



13 July 2009

Ministry for the Environment  
PO Box 10362  
Wellington 6143

Dear Sir/Madam

## Submission on draft stationary energy and industrial processes regulations for the New Zealand Emissions Trading Scheme

### Introduction

Thank you for the opportunity to make a submission on the draft stationary energy and industrial processes [SEIP] regulations for the New Zealand Emissions Trading Scheme [NZ ETS].

Origin Energy Resources New Zealand Limited [Origin Energy] makes this submission as a significant operator of hydrocarbon exploration and production sites in New Zealand. Our submission relates primarily to the provisions for natural gas mining.

Previous submissions by Origin Energy have addressed our high level position, and Origin Energy's continuing overall support for an ETS. This submission addresses some of the details, and the matters where feedback has specifically been sought by the Ministry for the Environment [MFE].

Origin Energy would like to acknowledge the positive approach taken for the consultative process during the development of the draft regulations, particularly the use of independent experts, such as the Centre for Advanced Engineering.

As noted by joint industry consultation, we also endorse the process of early, open-minded engagement with industry to develop the technical rules of the ETS, and hope this will continue across all aspects of scheme design and implementation.

### Key Points

The main points Origin Energy wish to make in this submission relate to:

1. Consistency of regulations with Australian legislation
2. Timeframes
3. Point of measurement
4. Methods for collecting information for calculating emissions
5. Methods for calculating emissions
6. Losses
7. Gas storage

## 8. Opt-in

These are discussed further below, with requests given for consideration by the Ministry for the Environment as part of further consultation.

### 1. Consistency of regulations with Australian legislation

Origin Energy, as previously submitted, continues to support efforts to harmonise, where practical, reporting requirements and methodologies for measurement between the Australian Carbon Pollution Reduction Scheme (CPRS) and New Zealand. We also believe that the New Zealand ETS should be aligned with accepted international greenhouse gas reporting protocols, such as ISO 14064.1.

Consistency across borders with compliance of regimes has several benefits to liable parties operating in both the New Zealand and Australian jurisdictions. There are many businesses in Origin Energy's position which have operations in both countries and indeed internationally so on this basis Origin Energy believe the reasons why the regulations should be consistent, or at least harmonious, include:

- Simplified corporate reporting and implementation processes. This would minimise transactional costs for participants and the Government, which is one of the principals of the methods for calculating emissions stated in Bulletin No. 10.
- A greater ability to compare, evaluate and develop process improvements in the administrative task of managing the emissions liability.
- Greater transparency and comparability between the two countries reporting systems, which would allow a comparison to be made between the countries and permit New Zealand to bench mark itself as to how it is performing on the international stage.
- The governments in both countries would also benefit from enhanced enforcement capabilities for monitoring and exposing attempted fraud in ETS operations and similar benefits from knowledge sharing experiences by the ETS participants.
- By linking schemes New Zealand and Australia can deliver cost-effective emissions reductions and demonstrate international leadership on climate change policy.

Through previous submissions Origin Energy set out methodologies which were fundamentally different between the Australian and New Zealand schemes and as noted above provided an explanation as to why consistency was advantageous. These included:

- Liability for emissions associated with gas in the Australian CPRS, are with large users and retailers. Whereas, liability for emissions associated with gas in the NZ ETS are with the producer.
- At present, the Australian CPRS is consistent with ISO 14064.1 with regards to reporting Scope 1, 2, and 3 emissions. Many companies, including Origin Energy, voluntarily report greenhouse gas emissions in accordance with this standard. Under the current draft regulations, the New Zealand ETS is not aligned with ISO 14064.1.

*Submission request:* Origin Energy requests that the Ministry for the Environment explores areas where it would be possible to create alignment between the New Zealand ETS requirements with Australian CPRS to promote harmony relating to trans-Tasman operations.

## 2. Timeframes

The NZ ETS requires gas mining participants to report greenhouse gas emissions from 1 January 2010. Origin Energy submits that to address the issues that have been highlighted through the consultation process and any outcomes from the December 2009 Copenhagen Meeting, a deferral of this date would be prudent. This is important to ensure there is sufficient debate, further industry consultation, and understanding created to permit the creation of robust regulations that fully address areas identified internationally and through this process.

*Submission request:* Origin Energy requests greater time for discussion and debate therefore a deferral from 1 January 2010.

## 3. Point of measurement

One of the main changes in the current draft SEIP, is that the point of measurement is now point of sale rather than point of obligation. Origin Energy is encouraged by the change of point of measurement to point of sale meter as this would permit far more accurate measurement as presented by industry to CAENZ for the report "Review of Default Emissions Factors in the Draft Stationary Energy and Industrial Processes Regulations: Gas - June 2009". However, Origin Energy's preference, as highlighted previously in this response, remains for consistency between the Australian and New Zealand schemes.

For example under the provisions of the Australian CPRS the point of measurement is defined as the point of combustion. As such the obligations for emissions associated with gas lie with the retailer and large user including electricity generator rather than the producer. This is more efficient as it places the liability with the party who has control of the emissions. Consistent point of liability would reduce the complexity and cost of administering two separate reporting requirements for business and government agencies. Harmonious points of measurement and reporting would also provide numerous intangible benefits. Other than the benefits already stated in Section 1 of this submission it would also allow a greater shared knowledge based in both countries and potentially faster implementation and application of the methodologies, based on common experience within a business, and among participants of the ETS in both Countries.

*Submission request:* Origin Energy requests consideration be given to consistency with the Australian CPRS regarding point of measurement and obligation by placing liability at the point of combustion where the liable party has greatest control over the emissions.

#### 4. Methods for collecting information for calculating emissions

One of the other main changes in the current draft SEIP regulations is that emissions from sales gas are measured by fiscal meter and gas chromatography [GC] for sales gas at point of sale. The revised method also requires GC testing of gas properties for gas flared, vented or used. Bulletin No.10, from MFE, seeks feedback on the feasibility of these testing and metering requirements.

With regard to sales gas, all gas miners delivering gas into the transmission system must be able to ensure that their gas meets the Specification for Reticulated Natural Gas (NZS 5442:2008), which requires the use of gas chromatography. Therefore, this method is feasible for sales gas.

However, with regard to fuel gas or flared gas, the requirement for GC testing is not always feasible for fuel gas and infeasible for flared gas. For example, either raw gas or sales gas spec. may be used as fuel, but fuel gas used at well heads does not go through a GC, thus making it difficult to know the composition of gas for calculations. The composition may be obtained by testing, but Section 15(3) of the regulations does not specify the frequency of testing required. Also, it is not entirely clear whether the sales gas composition is to be applied to fuel gas and flared gas. For example, Section 15(1)(f)(i) appears to require gas directed to flare under (15(1)d) to be analysed by gas chromatography to determine the mass flared. Alternatively, it could be interpreted that sales gas composition, as measured by GC, is to be applied to flare gas to determine the mass of CO<sub>2</sub> emitted by flare. The disadvantage of this method is that sales gas and flare gas may have very different compositions and applying the composition of one to other will produce inaccuracies.

With regard to venting, Section 15(1)(e) requires collection of information on 'natural gas used by the person'. It is assumed that venting emissions are excluded as these are dealt with under in 15(2). However, it would be clearer if the meaning of 'used by' was expanded upon and the exclusion of venting was explicitly stated.

There seems to be no methodology specified for calculating emissions vented prior to the point of sale, as required under 15(2)(a), or instructions as to which vent sources should be included. A definition of venting, and Chapter 5 of the API compendium 2004 would be a useful place to start.

Also, as with flared gas, 15(2)(b)(i) seems to apply the composition of sales gas to the vent gas calculations. This will overestimate CO<sub>2</sub> emissions in most circumstances, particularly for raw gases that have high CO<sub>2</sub> concentrations, due to the higher concentration of methane in sales gas compared to raw or partially processed gas.

Origin Energy submits that to calculate emissions from flaring, venting, or fuel gas, it would be prudent to have a choice between a site specific factor (derived from testing the composition of gas), or default emission factors (which helps the smaller players and also where GC testing is not possible).

As a related point, Table 4 in the regulations does not include natural gas mining emission factors. However, they are referred to in Table 5 of Bulletin No. 10 (national average (specification gas): 53.29 CO<sub>2</sub>, 0.0013 CH<sub>4</sub>, 0.0001 N<sub>2</sub>O).

*Submission request: Origin Energy requests further review regarding the methods for collecting information for calculating emissions, and a review of definitions.*

## 5. Methods for calculating emissions

With regard to the formulas contained in section 16 of the SEIP regulations, we offer the following comments:

- The formula in section 16(2) combines emissions due to flaring and combustion together with the same oxidation factor. However, we believe that the compressors and flares run at different efficiencies. Also, separate information of CO<sub>2</sub> equivalents from flaring is more useful for the industry as this highlights the emissions due to flaring and combustion. In short, can we use API compendium for calculation GHG emissions, where we use stoichiometric calculations for site specific emissions.
- The calculation formulae in section 16 (2) is for combustion, flaring and venting seems to be overlapping eg. in the formula Section 16 (2):

$$E = [OF * (A/B) * C] + (D * CEF) + (D * NEF)$$

D is the total TJ of gas that is mined which gets multiplied by an emission factor CEF and NEF to calculate CH<sub>4</sub> and N<sub>2</sub>O respectively, thus meaning that it is venting from the whole plant rather than methane and nitrous oxide emissions due to combustion.

- It is not clear how B and C differ in the equation in 16(2). Specifically:

B = 15(1)(f)(ii) = the total mass of gas as determined by testing in subclause 3, in respect of mined natural gas referred to in paragraphs 15(a) to 15(e) (as per 15(1)(f)).

C = total tonnes of (a) gas sold + (b) exported gas + (c) gas sold to opt in + (d) flared gas + (e) gas combusted during processing.

*Submission request: Origin Energy requests continuing review regarding the methods for calculating emissions.*

## 6. Losses

One of the changes in the current draft SEIP regulations from the previous draft is an additional factor for losses experienced in the gas distribution network. The formula in 16(4) requires losses to be divided among gas mining participants by share of national gas production as published annually by Ministry of Economic Development.

However, these losses occur after the sales gas meter, and combustion of total sales gas is already accounted for in the formula in Section 16(2). Therefore, including emissions from losses is double counting.

As a result of concerns about the possibility of double counting raised at a gas sector workshop held on 22 June 2009 Ministry for the Environment have proposed removing both the factor for losses and the oxidation factor. Their explanation is that the combustion oxidation factor in the existing equation accounts for gas that is not completely combusted downstream, which mainly consists of the gas termed "losses". If the factor for losses is removed, the oxidation factor should also be removed.

*Submission request: Origin Energy requests further consultation to ensure the proposed changes are understood and accepted by industry prior to implementation of the scheme as this proposal has been made subsequent to the draft SEIP regulations.*

## 7. Gas Storage

In the current draft SEIP Regulations Gas storage is no longer in formulas for mining natural gas, but in formulas for importing natural gas. There remains however a potential for double counting regarding calculating emissions relating to reinjection and subsequent transmission of the stored gas. This could impact on the intent of where liabilities lie for the emissions. Bulletin 10 states that "A storage adjustment provision has been included for opt-in participants" but does not elaborate further regarding the intent of the changes.

*Submission request: Origin Energy requests further clarity regarding the intent of the provisions relating to Gas Storage and methodology for calculating emissions relating to Gas Storage.*

## 8. Opt-in

Further to the draft SEIP regulations, through industry consultation it was noted that the Act allows parties other than miners to opt-in, so there is a requirement that the regulations allow such parties to calculate their obligations under the Act. However, there were continued concerns about the provisions in the draft regulations relating to opt-in.

As such, the Ministry for the Environment discussed this with industry at the workshop held on 22 June 2009, and as a result have requested information on what information can be obtained by opt-in participants from the gas miner. Opt-in is only allowed if gas is purchased direct from a miner. Therefore, the properties of the gas should match the properties of the gas sold by that miner. Opt-in registration takes effect 12 months after a participant has registered. If there is any change to eligibility for opt in, this delay may also need to be considered.

*Submission request: Origin Energy requests sufficient time to fully consider the information requesting, and the impacts this would have as again this was proposed subsequent to the draft SEIP regulations. To do this, a definition is required in the regulations of both "mined natural gas" and "opt-in natural gas".*

## Conclusion

Origin Energy again thanks the Ministry for the Environment for the opportunity to comment on the draft SEIP regulations for the NZ ETS.

Origin Energy would wish to be heard in support of its submission.

If you have any questions about this submission, please contact Amanda Lambert, Environmental Advisor, by email: [amanda.lambert@originenergy.com.au](mailto:amanda.lambert@originenergy.com.au) or telephone: 06 769 9861.

Yours faithfully



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