy use and associated emissions, based on data such as fuel imports, will continue to be made for the development of the Greenhouse Gas Inventory. This can inform the energy supply sector and economy-wide energy use and emissions profile. However, it will becoming increasingly difficult for policy makers to monitor progress towards emissions budgets and the extent to which different end use sectors are contributing to emissions profiles.

There will continue to be a lack of accessible and detailed data. The lack of energy end-use data limits the ability of government to develop targeted policy interventions, and increases the risks associated with policies implemented to achieve a cost-effective transition to a low emissions economy (as further discussed in Section 2.3).

For example, there appears to be a disparity of views between bioenergy providers and potential users. Potential users do not think there is adequate long-term biomass markets to support fuel switching, while bioenergy providers think there is adequate supply to meet demand. This disparity could be addressed through public disclosure of energy use and regional energy demand data on a regular basis, which could stimulate market growth to meet future demand.

Transpower and electricity distribution businesses will continue to make assumptions about forecast energy requirements to base their infrastructure investment decisions. This could delay the availability of required infrastructure for fuel switching opportunities for large energy users, restricting their ability to decarbonise through electrification.

2.2 What regulatory system(s) are already in place?

MBIE has identified the following data collection regulations in place:

- New Zealand's Greenhouse Gas Inventory
- surveys as defined in the Statistics Act 1975
- reporting to the Environmental Protection Agency, as part of the New Zealand Emissions Trading Scheme (NZ ETS)
- Climate-related disclosures
- proposed building energy performance ratings.

While not regulation *per se*, in 2020 Cabinet also set requirements and "encouragements" for public sector agencies to report emissions as part of the Carbon Neutral Government Programme (CNGP).

There are three common challenges with the existing data collection mechanisms:

- The data is collected for a particular purpose and cannot be shared freely between government agencies to inform policy development.
- The data collected does not meet the policy objectives (i.e. the data is not captured at all).
- The data collected is not in the desired form.

Interactions with the NZ Greenhouse Gas Inventory and statistical surveys under the Statistics Act

The New Zealand Greenhouse Gas Inventory is referenced in the Climate Change Response Act and is an international obligation under the United Nations Framework Convention on Climate Change. While there are no legislated requirements to supply data for the inventory, the necessary data for the Inventory is obtained by agencies responsible for specific chapters of the inventory, with support from Statistics New Zealand. As part of this, MBIE collects on emissions data directly from certain firms, but this does not cover all entities that are large stationary energy users as defined by the EERS. Data collected for this purpose cannot be shared for other purposes.

Interactions with reporting under NZ ETS

The NZ ETS targets a different source of data (upstream data). In the NZ ETS, industrial energy users report their non-energy process emissions, which only applies to a handful of emissions-intensive trade exposed businesses. Energy emissions are reported further upstream by producers or importers of fossil fuels. NZ ETS reporting does not provide granular information on energy end-use and emissions at the site, process, and product level.

Interactions with climate-related disclosures

The Financial Sector (Climate-related Disclosures and Other Matters) Amendment Act 2021 broadens non-financial reporting by requiring and supporting the making of climate-related disclosures by certain Financial Markets Conduct reporting entities. The CRD requirements are set by the External Reporting Board (XRB), which is an independent Crown entity. While

some companies will fall under the reporting requirements of both CRD and the EERS, the problem definition and policy objective of the two initiatives are different.

Emissions reporting through the CRD informs evidence on climate risks and opportunities over time. Because the CRD focuses on increasing transparency of climate risks in financial markets, it does not capture the same type of information required by the EERS. The EERS and CRD should therefore complement rather than duplicate each other.

The XRB published the final Climate Standards in late-2022. Officials have already aligned policy design elements between the two schemes and will continue engage regularly with the XRB to identify and minimise and potential alignment issues between the two regimes.

Interactions with the Energy Performance Rating Scheme

Under the Building and Construction portfolio, MBIE is proposing changes to the Building Act to introduce an energy performance rating (EPR) scheme for new and existing buildings. It will require owners of large commercial, public, industrial, and multi-unit residential buildings to hold an EPR which will rate the energy performance of the base building. It willwill likely include other relevant information on the building such as an intensity metric and emissions information. The changes will initially apply to larger public, industrial and commercial buildings, and large-scale residential buildings.

The rating is intended, in part, to address the split-incentive problem where building owners have limited incentive to invest in energy efficiency features or retrofits because they pass on energy costs to tenants. Tenants also have little information and control over the energy performance of their leased building.

At a high-level, these proposed changes complement the EERS. The energy performance rating scheme targets owners of large individual buildings and will require reporting at a building-by-building level, where the EERS targets large emitters (from their stationary energy use) and requires reporting at a corporate level, but also by site.

The site-level aspect of the EERS may in some cases duplicate with the energy performance rating scheme. Because the building performance rating scheme targets large buildings across commercial, public and industrial sector, large malls, hospitals, warehouses, cool stores and other industrial buildings for example could be captured by both schemes. There may be two instances where this occurs:

- In most cases, corporates with multiple sites and buildings such as supermarkets or larger retail spaces may be captured by both schemes.
- In rare cases, some of these buildings individually may also be large energy users emitting themselves over 2kt CO2-e.

Both schemes provide mechanisms to minimise potential regulatory duplication through secondary legislation:

- The building performance rating scheme can opt not to require certain owners of a type, size or with other characteristics to be captured, for example a type of industrial building such as a cement or steel operation.
- The EERS can opt not to require site-level information for certain types of reporting entities, for example certain classes of commercial buildings or if entities are already reporting information under a relevant reporting scheme (noting that the entity-level information would still be required). MBIE proposes that where agencies are

reporting some or all required information under the CNGP, they may be exempt from reporting this information under the EERS.

The use of these mechanisms as “exemptions” will be considered alongside the fact that entities will already be measuring and reporting the information at the same level of granularity, so the additional regulatory burden may be minimal.

Both policy teams at MBIE will work in tandem during the development of the secondary legislation for each of the schemes to establish appropriate requirements and/or exemptions to ensure a coherent and efficient reporting framework.

Interactions with the CNGP

The Carbon Neutral Government Programme (CNGP) aims to make a number of organisations within the public sector carbon neutral from 2025. CNGP participants are required or encouraged (depending on the group) to:

- Measure, verify and report their emissions annually
- Set gross emissions reduction targets
- Develop and implement plans to reduce their organisation’s emissions
- Offset remaining gross emissions from 2025 to achieve carbon neutrality.

As shown above, the CNGP includes additional requirements for developing reduction plans and offsetting emissions, which go beyond proposed reporting requirements under the EERS.

Some Government entities reporting under the CNGP could fall within the scope of the EERS. MBIE will continue to work with MfE to understand site-specific reporting requirements under the CNGP. MBIE proposes that where agencies are reporting some or all required information under the CNGP, they may be exempt from reporting this information under the EERS.

2.3 What is the policy problem or opportunity?

What’s the problem?

A current lack of available information on emissions performance of firms, sites and products restricts effective policy making and consultation, impacts informed consumer and investor decision-making, and undervalues energy efficiency and renewable energy opportunities.

Low adoption of voluntary reporting

Some entities already voluntarily measure and report their energy consumption and emissions. The Climate Leaders Coalition (CLC), launched in July 2018, aims to promote business leadership and collective action on climate change. Coalition members coalition are required to measure and publicly report their annual greenhouse gas emissions, and currently 102 chief executives have signed the original joint statement. The Coalition does not include all large energy users; approximately 16 per cent of large energy users are part of the CLC and report on their annual emissions.

There is a range of international frameworks for energy and emissions reporting. Voluntary reporting is not standardised or consistent, which impacts policymakers’ ability to use the reported data. Accessibility and ‘completeness’ of the voluntary data sets is also a constraining factor.

In June 2020, the McGuiness Institute released *Report 17 – Building a Reporting Framework Fit for Purpose*[2], which analysed the type and quality of climate change information the companies annually disclosed by 304 public and private sector organisations in New Zealand. Their analysis found that:

- 28.6 per cent of NZX-listed companies disclosed information on environmental practices and targets and 24.6 per cent disclosed carbon emissions information
- 40.5 per cent of entities surveyed did not disclose any information for the six climate-related information categories (risks, metrics, costs, controls, targets, and initiatives)
- analysis of the Deloitte top 200 companies,[3] found that 16 per cent of the entities reported emissions metrics,[4] which was a 1 per cent increase from 2018 levels
- the results indicate that voluntary reporting has not delivered the necessary information to drive public policy or effective investment to deliver a zero emissions economy.

The McGuinness Institute also analysed the uptake of internationally recognised voluntary frameworks, and provided an overview of the most mentioned or applied frameworks in 2019 annual reports. Voluntary reporting frameworks relevant to EERS include:

- ISO14000 family
- Certified Emissions Measurement and Reduction Scheme (CEMARS)
- United Nations Framework Convention on Climate Change (UNFCCC)
- National Greenhouse and Energy Reporting scheme (NGER).

Even with collectives like the CLC listed above, there is still a significant data gap around reporting entities. Only approximately 16 – 17 per cent of large energy users are part of the CLC, and often the companies voluntarily reporting are either already undertaking significant climate action, or it is in their economic benefit to report their emissions. This low level of uptake shows the significant potential to reduce emissions through mandatory reporting.

Energy and emissions data is required for policy development

As outlined in section 2.2., while some energy use data is collected by the government, it is not sufficiently granular to provide policy and evaluation insights and can only be used for statistical purposes due to confidentiality agreements.

Similarly, emissions data reported voluntarily by some businesses at an aggregated, corporate-wide level does not provide insight into site energy use or the emissions intensity of products. There is also a lack of standardisation for the provided data, which can hinder comparison.

There are information gaps, high search costs and potential estimation errors for policymakers looking to understand the energy and emissions performance of a business, site, or product for the purposes of developing, monitoring and evaluation of policy.

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[2] https://www.mcguinnessinstitute.org/wp-content/uploads/2020/07/20200716-Report-17-2.30pm.pdf

[3] https://top200.co.nz/

[4] Emissions metrics – existing carbon emissions data stated in tonnes, percentages or CO_2/m^2 produced or abated

This can impact the ability to provide robust, evidence-based policy to successfully enable decarbonisation in New Zealand's energy and industry sectors. For example, annual, site-specific data on energy use and emissions is necessary for policymakers to:

- measure progress towards energy and industry sub-targets under New Zealand's emissions budgets
- assess the level of industry emissions reductions compared to other sectors
- develop policy proposals to make adjustments when required to meet emissions reduction targets.

Energy and emissions data is valuable to consumers, investors and shareholders

There may be insufficient demand-side pressure to incentivise firms to reduce emissions and switch to renewable fuels. Transparent data is required for consumers, investors, and government agencies to make fully informed decisions when interacting with firms that produce emissions, which can lead to demand pressure.

Our assumption is that if consumers and investors had adequate information on the emissions profiles of firms and products in some sectors, firms would act to reduce their emissions or manage carbon risks to meet consumer and investor expectations. This could also increase reputational drivers on the targeted entities as improved transparency will more accurately inform public perceptions of climate change action. Improving public reputation and brand by reporting greenhouse gas emissions was identified as a key driver for voluntary reporting in the UK.[5]

For the public, poor information limits the ability to make informed choices on the environmental impact of the goods and services consumed, and it also limits how meaningfully they can engage with government on policy consultations. Transparency is important to build public confidence that businesses are actively taking responsibility for their emissions, and to ensure accountability in the Government's progress towards New Zealand's net-zero 2050 target.

Information asymmetry creates potential disagreement on action

Where businesses do have adequate energy and emissions data on their own use, the public, investors, and the government do not have access to this information. Information asymmetry can create potential disagreements on data and modelling, which can stifle effective transition planning or undermine the validity of potential policy interventions.

Lack of information on energy and emissions reduction opportunities can undervalue energy efficiency and renewable energy opportunities

Some entities have limited information about their energy use and emissions, which can hamper the visibility of the cost and benefits of energy efficiency and emissions reduction projects. Energy is often managed at the facility level where energy efficiency opportunities are measured in energy units rather than as sources of emission reductions, cost savings or productivity benefits.

These barriers compound so that investments that reduce energy emissions are undervalued relative to other investment options and are not prioritised. A mandatory

[5] DECC, Eunomia Research & Consulting Ltd, Evidence Review of the Impact of Central and Public Disclosure Methods for Reporting Energy Use and Energy Efficiency, June 2014.

reporting scheme can improve and standardise the collection of energy-use and emissions data and support further identification of energy efficiency and fuel switching opportunities.

Lack of information on energy demand can prevent effective market coordination and impact investment in infrastructure and markets to support decarbonisation

A lack of forecast energy demand requirements restricts the ability for Electricity Distribution Businesses and Transpower to forecast and target required future infrastructure (for example, a transmission line to service an industrial facility suitable for electrification). This limits the ability for entities to decarbonise, as the necessary infrastructure may not be in place at the right time or place to support changes to their energy use.

Bioenergy is also restricted by the lack of available data. Currently there is a discrepancy between energy users, who say there is not enough bioenergy supply to support them, and bioenergy suppliers, who say there is plenty of bioenergy supply. A regional understanding of energy demand will improve market coordination support bioenergy companies to meet regional demands.

Current data collection methods prevent access

There are current data collection methods that provide some of the data requested through the EERS. The main data modes are through EECA's existing programmes, such as the Energy Transition Accelerator and the information provided to the MBIE Markets, Evidence and Insights team.

For EECA's existing business programmes, often the information is provided by companies under a contract. This prevents EECA's ability to share the information, as the companies provided it in confidence. The data is also provided in an ad hoc manner, and only covers companies that are actively involved with EECA's programmes.

Data collected for statistical purposes, such as the information captured under the Greenhouse Gas Inventory is unable to be shared due to the high bar for confidentiality set under the Statistics Act. This leads to an additional challenge of multiple government agencies that would benefit from the availability of data but unable to access it, which would lead to companies having to report to multiple agencies.

Why does the counterfactual constitute "a problem"?

In the counterfactual, the information failures and barriers described above limit the government's ability to develop evidence-based policy, target the most cost-effective emission reduction opportunities, and develop appropriate policy responses to meet our climate change objectives in a fair and cost-effective manner.

It is also likely that without mandatory energy reporting, the uptake for energy efficiency and renewable energy opportunities continues to be undervalued.

Under the status quo, the lack of transparent, accessible, and adequately granular data creates problems and potential risks for achieving a cost-effective transition to a low emissions economy. These include:

- Difficulties in informing the development of, and tracking progress towards, emissions budgets and plans. This includes evaluating and monitoring the impact of climate and energy policy.
- Difficulties in estimating the costs and benefits of energy and climate policy, and a larger margin of error due to assumptions. As a result, policy could either be too strong (reduces emissions at a faster pace than necessary economic cost) or too

weak (fails to achieve the pace of reductions required and increases the future cost and severity of the transition).

- Issues arising from information asymmetries. For example, if industry and government disagree on estimated figures it could stifle effective transition planning, and policy interventions.
- Underinvestment in emission reduction opportunities due to lack of visibility around emissions profiles of products or firms.
- Less effective and meaningful consultation with stakeholders on appropriate policy responses.
- Increased opportunity for 'green washing' from entities. For example, false claims of achieving carbon neutrality or 100 per cent renewable electricity.

What is the opportunity?

Addressing the lack of transparent, accessible, and adequately granular energy use and emissions data presents several opportunities. These include:

- Informing the development of and tracking progress towards emissions budgets and plans. This includes improved ability to evaluate and monitor the impact of climate and energy policies.
- Improved ability to estimate the costs and benefits of energy and climate policies, through reduced reliance on assumptions. As a result, policies may be more effective.
- Mitigating issues arising from information asymmetries.
- More effective and meaningful consultation with stakeholders on appropriate policy responses.
- Reducing entities' ability to greenwash.

2.4 What do stakeholders think about the problem?

As outlined below, the government consulted in 2019, 2020 and 2021.

Most stakeholders including some large energy users, central government, the public, shareholders, energy companies and local government agree that the lack of transparent data on energy use and emissions is a problem, albeit some for different reasons.

For example, for local government the lack of granular level data makes developing regional greenhouse gas inventories challenging, and such inventories are critical to supporting regional responses to climate change. For shareholders and investors, the lack of standardised and verified data makes it challenging to assure that businesses are actively assessing, managing, and disclosing climate-related risks.

Some large energy users were against the public reporting of emissions due to commercial sensitivity concerns, potential for misinterpretation of data, or unfairness on the grounds that importers of competing products might not also be required to report.

Consultation on the problem definition (barriers) - Process Heat in New Zealand: Opportunities and barriers to lower emissions (early 2019)

In early 2019, the government consulted on the technical paper *Process Heat in New Zealand: Opportunities and barriers to lower emissions.* The paper tested our understanding of the barriers to lowering process heat emissions with stakeholders. The following barriers in the paper are addressed, or partially addressed by fixing data gaps:

- Barrier E: Hidden costs and benefits of energy improvements
- Barrier F: Inadequate information on the emissions profiles of products or firms
- Barrier G: Some firms have poor information on their own energy use and emissions.

Barrier E: Hidden costs and benefits of energy improvements

Fletcher Building and Refining New Zealand shared examples of where business cases for energy improvements are aided by co-benefits, principally safety, productivity and efficiency improvements.

Fonterra noted additional costs outside the actual capital installation for energy improvements, including feasibility studies, and resourcing to identify and design projects. Pioneer considers that the hidden costs and benefits of energy improvements can be addressed through performance-based contracting and shared energy savings contracts.

Barrier F: Inadequate information on the emissions profiles of products or firms

There were mixed views on whether there would be benefits from publishing individual emissions data reported by NZ ETS participants and/or large process heat users. Individual submitters, the electricity sector, environmental groups and research organisations tended to be in favour.

Some large energy users (Ballance, Graymont, New Zealand Steel, Refining New Zealand) were against the public reporting of emissions due to commercial sensitivity concerns, potential for misinterpretation of data, or unfairness on the grounds that importers of competing products might not also be required to report.

Golden Bay Cement, Fonterra and Fletcher Building were “on the fence”, emphasising that any requirements would need to address consistency with international protocols, equal treatment for importers and other large emission sources in New Zealand. Fonterra and Fletcher Building noted they already report publicly at an aggregate level.

Transpower, Pioneer and many energy suppliers (electricity and biomass) noted their preference for more complete information, such as government support conferred to a business against a set of agreed performance criteria and KPIs. This is similar to a benchmarking agreement where businesses improve their emissions intensity over a defined period and may receive government assistance to do so.

Barrier G: Some firms have poor information on their own energy use and emissions

Many large energy users where energy is a significant cost of production reported having good information on their own energy use and use energy metrics or KPIs at a facility level and in real-time. Ballance (urea production) and Refining New Zealand engage consultants in international benchmarking to compare performance and seek improvements.

Conversely, the Energy Management Association of New Zealand (EMANZ) stated there is enormous potential for improvement in operational efficiency, including among substantial

emitters and disagrees that “the largest potential gains especially for large energy users, have likely already occurred” (refer to point 45 in the technical paper).

Fletcher Building and the Meat Industry Association (MIA) noted the presence of information barriers.

Public consultation on Accelerating Renewable Energy and Energy Efficiency discussion paper (early 2020)

Following consultation on the technical paper, MBIE refined the problem definition and consulted on policy options to address the key barriers. This proposal was publicly consulted on in December 2019 to February 2020 in the discussion paper *Accelerating Renewable Energy and Energy Efficiency* (AREEE) as Corporate Energy Transition Plans.[6]

Large energy users (including industry associations) were split on the necessity of additional energy use and emissions reporting. While many agreed that there is a need for government to have good energy and emissions data to inform climate policy, submitters noted the following:

- Some indicated they would prefer closer cooperation with government on information/data exchange to inform the emissions budgets and the design of complementary climate policies, rather than mandatory requirements.
- Some stakeholders noted that they are already disclosing their annual aggregated emissions to the public. These stakeholders tended to support mandated public disclosure on aggregated emissions and energy use. Other large energy users expressed concern about public reporting due to commercial sensitivities.
- A small number of stakeholders already report site specific energy use and emissions to the government and thought more work was needed to link up existing government data and align regulatory regimes. Most argued there was significant overlap between the Corporate Energy Transition Plans and the climate-related disclosures regime.
- Some large users have concerns that the government may consider requirements for blanket reduction targets once disclosure has been mandated. The same submitters expressed concern that those who have already made significant emission reductions would not be recognised if reporting is introduced.

Some considered the lack of detail in the Corporate Energy Transition Plan option made it difficult for business to understand what information will be gathered, analysed and reported. If reporting is to be mandated, submitters identified that:

- A well-defined and understood framework will be required.
- Further work is required to ensure the regime aligns with existing reporting requirements, avoids duplication of work and minimises compliance costs for business.
- Energy use and emissions from transport should be included in scope.
- Equity of treatment is required for all large energy users.

[6] https://www.mbie.govt.nz/dmsdocument/12132-accelerating-renewable-energy-and-energy-efficiency-summary-of-submissions

Public consultation on the Emissions Reduction Plan discussion document (late 2021)

Following consultation on AREEE, officials began designing the energy and emissions reporting scheme. Through this, officials noted that transport and commercial companies could be included in the definition of large energy user for the purposes of the EERS, widening the scope of the definition from what was consulted on in AREEE.

To ensure adequate consultation with the transport and commercial sectors, the EERS was included in the Emissions Reduction Plan (ERP) discussion document. Stakeholders were asked whether transport and commercial companies should be included in the definition of a large energy user for the purposes of a mandatory energy and emissions reporting scheme, and what an appropriate reporting threshold for stationary and non-stationary energy users might be in order to effectively reduce the data gaps.

Almost all individual submitters supported including commercial and transport companies within the definition of a 'large energy user' for the purposes of the EERS. Many of these submitters wanted the EERS to apply as broadly as possible to maximise its ability to reduce emissions. A few industry submitters opposed their inclusion, arguing that a system-wide approach to reducing emissions was needed instead of implementing initiatives such as the EERS in isolation. Other submitters, who opposed including transport and commercial companies in the EERS, wanted the NZ ETS to be used to reduce emissions instead of regulatory measures.

Some submitters held reservations about the proposed EERS, arguing that it should be sufficiently flexible and adaptable to work with different industries and business models. A few industry submitters opposed distinguishing between small and large emitters in any industry, as this could create regulatory distortion or discourage investment.

Submitter views were mixed on the 1 kt CO_2e threshold proposed for large stationary energy users. Among supporters, many recommended the threshold gradually reduce over time to widen the scope of the scheme. Some submitters said an efficient data collection system was needed to minimise the overhead for businesses that met the threshold. They suggested that mandatory energy reporting would be more widely accepted if costs were managed through a simple and standardised reporting framework.

Among submitters who sought a lower threshold, some recommended halving it to 0.5 kt CO_2e to capture more businesses without creating overly burdensome requirements. Many others suggested lowering it to as little as 0.1 kt CO_2e to encourage greater transparency, including for consumers who wanted to know the carbon footprint of their suppliers. A few submitters agreed the threshold would give the country the data resolution needed to improve emissions reporting.

Submitters predominantly supported large energy users, such as transport companies, being included within the same 1 kt CO_2e threshold as large stationary energy users. Some submitters said that, as the effect of emissions on the environment is the same, there was no reason to differentiate between different types of high emitters. Transport was central to most submitters' responses. Changes to the proposed threshold mirrored those for stationary users.

A few submitters raised other challenges related to defining large energy users. Challenges included reporting emissions in operations which were widespread around the country and comparing emissions from differently structured companies. Some submitters wanted emissions benchmarks or reporting against indexes within sectors to incentivise businesses

to reduce emissions. A few submitters described perverse outcomes as a result of profit seeking and transport costs not reflecting environmental impacts.

2.5 What are the objectives sought in relation to the identified problem?

The objectives of improving information availability of energy use and emissions of firms, sites and products are to:

- standardise the approach to energy use and emissions reporting
- increase transparent information on energy use and emissions available to the government and the public
- enable robust policy development with strong evidence base
- support entities to understand their emissions and energy use, which will enable them to identify low-carbon opportunities
- support electricity distributors, generators and bioenergy companies to identify future electricity and biomass markets across the regions.

Section 3: Option identification

3.1 What options are available to address the problem?

The options considered to address the data gap problem were:

1) **Status quo**
2) **Non-regulatory**: promote voluntary reporting guidance for calculating greenhouse gas emissions, and improve information sharing arrangements with government where possible.
3) Introduce a **mandatory energy and emissions reporting regime** to require large energy users who meet a threshold to report their energy use and emissions.
4) Introduce a **mandatory energy audit scheme**, requiring energy audits to be conducted by a technical expert every four years.
5) Introduce a requirement for **Corporate Energy Transition Plans** (CETPs), which includes Options 2 and 3, in addition to publishing transition plans to reduce their emissions.

These options target entities that are large stationary energy users only – consideration of mobile energy users such as transport companies is discussed in section 3.3.

Option 1 – Status quo

The status quo for reporting on energy use and emissions is voluntary reporting. MfE currently provides guidance for calculating greenhouse gas emissions on its website, to support entities to measure and report on their emissions.

Some large energy users are part of groups such as the CLC, and voluntarily report their emissions. There is no standardised approach for the reporting of energy use and emissions, which is published at each company's discretion (see section 2.3).

Companies that are already taking action to decarbonise their processes, or where it is economically beneficial, will continue to publish their energy use and emissions. Other large energy users, who are not incentivised to, will not publicly publish their emissions.

Option 2 – Promote voluntary reporting (non-regulatory)

A non-regulatory approach would involve promoting the voluntary reporting guidance for calculating greenhouse gas emissions, submitting data to a government agency and improving information sharing arrangements between organisations and government where possible.

Even though the use of existing guidance could help to improve consistency and comparability of reports, reporting would not be standardised in terms of reporting frequency, system boundaries, site-level, decisions on reporting detail, and data format issues. Because of this, the benefit of collecting more data would be diminished.

There is also a risk that only willing organisations, potentially those with fewer emissions, that are already taking action to decarbonise their processes, or where it is economically beneficial, will continue to publish their energy use and emissions. Other large energy users, who are not incentivised to, may not participate in a voluntary scheme.

MBIE has previously encountered obstacles to improving information sharing provisions between government agencies, as there are contractual clauses preventing such sharing or the data is limited to use for statistical purposes.

Public consultation on the AREEE discussion paper indicated there was support for mandatory disclosure of energy-use and emissions.

Option 3 – Energy and emissions reporting scheme

A mandatory energy and emissions reporting scheme would require large stationary energy users (which meet an emissions threshold) to report their energy use and emissions. It would be a standardised approach, with different reporting requirements to the public and government.

Rationale

Collection of energy use and emissions data would enable more accurate statistical reporting, evidence-based policy-making, including informing the development of emissions budgets, and assessment of the effectiveness of existing policies. It would also provide an important input into government statistical analysis including MBIE's *Energy in New Zealand* and *Energy Quarterly* and Stats NZ's *GHG Emissions Quarterly* series. This data would support the modelling and reduce output error through more accurate assumptions. Government would carry the burden of administrative costs, and agencies would need to develop data sharing arrangements.

Impacted entities would face increased costs due to compliance and reporting requirements. Some of the information that would need to be provided to government could be commercially sensitive. Senior management and boards would have better information on their companies' energy use and emissions, which may generate an increased focus on energy and emission reduction opportunities. It may also increase the importance of energy efficiency to organisations through reputational drivers, such as increased transparency for investors.

Improved transparency would enable more effective consultation with public stakeholders on policy responses and enhance public confidence that the largest emitting businesses operating in New Zealand are actively taking responsibility for managing their emissions. This could also increase reputational drivers on the targeted entities as improved transparency will more accurately inform public perceptions of climate change action.

For shareholders and investors, improved transparency would provide greater assurance that businesses are actively assessing, managing and disclosing climate-related risks, and taking steps to reduce their exposure to carbon costs where practicable.

The release of energy use information could indicate business' plans for potential site conversion opportunities. This information could also help inform the development of transmission and distribution grids and planning for new connections, plus support the bioenergy sector by identifying areas of future market potential.

Public consultation showed strong consensus that government needs to improve data collection to enable good policy development.

Operation

Under this option, large stationary energy users with annual entity-level emissions greater than 2kt CO2-e would be required to report on their energy use and emissions.

Stationary energy use is energy used directly from fossil and geothermal sources for electricity and heat consumption. Purchased energy is electricity and heat generated offsite for a range of uses including manufacturing, space heating, water heating, lighting, refrigeration, pumping, other electrical appliances, and electronics. Emissions from stationary energy are equivalent to emissions referred to as Scope 1 (direct emissions) and emissions from purchased energy are equivalent to emissions referred to as Scope 2 (indirect emissions from purchased electricity and heat).

This definition excludes emissions referred to as Scope 3 (value chain emissions) under commonly accepted reporting guidelines, such as the Greenhouse Gas Protocol. It also does not include emissions from mobile energy uses, such as energy used for transport, vehicles, mining equipment, or fishing vessels, even if they are direct or indirect emissions.

This scheme would include:

- annual reporting to the EERS register, based on the entity's financial year, to align with CRD and CNGP requirements
- senior officer sign off of reports
- independent third-party assurance of reports from the second year of reporting.

Once an entity meets the reporting threshold based on their stationary emissions, they would be required to report on all material emissions both at a site-specific and entity-wide level.

- Entity-level information refers to an entity's energy use and emissions from across all its sites.
- Site-specific information refers to an entity's energy use and emission from an individual site. Where entities operate more than one site, they will be expected to report on energy use and emissions for each site.

Entities would be required to submit both site-specific and entity-level reporting. Only some entity-level data would be made available to the public. Table 4 below sets out the EERS reporting requirements under this option.

Table 4. Reporting requirements to Government and the Public

Reporting category	Available to government	Available to public
Annual energy use by fuel (e.g. coal, diesel) and end-use (e.g. heating, stationary motive power)	Site-specific data	Entity-level data
Annual energy intensity metric(s) based on physical production or business metric, determined appropriate by the reporting entity (e.g. kilojoule of fuel per kg of total product or kWh per square metre)	Site-specific data	n/a
Annual emissions intensity metric(s) based on physical production, determined appropriate by the reporting entity (e.g. CO2 per kg of total product)	Site-specific data	n/a
Annual greenhouse gas emissions	Site-specific data	Entity-level data

Further details on the information that must be disclosed to the regulator would be set out in secondary legislation. This would consider international protocols, MfE's voluntary corporate guidance, CNGP requirements and the XRB standard

Option 4 – Energy auditing scheme

A mandatory auditing scheme would require an auditor to assess a large energy user's site and determine suitable energy efficiency or fuel switching measures. The recommended time period was an energy audit every four years and to have it certified to a set standard.

Energy audits can be quite extensive and costly, and many large energy users have unique processes which require a specialised technical consultant to conduct the energy audit. This would increase the cost on entities that are required to partake in the auditing scheme.

Industry also noted that four years is a long time between audits, and it was likely the audit would be irrelevant by the time an updated audit was completed.

EECA provides co-funding for energy audits and other emissions reduction opportunities, as well as transition planning support through its Energy Transition Accelerator programme. This support and technical assistance is likely to be sufficient incentive for companies to identify emission reduction opportunities, within the context of regulations and financial assistance.

The majority of large energy users and industry associations opposed mandatory energy audits. Reasons for opposition included:

- Audits were seen to impose unnecessary and high compliance costs for potentially low impact.
- Many large energy users already have internal energy auditing and energy management expertise. Knowledge of processes is often specialised and site-specific.
- EECA already offers co-funding for energy audits. Incentives already exist for large energy users and will only increase with ETS price increases.
- Over four years a business can change and grow significantly, making auditing-based baselining and measurements inaccurate.
- Many individual submitters, research organisations, community groups and environmental groups supported mandatory energy audits.

Option 5 – Corporate energy transition plans

Corporate Energy Transition Plans (CETPs) would address the information barriers by introducing a comprehensive procedural requirement for the largest energy users to:

- measure and report energy use and emissions
- carry out periodic energy and emission audits
- publish their plans and strategies to reduce emissions to 2030.

CETPs were publicly consulted on as Option 1.1 in the AREEE discussion paper. While many submitters were in support of the disclosure of energy use and emissions, there was considerable opposition to energy audits every four years.

There was a mixed response regarding the publishing of company's plans and strategies. Some submitters raised that this was an opportunity for companies to define their own technology pathway, and it was a good method for getting entities to reduce their environmental impact. Site-specific transition plans, particularly those with forecast energy requirements, would help network operators more accurately forecast energy demand and ensure sufficient infrastructure exists. There was some opposition to the publication of

transition plans, due to the commercial sensitivity of the information and the publication of intellectual property. Some large-energy users also raised that they already have energy transition plans as part of their business-as-usual.

Part of the CETPs is proposed to be covered in Resource Management Act National Direction for Industrial Greenhouse Gas Emissions. The national direction instrument will require sites applying for consent to have a transition plan in place in relation to their fossil fuel assets for process heat.

Relevant experience from other countries

There are multiple mandatory energy and emissions reporting schemes, including in Japan, Australia, Canada, the USA and the UK. The scheme structures and thresholds vary, but all include requirements to disclose energy-use and emissions of large energy users. For example:

- Australia has a National Greenhouse and Energy Reporting regime. The regime has set different thresholds for facilities and corporates. Facilities which emit more than 25,000 tCO2-eq or consume/produce more than 100 terajoules (TJ) of energy[7] are required to report, while corporates which emit greater than 50,000 tCO2-eq or consume/produce more than 200 TJ of energy. The reporting threshold for the regime has been lowered since it was first introduced in 2008.
- The UK implemented a Streamlined Energy and Carbon Reporting (SECR) policy in April 2019, which replaced and built on existing energy and emissions reporting requirements.[8] Companies in covered by the scheme must report global scope 1 and 2 emissions, for all seven gases under the Kyoto protocol.[9] Scope 3 emissions remain voluntary but are strongly recommended to be reported if they are a material source of emissions. Entities are also required to report on their annual global energy use, split by UK and offshore energy use.
- In the US, the Environment Protection Agency (US EPA) produces the Facility Level Information on GreenHouse gases Tool (FLIGHT); an interactive platform covering all large energy using facilities.[10] This tool uses information provided through the US EPA's Greenhouse Gas Reporting Programme, which has over 8,000 reporting agencies. The threshold for the reporting is entities which produce greater than 25,000 MtCO2-e per year.[11] The tool provides information on the emissions by gas type, and the source of the energy use. Figure One below provides a diagram of the tool.

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7 http://www.cleanenergyregulator.gov.au/NGER/About-the-National-Greenhouse-and-Energy-Reporting-scheme

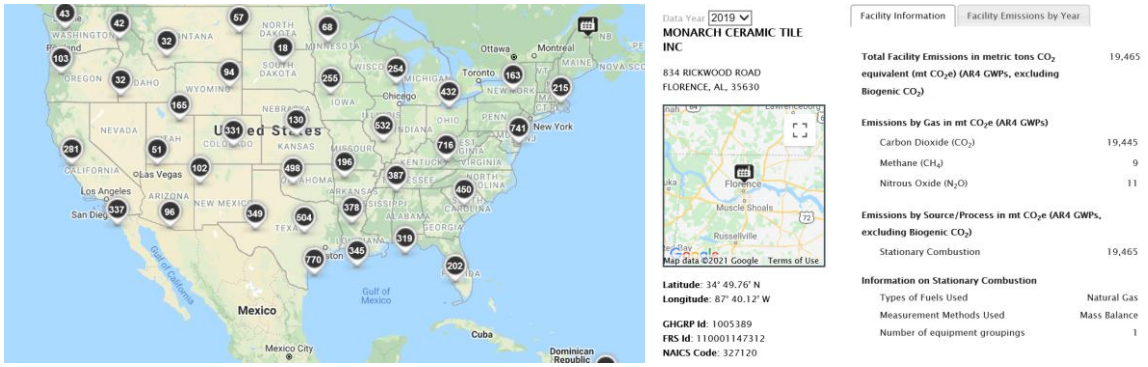
8 https://www.gov.uk/government/publications/academy-trust-financial-management-good-practice-guides/streamlined-energy-and-carbon-reporting

9 The seven gases under the Kyoto agreement are: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF_6) and nitrogen trifluoride (NF_3).

10 https://ghgdata.epa.gov/ghgp/main.do

11 https://cfpub.epa.gov/ghgdata/inventoryexplorer/data_explorer_flight.html

Figure 1. US EPA Greenhouse Gas Reporting – FLIGHT interactive tool



3.2 What criteria, in addition to monetary costs and benefits have been used to assess the likely impacts of the options under consideration?

We have assessed the options against the same criteria as in the AREEE discussion document, with the addition of criteria specific to the reporting scheme. The key criteria are:

- **To what extent are information barriers addressed?**
    i. Do firms have adequate available data on their energy use and emissions?
    ii. Does government have access to an evidence-base to develop robust policies?
    iii. Do the public and stakeholders (e.g., investors) have the information available to them to make informed decisions?
- **Does the option have an impact on greenhouse gas emissions?**
    i. Does it reduce emissions in an economically efficient way?
    ii. Is it complementary to the NZ-ETS?
    iii. What is the expected emissions reduction through fuel switching or energy efficiency gains?

In addition to these high-level criteria, we have provided a preliminary assessment of the costs and benefits of options (where relevant) against the following sub-criteria:

- **Wider economic effects** – impact the option has in terms of wider economic costs and benefits, such as:
    i. **Productivity impacts** - indicating if there is any positive or negative impact on productivity.
    ii. **Distributional impacts** – indicating if any population groups are likely to be disproportionately impacted by the proposal e.g. Māori/iwi, rural communities, regions, workers, consumers, noting that government will have choices about how to mitigate these impacts.
    iii. **Innovation and uptake of new technologies** – indicating to what extent the option future-proofs the energy system and incentivises innovation and uptake of new technologies.

iv. **Health and environmental benefits and costs** – e.g. air quality, biodiversity.

- **Administrative and compliance costs** – impact the option has in relation to:
  i. **Administrative costs** – cost to the government of delivering the option.
  ii. **Compliance costs** – whether businesses are likely to face additional costs from options.
- **Perverse incentives** – to what extent would intervention trigger avoidance behaviours or other unwanted outcomes?

3.3 What other options have been ruled out of scope, or not considered, and why?

Inclusion of mobile energy users such as transport companies into the preferred option

An additional consideration common to the options discussed above is whether to capture stationary energy users *only* or include mobile energy users such as transport companies under an energy and emission reporting scheme. While there would be similar benefits to including transport companies to meet the overall policy intent, the structure of the industry, particularly road freight, is very different to stationary energy users. It is estimated there are around 200 large stationary energy users.

There is less information available on large transport entities but it is estimated there are approximately 4,500 trucking firms in New Zealand, and around 80 per cent of these companies have less than 5 trucks. The remaining 20 per cent of companies (900 companies) would likely be considered large energy users under the scheme. There are compliance burden concerns relating to the contracted nature of a significant number of the small firms which differs substantially from stationary energy users. There may also be other areas of the transport sector captured if a wide approach is taken, such as shipping, aviation, rail, rideshare companies like Uber, and public transport. More work would need to be done to determine whether the EERS would be an appropriate and effective tool for reporting in each subsector, and whether it would cause an unreasonable compliance burden by creating multiple lines of emissions reporting.

These issues create a significant design and implementation challenge, requiring bespoke consideration of the transport sector in the design of any preferred option, in particular in terms of the emissions threshold and reporting obligation. It may also require increased resourcing and collaboration to expand and implement the scheme accordingly, and ensure it is relevant for transport policy, which is led by the Ministry of Transport.

For these reasons, MBIE proposes that mobile energy users are excluded from the initial scope of the preferred option. However, given the information barriers and the benefits of including them in such a scheme are the same as for stationary energy users, we propose reviewing the scheme after three years of operation to assess whether mobile energy users should be brought in, and what specific provisions may be required to do so. This phased approach will enable government and industry to gain experience in emission reporting policy and better tailor requirements to mobile energy users.

Expand the Climate-Related Disclosures regime

The CRD regime is focussed on financial markets participants with the intent of helping businesses and investors to make more informed and efficient decisions. The regime is focussed on financial markets reporting entities with high levels of public accountability and

does not have a specific energy focus. MBIE considers it would not be appropriate to regulate for the provision of energy data through the financial markets system.

Require the New Zealand Emissions Trading Scheme (NZ ETS) reporting and surrendering of units at the point of consumption

The NZ ETS was amended in 2020 to require the Environmental Protection Agency to publish participant data on emissions and removals to improve transparency (Section 89A). This will allow for greater understanding of the scheme by the public and allow all participants to have access to the same level of data on which to base their decisions.

However in the NZ ETS, industrial energy users report their non-energy process emissions, which only applies to a handful of emission intensive trade exposed businesses. Energy emissions are reported further upstream by producers or importers of fossil fuels. NZ ETS reporting therefore does not provide granular information on energy end-use and emissions at the site, process, and product level.

Changing the point of obligation in the NZ ETS for the purposes of increased transparency for end use emissions would not be justified given the purpose of the NZ ETS is to put a price on carbon. We have not considered this as an option.

Section 4: Impact Analysis

Marginal impact: How does each of the options identified in Section 3.1 compare with taking no action under each of the criteria set out in Section 3.2?

	Non-regulatory (status quo)	Promote voluntary reporting (non-regulatory)	Energy and emissions reporting scheme	Energy auditing scheme	Corporate Energy Transition Plans
To what extent are information barriers addressed?	**0**	**0** Reporting would not be standardised in terms of reporting frequency, system boundaries, site-level, scopes and data format issues Risk that only willing organisations will continue to publish their energy use and emissions. Other large energy users, who are not incentivised to, will not participate in a voluntary scheme. Obstacles to improving information sharing provisions between government agencies remain as there are contractual clauses and existing collections limited to statistical purposes	**+** Companies have better information on their energy use and emissions, including engagement from senior management. Transparency of reporting, companies are correctly measuring their energy use and emissions. Increased reputational drivers to reduce energy use and emissions due to increased transparency. Enables evidence-based policy-making. Enables monitoring of policy initiatives and assessment of the effectiveness of existing policies.	**+** Better information on energy efficiency and renewable energy opportunities and development of a large "pipeline" of projects that are investment ready. Increased engagement from senior and board level management on energy efficiency and emission reduction projects and how these opportunities could translate into productivity, reputational and other benefits.	**+** As per both options in previous columns, as well as: Encouraging long-term planning and asset replacement strategies. Note: long-term planning and asset replacement strategies are now being pursued through two other policy measures: 1) EECA's Energy Transition Accelerator and 2) national direction under the Resource Management Act on industrial greenhouse gas emissions.
Primary benefit – emissions reductions from energy efficiency and fuel switching	**0**	**0**	**++** Better information to inform better policy, investment, and consumer decisions (public and private); and indirectly incentivise increased investment in energy efficiency and renewable energy technologies, which could reduce emissions by ~ 124 $ktCO_2$-e/year.	**+** Better and more granular information internal to firms on specific actions they could take; could indirectly incentivise increased investment in energy efficiency and renewable energy technologies. However, there is no public or government reporting element information asymmetries are not addressed for consumers, investors and government; and there may be less of a driver for	**+ +** As per EERS option. The longer-term asset plans are not included in this rating as they are being addressed by other policy measures since the consultation on this option.

	Non-regulatory (status quo)	Promote voluntary reporting (non-regulatory)	Energy and emissions reporting scheme	Energy auditing scheme	Corporate Energy Transition Plans
				firms to implement identified projects.	
Wider economic effects	**0**	**0**	**+** Increased visibility of market opportunities for biomass and electricity. Potential reputational advantages for New Zealand's exports. Investors are able to consider the climate impact of their investments.	**0**	**+** As per EERS option
Compliance costs	**0**	**0**	**-** Large energy users face increased compliance costs from reporting requirements.	**-** Large energy users face increased compliance costs from mandatory auditing, which are more resource-intensive than measuring emissions.	**- -** Large energy users face increased compliance costs from reporting requirements, auditing, and transition planning. This could be the cost of an EERS and an energy auditing scheme combined.
Administration costs	**0**	**-**	**-** Incremental cost of accreditation and scheme administration. Government will face minor additional costs for the monitoring and evaluation of the scheme.		
Perverse incentives	**0**	**0**	**0**	**-** Prioritisation of capital costs into energy auditing could divert the investment from fuel switching or more detailed feasibility or cost assessments of known priority projects.	**0**
Overall assessment	**0**	**-**	**+ +**	**-**	**0**

Key:

+ +	much better than doing nothing/the status quo
+	better than doing nothing/the status quo
0	about the same as doing nothing/the status quo
-	worse than doing nothing/the status quo
- -	much worse than doing nothing/the status quo

Analysis to support the impact assessment

CETPs ranked the best in the assessment prior to consultation, as they were the most comprehensive for addressing information barriers. However, following stakeholder feedback from consultation on the AREEE, it was determined that the mandatory auditing element of the CETPs would not be particularly effective and would incur substantial compliance costs. In addition, a key aspect of CETPs – long-term planning and asset replacement plans – are now being pursued through voluntary support (EECA's Energy Transition Accelerator) and regulatory measures (national direction under the Resource Management Act on industrial greenhouse gas emissions). The compliance costs are larger than for an EERS. On balance, we consider the EERS provides the greatest benefit and lower compliance cost.

Benefits of an energy and emissions reporting scheme

Measuring and reporting emissions fills a key information gap necessary to develop and evaluate policy, track progress towards our emission reduction targets, and enable the adoption of energy saving and emission reducing technologies. It creates greater visibility, transparency and accountability for energy use and the emissions.

We consider the benefits of the scheme to different stakeholders to be:

- **Large energy users:** this sector will be required to report and measure their emissions. Some companies may have limited information on their energy use and emissions, which can reduce the visibility of the benefits of energy efficiency and emission reduction projects. Coordinated region-specific information will help energy users to make more informed choices on fuel choice and timing.
- **Energy stakeholders:** the release of energy use information could indicate business' plans and opportunities for potential site conversion. This could help stimulate the electricity and bioenergy markets to provide regionally based solutions. It could inform Transpower and electricity distributors on the infrastructure needs to support decarbonisation, as well as supporting the bioenergy sector to identify areas of future market demand.
- **Fuel suppliers:** increased data availability will improve fuel suppliers' confidence to invest in supply-side infrastructure.
- **Government:** more accurate statistical reporting, improve the evidence-base for policy development, and monitoring of the effectiveness of policy interventions.
- **Public:** improved transparency will enhance public confidence that the New Zealand's large energy users are actively taking responsibility for managing their emissions. This could also increase reputational drivers for reporting entities, as improved transparency will inform public perceptions of climate action.
- **Shareholders and investors:** improved transparency will provide greater assurance for investors that businesses are actively assessing, managing and disclosing their energy use and emissions. It will enable better informed investment decisions.
- **Local Government:** increased availability of regional data to develop greenhouse gas inventories. Regional greenhouse gas inventories support local governments to support their region's response to climate change.

Estimated cost of a mandatory energy and emissions reporting scheme

The UK Streamlined Energy and Carbon Reporting (SECR) policy is similar to the proposed EERS. Some features of the UK's cost analysis can be used as a reasonable benchmark for the costs associated with the EERS.

In the cost benefit analysis, the internal costs were calculated using an estimate of New Zealand daily costs of directors, senior managers, middle managers and administrators was applied to the hours relevant to reporting based on the UK SECR. The daily costs were calculated from the 'impacts database' in the Treasury's CBAx model, specifically the average annual income for 'Post Graduate or Higher Degree' and 'NCEA Level 2 or equivalent'. The 2023 income values were used as proxies for director, administrator, senior and middle manager costs, which were spaced between these two values. To calculate business wage costs, the values were converted into a pre-tax amount.

The external costs were based on the ratio of external, internal and others costs from the UK assessment of compliance with the CRC Energy Efficiency Scheme.[12]

The estimated costs for third-party assurance are based on the estimates for the Climate-Related Disclosures regime.

Table 5 outlines the expected average entity costs for an EERS.

Table 5. Breakdown of entity compliance costs for an EERS

Breakdown of costs	Year One	Year Two	On-going
Internal costs	$8,761 (61%)	$8,958 (11%)	$8,958 (19%)
External costs	$,452 (31%)	$5,201 (7%)	$5,201 (11%)
Additional costs	$1,149 (8%)	$289 (0%)	$289 (1%)
Assurance costs	$0 (0%)	$65,000 (82%)	$32,500 (69%)
Total costs	$14,363	$79,447	$46,948

Using the assumptions above, the first year and on-going costs of the energy and emissions reporting scheme for a large energy user is estimated at $14,363 and $46,948 respectively. Total costs are lower in year one as assurance obligations will not be introduced till year two of the scheme. These costs are expected to be lower after the first round of assurance.

The internal on-going costs are slightly higher from year two due to:

- directors and senior managers are expected to spend less time on compliance in later years, but middle management and administrators are expected to spend more
- the findings of the UK compliance costs indicated that while 'other' costs were higher than internal costs in the first year due to implementation of measurement methods, there were higher external costs for ongoing compliance with the framework.

The total cost of the scheme on large stationary energy users is predicted to be around:

- $2.873 million in year one
- $15.890 million in year two

[12] Department for Business, Energy & Industrial Strategy, Assessment of costs to the UK participants of compliance with Phase 2 of the CRC Energy Efficiency Scheme.

- $9.390 million ongoing.

This assumes no wage inflation and is calculated through allocating the cost estimates per entity across the approximately 200 large stationary energy users required to report.

Indirect costs and benefits: the increased investment in energy efficiency and renewable energy

The benefits of a mandatory energy and emissions reporting and auditing scheme were calculated in a cost benefit analysis by Sapere consulting. However, it was decided that the assumptions on the energy savings could not be directly attributed to mandatory reporting.

The cost benefit analysis was based on a 4 per cent annual increase in efficiency and were re-calculated at 2 per cent for a reporting scheme. However, there would be multiple factors and other policies driving an efficiency uptake, and the uncertainty is too great to attribute all these benefits to a reporting scheme.

The greatest uncertainty in the cost-benefit analysis is the calculation of the indirect benefits driven by assumptions around the future, specifically:

- energy baselines and energy savings assumptions
- energy and carbon cost increases over time
- investment assumptions as a result of the audits and public reporting of information.

It is assumed that indirect benefits would be through behaviour change by causing an increased focus on energy use and emissions and the publication of information of interest to relevant stakeholders (government, investors, consumers, citizens).

This would increase attention given to energy use and emissions compared to the status quo in which focus on these issues is voluntary. It is also suggested that this may increase reputational drivers on the targeted entities.

It could also improve competitiveness and productivity as entities reinvest energy cost savings in other activities. There may also be reputational advantages for exports.

Appraisal period

The period modelled in this cost benefit analysis is from 2019 to 2035. This is a period sufficient to cover the lifetime of the sorts of energy saving and emissions reductions measures that large entities could employ with this policy in place over the coming years. These could include boiler efficiency, process optimisation; electrification or building efficiency measures (e.g., LED lighting and insulation), all of which have lifetimes of 15 to 20 years or more.

The impact of similar initiatives in the UK, Australia and the EU have shown significant benefits and provide a benchmark for quantifying the costs and benefits of the scheme

Two policies implemented in the UK could provide evidence on the costs and benefits of a mandatory energy and emissions reporting scheme and a mandatory auditing scheme:

- Energy Saving Opportunity Scheme (ESOS), a four yearly auditing scheme introduced in 2014
- Streamlined Energy and Carbon Reporting (SECR), an annual mandatory reporting scheme introduced on 1 April 2019.[13]

[13] An estimated 11,900 UK companies must disclose their energy and carbon emissions as follows:

The EERS is broadly similar to the UK's SECR so using its approach to estimate the costs and benefits in New Zealand is reasonable.

Reporting benefits – evidence from the UK

Analysis undertaken for these two policies by Eunomia Research & Consulting Ltd stated that mandatory reporting appeared to deliver greater and wider benefits than voluntary reporting.[14] This stemmed from more informed decisions made by various stakeholders.

The Eunomia research suggests that mandatory reporting can address the barriers associated with information asymmetry and help alleviate externalities (which result in undervaluing energy efficiency) by providing organisations with information on their energy use and helping them to identify energy saving opportunities.

The evidence also suggests that schemes requiring board-level sign-off and public disclosure can help to address misaligned incentives by creating reputational drivers and encouraging behaviour change.

Increasing demand for energy efficiency measures also attracts profit-seeking entrepreneurs and innovators to enter the market for energy efficiency, helping to overcome the 'embryonic markets' barrier.

The UK analysis showed potential broader benefits of public disclosure, including:

- The potential for growth in consumption and employment by increasing the need for both energy auditors and the installation of new energy efficient equipment.
- Better investment decisions as a result of improved information.
- Greater public reputational pressure which motivated positive behavioural change among organisations.
- Greater credibility for the regulator from increased compliance with the relevant environmental standards. This could also have the positive effect by lowering enforcement costs allowing the regulator to concentrate its enforcement efforts on more serious polluters.

(i) UK registered, unquoted large companies (defined from the Companies Act 2006) to report their energy use and emissions relating to gas, electricity and transport, and an intensity metric, through their company's annual reports; and

(ii) for quoted companies to continue to report their global GHG emissions and an intensity metric, and additionally start to report their global total energy use. Additionally, companies will report on their energy efficiency actions taken.

[14] UK Department of Energy and Climate Change, 2014, Evidence Review of the Impact of Central and Public Disclosure Methods for Reporting Energy Use and Energy Efficiency. Pages 5 & 44. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/323114/ESOS

Section 5: Conclusions

5.1 What option, or combination of options is likely to best address the problem, meet the policy objectives and deliver the highest net benefits?

MBIE's preferred option is the introduction of a mandatory energy and emissions reporting scheme for large stationary energy users (entities with more than 2kt CO_2e annual corporate emissions). The reporting scheme balances the benefits accrued to government, investors and the public through open and transparent data on energy end-use and emissions, while minimising compliance burden on the reporting entities. The assumptions and evidence provided in this reporting scheme are guided by the impact assessment on the UK's SECR. Due to the similarities between the schemes, this provides a good basis on the benefits and costs that may be accrued through the EERS. The uncertainties in the data have been acknowledged in Section 4.

Table 6 below outlines the main concerns and mitigation measures relating to our preferred option. These concerns were raised through consultation on CETPs as part of the AREEE document.

Table 6. Mitigation measures to address concerns of large energy users

Main concerns	Mitigation measure
Reporting schemes are already in place (voluntary and legislated)	MBIE has analysed the existing reporting mechanisms to identify areas of overlap, covered in Section 2.2. The existing mechanisms do not meet the data collection requirements.
Overlap with other reporting requirements	The main area of overlap for reporting is the Climate-Related Disclosures, which requires companies to report their emissions in their annual report. The overlap will impact approximately 20 entities (who are large energy users listed on the NZX). We will aim to align the EERS requirements with GHG emission disclosure requirements imposed by the XRB. The other potential overlap is the proposed building performance rating scheme. Both policy teams at MBIE will work together during the development of the schemes' secondary legislation to ensure a coherent and efficient reporting framework.
Reporting compliance burden	Mechanisms to reduce the compliance burden on reporting entities include: • Alignment with existing reporting mechanisms • Providing a standardised reporting framework • Introducing a voluntary scheme prior to mandatory implementation • Operating a "support and educate" regulation format
Release of commercially sensitive data	To address this concern, the public and reporting to government requirements have been separated. Public reporting requirements are at an aggregated level. The provision of information to government can be protected under the Official Information Act if it is considered to be commercially sensitive information. MBIE will establish appropriate data sharing protocols between agencies.

Main concerns	Mitigation measure
Misleading information to the public	Large energy users raised concerns that the public may compare the emissions between sites, without understanding they are producing different products which may be more energy intensive. Energy intensity reporting will only be provided to government to protect that comparison. It will be up to entities to determine the level of detail they provide on their corporate level emissions, and if they want to specify the products and causes for the energy intensity.
No discernible impact on emissions	Analysis of international schemes has proven that transparent and available information on energy use and emissions reduces emissions through increased energy efficiency and renewable energy investment.
Disproportionate administrative burden on small-medium operators	The scheme will be targeted at large-energy users, which are mainly large operators. The regulator will support entities to comply as easily and efficiently as possible.

Māori interests and Treaty of Waitangi

Of the five iwi submissions on the AREEE discussion document, Te Korowai o Ngāruahine Trust and Te Rūnanga o Ngāi Tahu responded to the Corporate Energy Transition Plans/ emissions reporting section of the discussion paper. Both supported CETPs, as the targeted reporting would provide transparency around how large energy users are performing, and increase corporate responsibility. Ngāruahine submitted that the threshold proposed at the time should be lowered to capture more entities.

The EERS is included in the first ERP and is a key foundational policy tool across energy using sectors to support the decarbonisation of the economy. Input from iwi/ Māori at the time of engagement on the draft first ERP in 2021 was received from Te Rūnanga o Ngāi Tahu. Te Rūnanga reiterated this position, noting support for an increase in transparency and corporate responsibility (e.g., requiring an EERS) for all large energy users.

Opportunities and potential impacts of the scheme on Māori interests include:

- Increased transparency of information would provide iwi with an overview of regional energy use and the associated emissions. The regionalised view of energy use and emissions can support iwi understanding the activities occurring in their rohe and to encourage businesses in their rohe towards more sustainable energy.
- Māori-owned entities may be required to report as they may meet the threshold for large energy users. This may have compliance burdens and financial implications on these companies. We have identified three corporate holdings as possibly being captured by the 2kt CO_2-e threshold: Ngāti Whātua Ōrākei Whai Rawa, Ngāi Tahu Holdings and Tainui Group Holdings.
- Most large energy users are in the manufacturing industry,[15] which employs 41,500 Māori. Financial impacts on these companies from the cost of reporting and compliance may have a small impact on Māori employees.

[15] https://www.mbie.govt.nz/dmsdocument/26510-maori-labour-market-statistics-snapshot-march-2023

More broadly, iwi submissions on AREEE raised the expectation for the Crown to work together with tangata whenua to develop climate and energy transition policy, and to ensure their rights and interests are well provided for. Partnership with iwi/ Māori is being pursued at a broader, more strategic level through the ERP, including through an equitable transition lens.

As part of implementing the ERP, the government is developing a Māori Climate Platform in partnership with tangata whenua to enable Māori-led climate action, planning, and solutions that build climate resilience. In November 2022, the Minister for Climate Change announced a new Interim Ministerial Advisory Committee to engage with Māori and lead the design phase of the platform.

5.2 Summary table of costs and benefits of the preferred approach

Affected parties *(identify)*	**Comment**: *nature of cost or benefit (e.g., ongoing, one-off), evidence and assumption (e.g. compliance rates), risks*	**Impact** *$m present value where appropriate, for monetised impacts; high, medium or low for non-monetised impacts*	**Evidence certainty** *(High, medium or low)*
Additional costs of proposed approach compared to taking no action			
Year One	Large stationary energy users	Cost to investigate and collate data on site-specific and corporate energy use and emissions.	$2.873 million	High
	Wider government	One-off cost to set-up the scheme and establish the regulator.	$1.420 million	Medium
	Total monetised cost	*Cost in the first year to establish the scheme.*	$4.293 million	Low – Medium
Year Two	Large stationary energy users	Cost to investigate, collate and seek independent assurance on site-specific and corporate energy use and emissions.	$15.890 million	High
	Regulator and data management	Annual cost for government and regulators to enforce and administer the scheme.	$0.933 million	Medium
	Total monetised cost	*Cost in the second year of the scheme.*	$16.823 million	Low – Medium
Ongoing	Large stationary energy users	Annual cost to investigate, collate and seek independent assurance on site-specific and corporate energy use and emissions.	$9.390 million	High

	Regulator and data management	Annual cost for government and regulators to enforce and administer the scheme.	$0.933 million	Medium
	Total Monetised Cost	*Ongoing cost of the scheme.*	$10.323 million	Low – Medium
Non-monetised costs (all years)			*Low*	Medium

There is too much uncertainty to accurately calculate the indirect benefits of the scheme. The purpose of the scheme is to improve the transparency and availability of information. International schemes have indicated a 2 per cent increase in energy efficiency from mandatory reporting. Using this statistic, there is a total estimated monetised annual benefit of $196 million. The estimated costs to large energy users of investing in energy efficiency and renewable energy technologies is $8.3 million. These estimates are based on a cost benefit analysis by Sapere consulting in 2019, updated based on 2023 income levels and the estimated cost of independent assurance.

5.3 What other impacts is this approach likely to have?

Other likely impacts

The cost of the scheme on required reporting entities is provided above in isolation of other financial constraints facing companies. There are other significant cost factors currently impacting large-energy users, such as high wholesale electricity and gas prices. This would be considered an additional cost burden for reporting entities, at a time when there are other financial implications facing the businesses.

A benefit of the scheme is providing a strong evidence base to develop policies. The transparent provision of data could enable MBIE to focus on policies and funding opportunities to support the lowest cost of abatement to transition. This would have financial benefits to New Zealand's economy, but the level of uncertainty is too great to provide an estimation of the monetary value.

More accurate information on regional demand and fuel switching opportunities could support better planning and more efficient expansion of clean energy infrastructure.

Energy efficiency and fuel switching investments can also create jobs for installers of the equipment and energy auditors.

Potential risks and uncertainties

The scheme requires the reporting entities to self-identify. Many large-energy users already measure their energy use and the associated emissions, but some firms do not. The self-identification of those firms could be difficult, as they may have limited access to data to be able to identify their requirements for compliance. It may be particularly difficult for firms close to the reporting threshold to determine whether they fall under the scheme.

There will be some entities that fall under multiple reporting requirements. For those entities, this scheme will be an additional reporting and compliance burden.

- We have identified that approximately 20 companies will be required to report under the Financial Sector (Climate-related Disclosures and Other Matters) Act 2021 and

the EERS, but there may be further cross-over. We will continue to work with the XRB to try to align the EERS requirements with climate-related disclosures reporting requirements.

- The other potential overlap is the proposed building performance rating scheme. Both policy teams at MBIE will work together during the development of the schemes' secondary legislation to ensure a coherent and efficient reporting framework.

Section 6: Implementation and operation

6.1 How will the new arrangements work in practice?

Legislation

To introduce the EERS, MBIE recommends enacting legislation which:

- sets out the classes of entities and reporting threshold that will be subject to the disclosure requirements
- specifies the high-level information that must be disclosed to the Registrar and the circumstances in which prescribed entities must disclose to the Registrar
- establishes an EERS register and appointment of a Registrar
- provides the reporting period and commencement date
- establishes the necessary assurance, compliance and enforcement mechanisms.

MBIE also recommends the legislation creates provisions which will enable secondary legislation prescribing:

- further details on the information that must be disclosed to the Registrar
- the manner and form in which information must be disclosed to the Registrar
- exemptions from the reporting scheme for certain entities or certain reporting requirements, if the Minister is satisfied that those entities are already reporting that information to another government body, and the information can be shared with the EERS Registrar. This will be implemented through a Bill, which has a Category 5 (instructions to be provided to the Parliamentary Counsel Office before the election) priority in the 2023 Legislation Programme. Following Cabinet approval on the legislation, MBIE will develop and consult on the secondary legislation.

Because there is a relatively long lead-in time before the date at which reports will be due, mandatory energy and emissions reporting will be required for financial years (as selected by the entity) commencing on or after the first day of the calendar year following enactment. Reports will be due within four months following the reporting entity's first full financial year. Assurance, compliance and enforcement requirements will commence from financial years commencing on or after 12 months following when the reporting requirements come into force.

Legislative vehicle

The legislative vehicles that could give effect to the EERS are:

- Special legislation e.g., the Energy and Emissions Reporting Bill
- Climate Change Response Act 2022
- Energy Efficiency and Conservation Act 2000
- Energy (Fuels, Levies and References) Act 1980

Table 7 sets out preliminary analysis of the advantages and disadvantages of the potential legislative vehicles. MBIE's preliminary advice is to introduce new special legislation to

establish the EERS, given the existing legislation does not meet the purpose and administrative requirements.

Table 7. Initial analysis of the legislative vehicle to require the reporting scheme

	Advantages	Disadvantages
Special legislation (e.g. the Energy and Emissions Reporting Bill)	• Alignment with EERS purpose and specific data requirements. • Simple, discrete piece of legislation will improve clarity of the law. • Act administered by MBIE.	• More complex to set up.
Climate Change Response Act 2002	• Alignment of purpose with the EERS. • Has existing powers to request provision of information relating to climate change adaptation (Sections 5ZW and 5ZX). • Alignment with data requirements, NZ ETS sits under the Act along with the monitoring requirements for the Climate Change Commission.	• Act is administered by the Ministry for the Environment. • Neither the Minister of Energy and Resources nor MBIE have powers under the Act.
Energy Efficiency and Conservation Act 2000	• Act is administered by MBIE and prescribes EECA's functions. • Act relates to energy information.	• Purpose of the Act does not include emissions reduction, though it may as part of the review of the Act that is currently underway. • Currently only EECA and the Minister for Energy and Resources have powers under the Act.
Energy (Fuels, Levies and References) Act 1980	• Act is administered by MBIE. • Section 36 (under miscellaneous provisions) has power for the Minister to require information in relation to petroleum products.	• Purpose of the Act not aligned with EERS, Miscellaneous Provisions might not be the best location.

MBIE considers that the Financial Markets Conduct Act (which includes the CRD provisions) is not an appropriate vehicle for the EERS, as many entities expected to be covered by the EERS are not FMC reporting entities and should not be subject to the other requirements in the Act.

Regulatory body

As outlined in Table 8, three entities could administer the EERS and perform regulatory duties including compliance and enforcement. Each entity already carries out regulatory functions. Our view is that MBIE is the best placed entity to undertake these functions because it already performs functions across energy data management, compliance and business registry administration. Budget 2022 included funding for MBIE to administer and regulate the scheme.

Table 8. Review of potential regulating entities

	Current regulatory role
Energy and Efficiency Conservation Authority	**Energy Efficiency and Conservation Act 2000: Energy Efficiency of products, services and vehicles** • Regulate the energy efficiency of appliance and equipment sold in New Zealand.
Environmental Protection Agency	**Climate Change Response Act 2002: NZ ETS** • Manage administration of the NZ ETS. • Ensure compliance with the scheme. • Provide reports and market information. **Resource Management Act 1991 (RMA)** • EPA has a statutory requirement to assist in enforcement action of a local council, and if necessary, directly enforce the requirements of the RMA. They may: o interview witnesses in relation to the incident o peer review investigation files o support councils in their enforcement decision making **Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012: Petroleum and Minerals** • Environmental regulator of the Exclusive Economic Zone and Continental Shelf, controls mining activities outside of 12 nautical mile sea limit.
Ministry of Business, Innovation and Employment	**Crown Minerals Act 1991: Petroleum and Mineral Regulatory System** • Steward of the energy and resources regulatory system, providing for the effective and efficient regulation of energy and resource markets • Evaluation and monitoring of market and regulatory performance • Steward of the petroleum and minerals regulatory system • Responsible for permitting (allocation, compliance, and administration), both on and offshore.

MBIE has a primary stewardship responsibility for, and is required to produce, a range of energy and emissions data as part of its reporting on the overarching energy sector. This includes the following for each major fuel-type: supply, transformation, non-energy use, and demand. The latter is broken down by sector (such as Transport, Commercial and the following within Industry: Non-metallic Minerals, Basic Metals, Mechanical/Electrical Equipment, Building and Construction, etc).

MBIE currently manages the collection of energy supply and demand data and emissions data from over 200 companies, often on a quarterly or monthly basis. MBIE liaises closely with Stats NZ which is also now active in emissions reporting, from an 'economy/consumption' lens rather than 'domestic' lens. MBIE also holds expertise in survey design, collections and respondent management, data validation, data management, reporting, and analysis and dissemination. The team that deals with energy data is embedded within MBIE's broader data and insights branch.

A key purpose for collecting the data is to inform government policy, and MBIE currently compiles and analyses energy data. Having the policy, compliance and enforcement, Registrar and data management functions all within MBIE would ensure data can be shared

in a confidential and streamlined way within MBIE and across relevant government agencies; and ensure effective coordination. The development and drafting of the regulations will be undertaken by the policy team and will be separate to both the compliance and enforcement (regulator) and Registrar roles.

Reporting frequency

Table 9 below outlines the key areas of consideration that led to the recommended annual reporting period.

Table 9: reporting frequency considerations

Consideration	Commentary
Response time of data collection	• A challenge with data collection is publication lag time (e.g., the 2019 greenhouse gas inventory results were published with a 16-month lag). Other annual data collection can have delays in feedback by up to 1.5 to 2 years. This impacts the ability to monitor policy initiatives. • More frequent reporting of energy use and emissions would reduce the reporting lag and enable a more agile response and ability to monitor policy interventions. • More frequent reporting also provides insight into seasonal variation in energy use for certain sectors, which helps improve understanding of future grid demands.
Compliance burden	• More frequent reporting would increase the burden on large energy users and impact their ability to robustly respond. It would likely increase the operational costs, as more frequent reporting would increase staffing needs. • Automation of data collection and reporting would reduce the compliance burden on reporting entities. These potential changes could enable reporting frequency to be increased in the future, with minimal impact of compliance burden.
Data quality	• The Markets, Evidence and Insights teams, who provide the energy statistical updates, raised that more frequent reporting reduces complexity, particularly for energy use, and noted that often companies collect their energy use quarterly when reporting annually. • MBIE publishes the New Zealand Energy Quarterly, which provides quarterly data and analysis on energy supply, demand, prices and associated greenhouse gas emissions.
Existing guidelines and frameworks	• MfE published guidelines to enable voluntary emissions reporting. These guidelines, along with international guidelines such as ISO 14064, are all calculated on an annual basis. • More frequent reporting would require updated guidelines. The complexity involved in developing further guidelines is unclear, but would require further work.
International approach	• None of the identified international mandatory energy and emissions reporting regimes required reporting more frequently than on an annual basis. • Australia, the UK and the US all require annual reporting

Compliance and Enforcement

The legislation will give the Registrar compliance and enforcement powers consistent with recent similar pieces of legislation. These powers will be able to be delegated to another public sector employee. We expect that most reporting entities will endeavour to comply with the requirements of the scheme. Where non-compliance occurs, it could take the form of, but may not be limited to:

- accidental or intentional failure to report prescribed information to the regulator
- false, inaccurate, or untimely reporting of information
- failure to submit proof (e.g., certification) of independent assurance.

We propose taking a compliance approach that reflects a high trust operating model and promotes compliance to achieve the policy intent of the regime, while not imposing unreasonable obligations on reporting entities. As well as carrying out education, information and support activities to assist entities with compliance, the Registrar will be able to seek civil pecuniary penalties. We do not consider that criminal penalties will be a feature of the regime.

We propose the Registrar will in the first instance, focus on providing guidance to assist entities to comply with the scheme. To facilitate effective implementation and compliance, in the first year of the scheme, the Registrar will not have powers to seek penalties.

We propose the Registrar is given the following powers to promote compliance:

- **Monitoring and investigation:** the Registrar may monitor and investigate compliance with the Act, including requiring entities to produce relevant documents for inspection. The Registrar will not have the power to conduct on-site inspections.
- **Corrective notices:** the Registrar will have the power to issue a corrective notice to a reporting entity, which will require the entity to address and/or remedy any non-compliance within a specified period. This approach will enable the Registrar to address low level non-compliance whilst minimising cost to both government and regulated entities. It will reduce the likelihood of significant non-compliance and support the principle of high trust outlined above.
- **Pecuniary penalties:** Should non-compliance continue following issuance of a corrective notice, the Registrar will be able to seek pecuniary penalties. We propose the maximum pecuniary penalties of:
    i. $20,000 for an individual and $60,000 for a body corporate for intentionally failing to register an energy and emissions report
    ii. $20,000 for an individual and $60,000 for a body corporate for intentionally providing incomplete, false or misleading information required in an energy and emissions report
    iii. $100,000 for an individual and $300,000 for a body corporate for intentionally failing to independently assure reports
    iv. $100,000 for an individual and $300,000 for a body corporate for intentionally providing incomplete, false or misleading information in relation to independent assurance.

The values of the penalties are intended to:

- provide sufficient incentive to comply, and to promote compliance and achieve the policy intent of the regime, while not imposing unreasonable obligations on reporting entities or on the Crown
- enable the provision of good quality data in line with the policy intent
- be proportionate to the size of the entities covered by the scheme (the identified large energy users are large companies with good resource).

In term of the penalty regime, we do not think it is appropriate to include a percentage value of company measure. Instead, the regime enables the court to do a nuanced analysis of any potential breach and to consider capability to undertake the reporting requirements when setting the penalty so that the regulated party is treated fairly, noting the maximum penalty would be for worst-case offending.

We do not propose including criminal offences at this stage. Pecuniary penalties are likely to be sufficient to deter breaches and the nature of the offending conduct does not warrant the denunciatory and stigmatizing effects of criminal conviction.

To provide a complaints process, the legislation will enable to review of compliance notice and an appeal process against a review decision. This is consistent with the Business Payment Practices approach.[16]

Funding the scheme

As shown in Table 10 below, the estimated costs of the programme on government are $1.420 million for the first year, and an ongoing cost of $0.933 million. This is to support staff members to administer the scheme, and the additional overhead in the first year is to establish an easy to submit process for the register to reduce compliance burden on reporting entities. OPEX costs include FTE costs, as well as software and maintenance. CAPEX costs are associated with building the register. We also expect there to be costs associated with an evaluation of the scheme after three to five years (around $0.330 million).

Table 10. Estimated cost breakdown for the Crown

Cost	Year 1	On-going
OPEX	$920,000	$933,000
CAPEX	$500,000	0
Total	$1,420,000	$933,000

Budget 2022 included funding for MBIE to administer and enforce the scheme, as part of wider initiative to support further decarbonisation of industry. MBIE considers it is appropriate to use Crown funding to administer the EERS because:

- the information gathered from the scheme has public good benefits
- it is more administratively efficient in the first years of setting up and running the scheme.

[16] Sections 29-30A of the Business Payment Practices Bill: https://legislation.govt.nz/bill/government/2022/0179/latest/whole.html#LMS754132

MBIE has not considered the use of fees or levies at this stage, but this could be considered as part of the scheduled review of the scheme, alongside an analysis of the appropriateness of using existing energy levies.[17]

6.2 What are the implementation risks?

Table 5 outlines concerns raised by large energy users following public consultation on the CETPs, along with mitigation measures to address the concerns.

A standardised methodology was raised as important for a consistent and transparent approach to reporting. Some entities were in favour of flexibility regarding the reporting framework, which is the approach adopted in SECR in the UK. A lack of standardised approach, however, limits the ability to enable comparison between entities and can reduce the effectiveness of the scheme.

Most of the concerns raised for the CETPs related to the auditing element of the proposal. However, only the energy and emissions reporting element is being proposed as the preferred option.

What are the underlying assumptions or uncertainties, for example about stakeholder motivations and capabilities?

We have assumed that many large energy users are already measuring their energy use at a site or process level. This means that the search cost for the data on energy use and emissions will be low for large energy users. However, there may be some businesses (especially those close to the eligibility threshold) included in the scheme who do not yet measure their own energy use or emissions.

[17] Petroleum or engine fuel monitoring (PEFM) and gas safety, monitoring, and energy efficiency (GSMEE) levies under the Energy (Petrol, Engine Fuel, and Gas) Levy Regulations 2017; electricity levy under the Electricity Industry (Levy of Industry Participants) Regulations 2010; electricity safety levy under the Electricity (Safety) Regulations 2010. These levies fund the activities of the Electricity Authority, the Energy Efficiency and Conservation Authority, WorkSafe, the Gas Industry Company and MBIE. MBIE collects the PEFML levy for fuel quality and safety monitoring costs, and IEA and oil stocks activity.

Section 7: Monitoring, evaluation and review

7.1 How will the impact of the new arrangements be monitored?

MBIE will monitor the impact of the proposals in this RIS on an ongoing basis as part of MBIE's regulatory stewardship obligations.

The energy and emissions reporting requirements will assist in the evaluation of the scheme and other energy and emission related policies, by providing a consistent set of data to measure progress on New Zealand's climate change commitments.

7.2 When and how will the new arrangements be reviewed?

The scheme will be reviewed three years after its implementation, to:

- confirm it is providing the correct data to meet business, government and the public's needs.
- check the compliance burden and ability for businesses to use the standardised framework.
- consider if the scope and threshold should be adjusted.

Following the review after its implementation, the scheme will be reviewed during the development of a new emissions reduction plan (every five years), to ensure the scheme is providing the required data for the Climate Change Commission to monitor New Zealand's progress. The thresholds may be reviewed more frequently.

MBIE's Evidence and Insights Branch routinely undertake or commission evaluations of MBIE policies, programmes and funding initiatives.