

MEMO

TO: ContourGlobal
cc: Roland de Vlam (Loyens & Loof)
DATE: 9 September 2016
FROM: [REDACTED]; [REDACTED] (NERA)
SUBJECT: Comments on Regulatory Framework for CGB

1. Introduction

1.1. Structure of Memo

This Memorandum sets out our initial response to the ACM's proposed regulatory framework in Bonaire. We are responding separately on the calculation of the Weighted Average Cost of Capital. This Memorandum follows the outline of the ACM's Draft Method Decision¹ on the regulation of ContourGlobal Bonaire (CGB) and proceeds as follows:

- Section 2 describes ACM's criteria and overall objectives

Then, we follow the ACM's four step process as set out in paragraph 53 of the Draft Method Decision:

- Section 3 discusses step 1 – determining the costs;
- Section 4 discusses step 2 – determining how those costs result in revenues;
- Section 5 discusses step 3 – how those revenues result in rates (tariffs); and
- Section 6 discusses step 4 – how to settle afterwards the differences between forecast costs/outputs and actual costs/outputs (or “between costs and revenues”, as the ACM puts it).

An appendix sets out some examples of the profit-sharing formula and the difficulties it presents for cases where CGB's costs are rising (or falling) over an extended period.

This Memorandum is intended for the exclusive use of Contour Global Bonaire and must not be shared with any third party without NERA's prior written consent. We set out our standard confidentiality provisions and limiting conditions at the end of this Memorandum.

¹ ACM (2016), *Draft Method For Setting The Rates For The Production And Distribution Of Electricity And Drinking Water In The Caribbean Netherlands 2017–2019*, henceforth the “Draft Method Decision”.

1.2. Our Preliminary Conclusions

Overall, we find that in many places the Draft Method Decision is not consistent with the ACM's own regulatory criteria and objectives, as set out in the ACM's documents. We indicate in the text below where these inconsistencies arise.

In addition, we see scope to improve the method of regulating CGB, by bringing it more into line with the ACM's own objectives and criteria. Our key conclusions are as follows:

- The ACM should confirm that any changes to accounting costs support the objective of *investor protection*, e.g. by ensuring that the starting value of the RAB is equivalent to the remaining value to be recovered under the PPA between CGB and WEB, or to some similarly objective value for the amount that investors were expecting to recover over the plant's life.
- The ACM should define the “maximum production price” required by Article 2.5 paragraph (1) as a *formula*, rather than as a *value*, to make it robust to changing conditions during the subsequent year. This approach is particularly important for the fuel cost (energy price) component of the production price.
- The ACM should remedy quickly the current lack of detail over the operation of any profit-sharing arrangements alongside the three-year review, to avoid injecting unnecessary regulatory risk and raising the cost of capital. Specifically, ACM should clarify how the profit-sharing rules will apply to years 2 and 3 of the one regulatory period, in setting the revenues for years 1 and 2 in the next regulatory period. This clarification would ideally take the form of detailed methods (rules), but should be expressed at least (and ideally as well) as a set of regulatory principles to be applied at each review.
- CGB is project-financed and has limited scope to tolerate variations in cash flow if it is to retain its current access to low cost debt covered by various covenants. The Draft Method Decision should therefore indicate how the ACM plans to maintain the minimum required cash flow, or else how the ACM will increase CGB’s revenues to cover any rise in the cost of debt caused by breaching CGB’s debt covenants.
- The ACM should explain what information is required to back up a request for recovery of forecast or incurred “additional costs”,² e.g. board level cash flow forecasts, signed contracts for future expenditures, invoices for similar costs in the past, evidence of the non-recurrent nature of such costs, etc.
- Under step 4 of its regulatory process, the ACM should set out the detailed formula required to keep the production price in line with CGB’s costs (allowing for variation in fuel prices and thermal output). As discussed below, this formula requires the combination of a multi-part tariff (with charges for capacity, thermal generation and wind generation) and indexation (for inflation and fuel prices, at the very least).

² ACM (2016), *Draft Method For Setting The Rates For The Production And Distribution Of Electricity And Drinking Water In The Caribbean Netherlands 2017–2019*, para 75.

In preparing our comments on the Draft Method Decision, we reviewed the ACM's explanation of its proposal³ and CGB's previous submission to the ACM.⁴ In addition, CGB and its advisors gave answers to questions that we addressed to them. These answers occasionally directed us to passages or phrases in other documents, those of which relevant to our comments are footnoted below.

³ ACM (2016a), *Explanation of tariff regulation in the Caribbean Netherlands*, issued with Draft Method Decision of 6 July 2016, henceforth the "Explanation of Tariff Regulation".

⁴ Loyens & Loeff (2016), *Draft Method ex Art. 2.5(4) of the Electricity and Drinking Water Act BES, Opinion Contour Global Bonaire*, reference 22209369 (70093174), 14 August 2016.

2. Objectives and Criteria of Regulation

2.1. Comments on the ACM's Objectives and Criteria

2.1.1. Objectives

The Draft Method Decision states that the “general objective” of the BES Electricity and Drinking Water Act⁵ (the Act) is the reliable, sustainable and effective functioning of the electricity and drinking water supply, which the Explanatory Memorandum splits into three objectives for “rate regulation”: (1) consumer protection; (2) investor protection; and (3) efficiency.⁶ These objectives prompt the following comments:

- “Consumer protection (against too high tariffs of a monopolist).” *NERA Comment: The ACM points to the potential problem of tariffs being inflated by a monopolist, but this objective also requires the ACM to minimise unnecessary risks so as to keep as low as possible both the cost of capital and the production price paid eventually by consumers.*
- “Investor protection (enough room for investments; reasonable return for the companies)” – *NERA Comment: Investor protection is best defined as the requirement to offer investors the opportunity to earn a rate of return sufficient to attract capital, after recovery of all other costs. In the case of CGB, that is best understood as requiring the opportunity to earn a return on equity – after recovery of depreciation, operating expenses and the actual cost of debt – that is always sufficient to meet CGB’s debt covenants and to maintain access to its low cost project finance.*
- “Efficiency of the companies (sufficient quality for as little cost as possible)” – *NERA Comment: The incentives given by a 3-year revenue formula may encourage short term efficiency in operating expenditures, but CGB’s investment costs are already sunk. The ACM’s main contribution to efficiency will come from creating a low risk regime that maintains CGB’s access to low cost project finance. In practice, this requires the regulation of CGB to meet the same standards as “investor protection” (see above). CGB may be required to invest in the future, but no three-yearly revenue formula can provide incentives for efficient long-term investment. Instead, future capital expenditures will have to be subject to individual scrutiny at the time, to decide the definition of costs to be recovered. Such scrutiny will have to be carried out objectively, to avoid injecting unnecessary regulatory risk and inefficiently driving up CGB’s cost of capital.*

We note in passing that investor protection and maintaining access to low cost finance is not just a matter of recovering past investments, or of minimising the cost debt incurred in the past. The Act imposes on CGB an “obligation to serve”, meaning an obligation to invest in sufficient capacity to meet demand. As demand for electricity grows in Bonaire, CGB will have to invest in additional

⁵ Wet van 23 maart 2016, houdende regels met betrekking tot de productie en de distributie van elektriciteit en drinkwater op Bonaire, Sint Eustatius en Saba (Wet elektriciteit en drinkwater BES).

⁶ ACM (2016), *Draft Method For Setting The Rates For The Production And Distribution Of Electricity And Drinking Water In The Caribbean Netherlands 2017–2019*, para 38. Para 1 of the ACM’s Explanation of Tariff Regulation contains the same statements.

plant, and to attract new capital. It is therefore in the interests of consumers to ensure that CGB can continue to attract low cost equity and debt, by minimising unnecessary (regulatory) risk.

2.1.2. Criteria

In addition to the three high-level objectives of regulation, the ACM states that it will apply four procedural “criteria” when deciding which precise method to select:⁷

- i. “Feasibility: the method needs to be feasible in the sense that it actually can be implemented, and the burden on businesses must be as little as possible. This is particularly important in the Caribbean Netherlands because most businesses are small in terms of scale (they usually do not have a separate regulatory department, like most businesses in the European part of the Netherlands do).” *NERA Comment: This criterion means that the method must be capable of implementation (without the need for arbitrary judgements to make good deficiencies in the available data), and that the regulated businesses’ implementation costs must be as low as possible, given their small size.*
- ii. “Explainability: the method needs to be easy to understand for consumers and businesses.” *NERA Comment: In reality, this need not be a binding constraint. Many regimes have regulatory regime that are complicated for consumers to understand, but few consumers actually investigate or understand their utilities’ regulatory regimes. Instead, consumers need to be confident that the regulator has set up a regime that serves their needs. Such a regime would ensure the industry provides the level and quality of service they demand, efficiently and for a cost-reflective price. As far as explainability is concerned, the regime must enable regulated businesses to understand the incentives provided by their regulatory regime, but that is equivalent to the requirement for transparency, as defined below.*
- iii. “Transparency: the method needs to be transparent. Consumers and businesses must be able to see how the rates have been set.” *NERA Comment: Transparency demands that the ACM not make subjective judgements, but instead base its calculations of allowed revenues on reasoned arguments, using objective data from public sources (including audited accounts for CGB). Between reviews, transparency requires that allowed revenues are defined objectively by fixed formulae, and are not decided at the discretion of the regulator.*
- iv. “The company’s own responsibility: ACM does not wish to step into the shoes of the company’s executives by, for example, deciding exactly what costs can or cannot be incurred.” *NERA Comment: We understand fully the ACM’s desire not to take over business commercial decisions from CGB. However, in the interests of objectivity (and hence, transparency), the ACM will not be able to avoid giving attention to detailed information about CGB’s commercial situation.*

⁷ ACM (2016), *Draft Method Decision*, para 46.

2.1.3. Conclusion

The three general objectives of regulation and the four procedural criteria can therefore potentially provide useful guidance for the ACM's decision-making. However, in the Draft Method Decision, the ACM does not apply them consistently when evaluating possible options for regulation. In our comments below, we have tried to indicate how adjusting the Draft Method Decision would meet these objectives and criteria better than the ACM's proposed approach.

2.2. High-Level Choice of Method

In another major choice made within the Draft Method Decision, the ACM sets out high-level descriptions of methods of "stimulating companies to operate efficiently":

- "Imposing a revenue cut, for example, by imposing a frontier shift, which is an expectation that companies are becoming more and more efficient."
- Based on studies or on a benchmark with other companies in the region, determining what the costs are that comparable companies incur, and designate these as efficient costs ('benchmark').
- Applying a system such as profit-sharing, where the revenues are set, and any higher or lower costs are settled with the revenues in a subsequent year."⁸

These descriptions contain an error commonly found in European regulation, in that they confuse measures that reduce *revenues* with incentives that reduce *costs*. Simply reducing the revenues of regulated businesses does nothing to encourage efficient cost reduction. Such methods merely deny the companies the chance to recover sunk costs, and so discourage efficient future investment.⁹

Incentives for efficient cost reduction derive (at least in the short term) from revenue formulae that allow regulated entities retain all or some of the cost-savings they achieve. In such cases, it is the separation of revenues from costs, rather than the absolute level of revenues, that creates the profit incentive for cost reduction and efficiency. Efficiency incentives are therefore compatible with offering a level of revenue that provides an opportunity for recovery of actual costs and a reasonable rate of return, as defined above under *investment protection*.

The ACM has rejected "benchmarking" on the grounds that it is not feasible in the conditions of the Caribbean Netherlands; similar concerns over practicality led the ACM to reject (for the time being) any use of "frontier shift".¹⁰ However, neither of these methods encourage efficient cost-reduction. They may affect the *level* of revenue and profit earned by a regulated company, but

⁸ ACM (2016), *Draft Method Decision*, para 40.

⁹ Reducing revenues can sometimes tighten cash constraints on the regulated business, but such constraints are likely to promote inefficient cuts in expenditure, rather than efficient cost reduction.

¹⁰ ACM (2016), *Draft Method Decision*, paras 47 and 77.

these techniques are irrelevant to the *variation* in profits (and hence the incentives) that encourage efficient cost-reduction.¹¹

The ACM is therefore right to reject these techniques, but there are broader and longer lasting grounds for doing so, than those mentioned in the Draft Method Decision.

Regarding the proposal to use profit-sharing, we note that such methods can provide an incentive to reduce costs, whilst keeping revenues broadly in line with costs, but only if the permitted variation in profits is limited. The Draft Method Decision uses a 50 per cent profit sharing factor for illustrative purposes, but does not provide any justification for using this figure, or any particular figure.¹² That approach to decision-making is not consistent with the need for *transparency*, and this particular value may produce profit outcomes that are inconsistent with *consumer protection* or *investor protection*.

In the final Method Decision, it will be important by the criterion of *transparency* for the ACM to show that the likely variation in profits caused by any profit-sharing scheme will never put at risk CGB's recovery of costs and continued access to low cost debt, as required to meet the objectives of *consumer protection* and *investor protection*.

¹¹ An objectively justified frontier shift may help to keep a regulated business's revenues in line with its costs from year to year, assuming that the expected rate of change in its costs can be estimated objectively from information about the sector as a whole. However, sectoral information provides no guide to the trend in costs at a regulated business constructed around a single project. Benchmarking merely injects an arbitrary element into the determination of revenues that threatens future incentives to invest, and makes no contribution to efficiency.

¹² ACM (2016), *Draft Method Decision*, para 71.

3. Step 1: Rules for Defining Costs

3.1. Regulatory Asset Base (RAB)

The ACM states that it will use the last set of audited accounts when defining costs:

“When determining the regulatory costs, in the first instance ACM will use the annual accounts that companies produce (or cause to be produced) and which have been checked by an independent accountant.... In principle, ACM will always use the most recent annual accounts that were checked by the accountant. In practice this means that ACM will be using the costs for 2015 as a point of departure for calculating the rates for 2017.”ⁱ¹³

However, the ACM adds the following statement about defining the Regulatory Asset Base (RAB):

“At the start of the regulatory period ACM also determines the starting value of the companies’ assets. ACM sets this down in the method or in the rate decisions.”ⁱ¹⁴

ACM reserves the right to adjust the figures in the accounts, which could in principle include adjustments to the value of the business’s assets (the RAB):

“For example, ACM may calculate the value and depreciation of assets differently from the appreciation and depreciation as recorded in the annual accounts. ACM applies the principle that assets are appreciated at their historical cost price and that any contributions by third parties (e.g. subsidies) are subtracted from the activated expenditure.”ⁱ¹⁵

Thus, the ACM has granted itself discretion to depart from the costs shown in CGB’s accounts, but has not yet explained how it will do so in accordance with its regulatory objectives and procedural criteria. Tying the value of the Regulatory Asset Base to the value of assets in the accounts provides an objective, and hence transparent, basis for this decision. However, the accounting value of the assets may not provide sufficient revenue (from depreciation and return) to cover the cost of CGB’s interest, debt repayments and required profit margins. Other regimes have tried to define asset values using depreciated replacement cost, but this concept has proven difficult to define objectively, since there is rarely any well-defined basis for choosing or valuing a “modern equivalent asset”. In practice, therefore, a more objective alternative is to use historic cost after depreciation, inflated by a relevant price index. (This method was used at the start of regulation in the Netherlands for energy networks.)

The ACM has not yet set out how it would decide on adjustments to accounting costs. Any decision to use or to adjust accounting costs would have to comply with the ACM’s objective of *investor protection* (by establishing the remaining value that would be recovered under the PPA or some

ⁱ¹³ ACM (2016), *Draft Method Decision*, para 54.

ⁱ¹⁴ ACM (2016), *Draft Method Decision*, para 54.

ⁱ¹⁵ ACM (2016), *Draft Method Decision*, para 54.

similar concept). In addition, and entirely consistently, it should not infringe the objective of *consumer protection* (by imposing arbitrary adjustments that raise the cost of capital and increase prices for consumers).

3.2. Energy Costs and Fuel Prices

The ACM proposes to adopt a separate arrangement for energy costs that is not based on the costs in previous years' accounts and instead to "link to a public oil price index and to calculate (by means of a formula) what the energy costs for the production of electricity on the basis of that price index would be."¹⁶ CGB stated in its previous submission:¹⁷

1. no such formula would be "feasible" because there is no public oil price index for the Caribbean;
2. any formula would need to take account of the costs of transportation, storage and tax;
3. even if there were such an index, Curoil's monopoly position on Bonaire would prevent CGB from obtaining fuel at an international index price; and
4. any formula would need to take account of Bonaire's combined wind-fuel dispatch system.

The first and second of these arguments relate to the *feasibility* of this arrangement. Although we have not been able to review the availability of relevant price indices, we understand that CGB pays Curoil for its fuel on the basis of a price index plus a mark-up for transport costs.¹⁸ From the point of view of feasibility, the ACM could simply adopt the same formula in the price that CGB charges WEB.

The ACM may have been concerned that simply passing through the price of CGB's fuel purchases would offer poor incentives for efficient fuel procurement. That seems to be the ACM's sole reason for wanting to adopt a different fuel price index, rather than passing through CGB's actual fuel price. However, that concern is invalidated by CGB's third point. Assuming it is correct, CGB cannot purchase fuel any more advantageously than it already does from Curoil. The third point therefore means that the *efficiency* objective provides no grounds for giving CGB an incentive to purchase fuel more cheaply, or for trying to use a different fuel price index in CGB's regulated revenue formula. Indeed, passing through the actual fuel price paid by CGB meets the requirements of both *consumer protection* and *investor protection*, since the resulting energy price will be neither too high nor too low to provide a reasonable rate of return.

The fourth argument is mentioned only briefly in the submission, but the relationship between fuel costs and wind output is worthy of further discussion, since the Draft Method Decision seems to overlook the difficulties created by variation in thermal generation output and fuel usage during each year.

¹⁶ ACM (2016), *Draft Method Decision*, para 109.

¹⁷ Loyens & Loeff (2016), *Draft Method ex Art. 2.5(4) of the Electricity and Drinking Water Act BES, Opinion Contour Global Bonaire*, paras 77-80.

¹⁸ Information provided by CGB in response to NERA questions.

- The total energy costs of CGB during any period depend on (1) the price of fuel and (2) the volume of each fuel consumed within that period. The Draft Method Decision explains roughly how it would attempt to define (1), but it remains silent on how to estimate (2).
- Both items vary unpredictably during the course of a year, whereas the Act seems to require a single annual decision on the producer price.¹⁹ The ACM brushes aside this problem as one over the *timing* of cost recovery, whereas CGB's submission²⁰ highlights the potential problems for its cash flows - and hence for its financing arrangements and cost of capital.
- We understand that the Act permits the adoption of a separate fixed charge and energy charge, but the ACM has not set out a proposal on that basis in the Draft Method Decision, even though it would match CGB's cost structure more closely than a single production price would.

Subject to legal review for compatibility with the Act, we believe that the ACM would be able to determine, once a year, the "maximum production price" required by Article 2.5 paragraph (1) of the Act as a multi-part tariff (as proposed for the distribution networks). One part of this tariff would be CGB's (monthly) energy price and volume, defined in a way which meets the ACM's own objectives and criteria and which also removes unnecessary risks over CGB's ability to recover its fuel costs. The ACM recognizes this possibility in the Draft Method Decision, in asking "Are there grounds for setting the energy costs as a monthly variable part of the production price?"²¹

The ACM would define the energy price as a formula, rather than as a value, to make it robust to changing conditions during a year. We discuss how this formula might operate in section 6, on Step 4 of the ACM's process, because that is where the Draft Method Decision discusses how to adjust revenues for variations in output and energy costs.²²

¹⁹ Information received from CGB in response to NERA questions.

²⁰ Loyens & Loeff (2016), *Draft Method ex Art. 2.5(4) of the Electricity and Drinking Water Act BES, Opinion Contour Global Bonaire*, paras 67-68.

²¹ ACM (2016), *Draft Method Decision*, para 99.

²² ACM (2016), *Draft Method Decision*, paras 92-93.

4. Step 2: Conversion of Costs into Revenues

4.1. Defining Revenues From Past Accounting Costs

The ACM provides an overview of how its proposed “profit-sharing” mechanism might convert costs into revenues. The ACM would base the starting point on the company’s costs in the latest available accounts. Working in year t , the ACM will most likely use accounts for the previous year $t-1$ to set prices for the next year $t+1$, meaning that there will always be a two-year delay in feeding through cost increases into new revenue allowances.²³ This proposal raises a question over the compensation given for the delay in recovery.

To the extent that CGB’s costs rise only in line with inflation, ACM has stated that it will take account of those changes by increasing costs by the rate of inflation “on the islands”.²⁴ The Draft Method Decision does not say whether the ACM will in practice use Dutch (Euro) inflation, a (US dollar) inflation index for the US or for the Dutch Caribbean, or an index constructed specifically for Bonaire. ACM would only comply with its objective of *investor protection* if it applies the index which most closely tracks CGB’s costs.

However, the ACM’s proposal only works for recurrent costs (implicitly, operating expenses at the plant) that are expected to rise steadily in line with general inflation. The ACM has already indicated that such treatment is not suited to fuel costs.²⁵ The ACM’s proposal also performs poorly for other costs that are rising faster (or more slowly) than inflation. It is also inadequate for exceptional/extraordinary costs (i.e. special one-off costs) that are not expected to be repeated in every subsequent year.

- If CGB’s recurrent costs rise faster than inflation throughout the period, in the final year of regulation (e.g. when the concession expires in 2025), revenues will still not have risen to the level of costs under the ACM’s method and some costs will remain unrecovered. ACM does not mention any adjustment or true-up at the end of the life of the concession agreement.
- If one-off costs fall in the “test year” ($t-1$) that the ACM uses to set future revenues, they will produce an upward bias in revenues and profits that will lead to complaints from the buyer and consumers. If these one-off costs fall in other years ($t, t-2$), the ACM may never recognise them in allowed revenues, since only a share (possibly only 50 per cent) will be passed on to the buyer through the profit sharing arrangement – and then with a delay of two years.

The ACM states that it “may” take companies’ forecasts of rising or falling costs “into account” when setting revenue allowances, subject to the caveat that the ACM will require “extensive

²³ ACM (2016), *Draft Method Decision*, para 72.

²⁴ ACM (2016), *Draft Method Decision*, para 76.

²⁵ ACM (2016), *Draft Method Decision*, para 108.

substantiation” for any cost forecasts.²⁶ However, the ACM has not explained how this process would operate, what costs it is intended to capture, or what information is required to substantiate the claim. This commitment is therefore a weak one with respect to forecast costs and provides absolutely no reassurance about the *ex post* treatment of unexpected costs (e.g. the cost of repairing a major fault) that have already been incurred.

Furthermore, in the case of one-off costs, adding them to revenues two years later does not allow full cost recovery (even for efficient costs). To meet the objective of *investor protection* (and to provide incentives for *efficiency* in one-off maintenance and investment), the ACM needs to add the allowed rate of return to compensate for each year of the delay. (A similar rule applies in Germany to investments by regulated networks.) However, the Draft Method Decision overlooks the need to apply the cost of capital to any delay in cost recovery.

The Draft Method Decision is therefore deficient in a number of respects and for the sake of *transparency* (and hence for *efficiency* and *consumer protection*) the ACM needs to provide greater detail on its method of remunerating costs (or the principles to guide future decisions on remunerating costs), covering the following topics at least:

1. Whether the treatment applies only to forecast costs, or also to unexpected costs already incurred;
2. How to identify the costs that require this treatment (i.e. which costs deviate from the trend level already covered by the revenue formula);
3. What information is required to back up a request for recovery of such costs (e.g. signed contracts for future expenditures, invoices for the actual costs or similar in the past, evidence of the non-recurrent nature of such costs).
4. Pass-through rules for such costs, including the timing of pass-through, the compensation for the delay in recovery and the scope for any *ex post* adjustments when actual costs become known.

Specifying these rules in the final method of regulation will avoid the possibility of injecting unnecessary regulatory risk and raising the cost of capital, to the detriment of consumers.

4.2. Profit-Sharing and Pass-Through Rates

The ACM’s proposed method of profit-sharing allows CGB to keep half (assuming a 50 per cent rate) of the underspend or overspend each year:

“The exact percentage to apply is determined specifically. In theory, this could differ per island or per company. Because there is no reason as yet to apply different percentages per public body or company, ACM opts for a percentage of 50 during the first regulatory period, regardless of whether a company made a profit or a loss.”²⁷

²⁶ ACM (2016), *Draft Method Decision*, para 75.

²⁷ ACM (2016), *Draft Method Decision*, para 71.

The pass-through rate provides opportunities for CGB to outperform its costs allowances and earn returns in excess of the cost of capital set by the ACM. However, it also exposes CGB to the risk of cost overruns. In principle, depending on which is most important to CGB and its anticipated ability to reduce costs, a higher or lower pass-through rate may be desirable. CGB's recent submission appears to argue for a scheme in which CGB is allowed to recover any increases in cost, but is not required to pass on 100 per cent of any cost savings.²⁸ This approach will be economically justified if it is absolutely necessary that CGB's revenues never fall below a target revenue stream, for instance because otherwise its operations would not be financeable at the assumed cost of capital.

The ACM's selection of a pass-through factor of 50 per cent is arbitrary and the ACM does not apply its criteria to justify this figure. CGB's submission suggests that there is a need to guarantee a minimum level of profit or cash flow, to fulfil the debt covenants that underpin CGB's access to low cost finance. (According to CGB, profit-sharing would apply to profits above this minimum.) Some profit-sharing schemes would undoubtedly conflict with CGB's debt covenants and force it to turn to higher cost sources of debt. We would therefore expect the ACM to examine this requirement in detail and to show how it has weighed up the relative merits of applying profit-sharing at different rates and/or to different levels of profit, given the potential to raise the cost of debt.

4.3. The Three-Yearly Review Process

The ACM has opted for a three-year price control period, with a review at the end of each period. The profit-sharing element of this draft price control would already pass through most of any cost reduction (or cost overspend), with a two-year delay. This may reduce CGB's exposure to risk, relative to price controls which do not readjust revenues for many years. However, the ACM's current description of its regulatory process is incomplete, as it does not set out what would change at each price control review.

It is possible that ACM would only adjust key regulatory parameters such as the WACC, which only affects future revenues. However, the review might also over-write the profit-sharing scheme, by setting allowed revenues on a new basis. Similar arrangements have created problems in Great Britain (mainly due to the delay in receiving information needed to "close out" programmes at the end of a regulatory period). These problems would undermine the value of the incentives offered by profit-sharing within the last two years of the three-year regulatory period (i.e. those for which cost recovery falls in the next regulatory period).

To preserve incentives for efficiency, therefore, the final Method Decision must explain how it will handle the pass-through of costs in years 2 and 3 of the first regulatory period, which would normally be carried over into years 1 and 2 of the next regulatory period.

²⁸ Loyens & Loeff (2016), *Draft Method ex Art. 2.5(4) of the Electricity and Drinking Water Act BES, Opinion Contour Global Bonaire*, paras 32-34.

4.4. Implications for Final Method Decision

CGB has proposed that profit-sharing should apply only to profits above a minimum level. This proposal has some merit, by the standard of the regulatory objectives:

- If costs turn out to be higher than in previous years, investor returns would not fall below the levels necessary to finance their activities, which would support the ACM's objective of *investor protection*.
- Requiring CGB to pass through a percentage of cost reductions (profits above the minimum level) would provide the desired incentives for *efficiency* in CGB's operation.

We would expect the ACM to investigate the basis of CGB's proposal, and the extent to which it requires a minimum profit or cash flow to maintain access to low cost debt. (The ACM's stated desire to avoid intervening in the company's *decisions* provides no grounds for ignoring the potential implications for *consumer protection* of increasing the cost of debt.)

The ACM also needs to specify in the final Method Decision how the profit-sharing system would be carried over at each three-yearly review. Clarification of the procedures is required to define incentives in the final years of each regulatory period.

5. Step 3: Conversion of Revenues into Rates

The discussion of this step in the Draft Method Decision seems rather confused – in part because consideration of the structure and duration of the production price overlaps with the discussion of “consumption prices”, which are subject to different regulatory and commercial constraints.

At some points, the Draft Method Decision implies that the production price will be a single price per MWh, whilst other parts of the Draft Method Decision refer to separate energy components and fixed components. In the end, this distinction may be semantic: the single “production price” may be defined by a formula which combines different “elements” for energy charges (fuel costs) and fixed charges, as we suggested above and as we discuss further below. We note that the Draft Method Decision seems to follow this “multi-part” approach for the consumption price, since it distinguishes between the different rates for energy, connections and other outputs of distribution networks. Adopting a similar multi-part structure for CGB’s production would have benefits for efficiency, as indicated by the separation between the energy (volume) charge and capacity (fixed) charge in most PPAs for electricity generators, including CGB’s current PPA.

The related debate about the frequency with which the production price can be changed would also be resolved more easily by defining the production price as a formula instead of a single value (in \$/MWh). Since this aspect of the pricing formula depends so much on unpredictable variations in fuel prices and thermal output, we discuss it further under step 4, the process of updating revenue allowances for differences between forecast costs and actual costs (or forecast outputs and actual outputs).

Overall, adopting a rate structure that matches CGB’s cost structure will have positive benefits for *investor protection*, but also for *efficiency*, since it will help to keep down the cost of capital by minimising unnecessary regulatory risks and signal costs more accurately to WEB and downstream consumers.

6. Step 4: Settling Differences between Revenues and Costs

The ACM may be constrained by law to setting the production price once a year, but the extracts set out in CGB's recent submission imply that the legislature did not intend CGB to be stuck with one price per year, despite wide variations in its energy costs (both price and volume). Subject to legal review, the efficient solution is to define the production price as a formula incorporating both a fixed charge and an energy charge, so that revenues vary in line with variations in CGB's costs. We discuss below how this might be done.

6.1. Potential Production Price Formula

The formula for the production price would have the following components, to be updated each month (or for each relevant billing period):

- A fixed charge sufficient to cover CGB's capital costs and non-fuel operating costs;
- An energy charge defined as the sum of the following items:
 - the actual volume of HFO and LFO used over the billing period, multiplied by the respective cost of each fuel (using the price index in CGB's contract with Curoil, or the cost of fuel as shown in the accounts, using the FIFO principle or similar to ensure total cost recovery over the long run), plus
 - a variable operating cost multiplied by the output of each generating unit over the billing period.

If ACM is required to define a single production price in US Dollars per MWh of output, rather than a total monthly charge in US Dollars, the total amount in US Dollars defined by the sum of these components would be divided by total generation output in MWh over the billing period. The bill to WEB would then equal the resulting price per MWh multiplied by total generation output in MWh over the billing period, which would produce the required total amount in US Dollars.

6.2. Possible Concerns and Alternative Formulae

6.2.1. Updating prices within a year

With regard to the benefit of updating the price monthly (or at least, within each year), rather than fixing a single value for a year at a time, the following considerations would be relevant.

- First, *efficiency* requires consumers to pay the actual cost of their consumption, not a stabilised price. Stabilisation of prices therefore provides a weak argument for overriding other concerns that dictate more frequent updating of the energy price. In order to justify stabilising prices, ACM would need identify any benefits resulting from stabilised prices and refer to objective evidence that demonstrated that those benefits exceed the costs in reduced efficiency.
- Second, even if the desire for stabilisation limits the ability to update consumer prices during a year, there is little reason to leave the risk of fuel price variation with CGB, rather than WEB. As a regulated utility with many different costs and a variety of assets contributing to its

balance sheet, WEB is likely to be better able than CGB to withstand the variation in cash flows implied by the combination of varying purchase costs and fixed sales prices. In this respect, two factors are critical: (1) WEB is not project financed and may have more equity, so that it is better able to maintain debt repayments in the face of varying purchase costs; and (2) the Act offers the ACM the opportunity to adjust WEB's sales prices (consumption price) at six monthly intervals, if required by a large increase (or decrease) in its purchase costs. No such provision is available to CGB.

These considerations require, at the very least, that the ACM give detailed consideration to the nature of CGB's cash flows and constraints on CGB's ability to bear risk, relative to WEB's.

6.2.2. Pass-through of fuel costs and technical efficiency

With regard to *efficiency*, we note that passing through CGB's actual fuel costs removes the incentive for CGB to operate its generation plant with a high level of technical efficiency. There may therefore be some advantage to an energy price formula that combines (1) a fuel price index with (2) a target *efficiency* for converting fuel into electricity. The formula would derive a target volume of fuel consumption from the actual metered output of each generator plant, divided by its own specific target for technical efficiency. Such formulae are common in PPAs and in utility regulation around the world. To implement this approach, the ACM would have to liaise with CGB over the measurement of generator output, the definition of a target efficiency and (importantly), the division of implied fuel consumption between HFO and LFO. In measuring output, setting efficiency targets and dividing fuel consumption between HFO and LFO, the ACM's approach would need to take account of the realistic operating conditions of the plant, such as the need to provide spinning reserve for frequency regulation and the degradation of the efficiency of the plant over time. In particular, we cannot offer a solution to division of implied fuel consumption, since it requires a detailed understanding of CGB's plant operations. It may even be infeasible, if there is no objective way to estimate how much of each fuel is used to generate a given amount of electricity. (Regulatory targets for technical efficiency might even then be set up, subject to monitoring via occasional tests.)

Some formulae for estimating fuel consumption can, if they produce inaccurate answers, create perverse incentives that promote inefficiency. For instance, if the formula over-estimates the cost of thermal generation, it may discourage CGB from maintaining its wind farm. If the result is a higher volume of thermal generation, CGB would make a higher profit. On the other hand, if the formula under-estimates the cost of thermal generation, it may discourage CGB from maintaining its thermal plant, or from producing sufficient electricity to meet demand. Passing through fuel costs would avoid both these problems. Any decision to apply a formula using target rates for technical efficiency would therefore have to assess these risks to overall *efficiency*.

In summary, unless ACM bases the production price on CGB's actual price and consumption of fuel, CGB will face both volume risk and possibly also perverse incentives. On the other hand, passing through CGB's fuel costs would not adversely affect efficiency, if CGB has no scope to adjust its fuel procurement, and if pass-through gives CGB no incentive to distort its operations. The allocation of fuel price or volume risk to CGB is likely to be inefficient, raising the cost of capital and increasing costs to consumers.

6.3. Implications for Final Method Decision

Subject to legal review, there seems to be no economic reason why the ACM cannot define CGB's production price annually, as a formula with separate fixed and energy charges, using values that are updated from time to time (monthly or at whatever intervals corresponds with CGB's billing cycle). This approach would minimise the risk placed on CGB (which supports *investor protection*) and keep prices in line with costs (which is good for *consumer protection* and *efficiency*). The Draft Method Decision places great emphasis on the need for stability in pricing, but there is little to gain from deliberately giving consumers false information about energy costs, which are inherently unstable. The Draft Method Decision does not explain how the alleged benefits of stabilisation would exceed its costs.

If there remains a need for some stabilisation of energy prices in Bonaire (within a year, but not between years), then the ACM needs to assess whether CGB is better placed to bear the risk of energy price variation than WEB (or, indeed, than consumers). Given our understanding that CGB is project-financed, whilst WEB is not, it seems likely that CGB has less scope for bearing variations in its costs and profits than WEB. WEB would therefore be able to finance the variations in fuel cost more cheaply than CGB and it would be more efficient for WEB to bear the variation in fuel costs, than CGB.

We would expect the Final Method Decision to show the results of considering this possibility.

Appendix: Operation of the Profit-Sharing Scheme

The tables below provide worked examples of the ACM's approach to profit sharing for five different paths of CGB's possible future costs.

"Costs" here include the cost of capital, i.e. the WACC multiplied by the RAB. (If revenues equal costs, CGB's return equals its cost of capital.) All costs and revenues are to be understood as being stated in real terms, i.e. the table does not show the effect of inflation. In every case, we assume that the ACM begins working on a revenue allowance in year 0, using the accounts for year *minus 1*, and setting revenues for the first period in years 1-3, and for the second period in years 4-6. (The revenue "allowance" for year 0 is required only to make the lagged profit-sharing formula work in year 1.)

The scenarios operate as follows.

- In Scenario A, costs in year *minus 1* are \$100. They fall to \$90 in year 0 and remain there in every subsequent year. For year 1, the ACM would set a revenue allowance of \$100. In year 2, the profit-sharing formula would reduce revenues to \$85, equal to CGB's costs in year 0 (\$90), less half of the cost saving in year 0 (less \$5, or half of $\$10 = \$100 - \$90$). Thereafter, CGB's revenue would equal its costs from two years earlier, i.e. \$90. The Opc (i.e. CGB) would earn an additional profit of \$10 in year 1, repay \$5 in year 2 and then break even (i.e. just earn the cost of capital) in every subsequent year. The total cost saving is \$10 per year for six years, or \$60. The gain to CGB over the whole period would be half of the initial reduction in costs (\$5). The gain to consumers (i.e. the reduction in CGB's revenues) would be the rest of the total cost reduction over the five-year period (\$55).
- In Scenario B, we assume that costs decline by \$10 per year, from \$100 in year *minus 1* to \$30 in year 6. In year 1, CGB gains \$20, defined as the difference between the allowed revenue (\$100) and costs in that year (\$80). Thereafter, CGB makes a gain of \$15 in each year, comprising the reduction in costs relative to the level two years earlier (\$20) *less* the profit-sharing reduction in revenues of \$5 (= half of one years' reduction in costs).
- In Scenario Cs and D we assume the analogue of Scenarios A and B, but assuming costs rise over the period. The gains for CGB and consumers are negative, but have the same absolute values as in the cost reduction scenarios, because the systems here are symmetric.
- In Scenario E, we assume a more volatile pattern of costs, whereby CGB's costs fall, then rise, then fall again. Total costs over years 1-6 are €590, a total reduction of €10. By year 6, therefore, CGB has a cumulative net gain of \$5, exactly the same result as in Scenario A (and consumers gain the other \$5). However, at the end of year 3, CGB's costs are \$100, the same as in the test year, but CGB is showing a cumulative net loss (or unrecovered costs) of \$30.

From these simple examples we can conclude:

- The ACM's approach may offer relatively weak incentive for cost reduction, because ContourGlobal will only keep half the cost reduction for a single year, while consumers capture most of the lasting benefit.
- The ACM concludes that a 3-year price control is the appropriate length for the initial regulatory period. However, it is not clear how ACM will set costs at the beginning of the price Control. A change in the method may strand some efficiently-incurred costs, particularly if costs are volatile.
- If costs are volatile, or increasing over time, the impact on year-on-year cash-flows could be substantial which may cause financing difficulties for CGB.

Table A.1: Scenarios for Profit Sharing

<i>Scenario A: A one off reduction</i>								
Year	-1	0	1	2	3	4	5	6
Costs	100	90	90	90	90	90	90	90
Allowance (1)		100	100	90	90	90	90	90
Profit-Sharing			0	-5	0	0	0	0
Allowance (2)			100	85	90	90	90	90
Gain for Opco			10	-5	0	0	0	0
Gain for consumers			0	15	10	10	10	10
Cum. Gain for Opco			10	5	5	5	5	5
Cum. Gain for Cons.			0	15	25	35	45	55
<i>Scenario B: Falling trend in costs</i>								
Year	-1	0	1	2	3	4	5	6
Costs	100	90	80	70	60	50	40	30
Allowance (1)		100	100	90	80	70	60	50
Profit-Sharing			0	-5	-5	-5	-5	-5
Allowance (2)			100	85	75	65	55	45
Gain for Opco			20	15	15	15	15	15
Gain for consumers			0	15	25	35	45	55
Cum. Gain for Opco			20	35	50	65	80	95
Cum. Gain for Cons.			0	15	40	75	120	175
<i>Scenario C: One off increase in costs</i>								
Year	-1	0	1	2	3	4	5	6
Costs	100	110	110	110	110	110	110	110
Allowance (1)		100	100	110	110	110	110	110
Profit-Sharing			0	5	0	0	0	0
Allowance (2)			100	115	110	110	110	110
Gain for Opco			-10	5	0	0	0	0
Gain for consumers			0	-15	-10	-10	-10	-10
Cum. Gain for Opco			-10	-5	-5	-5	-5	-5
Cum. Gain for Cons.			0	-15	-25	-35	-45	-55
<i>Scenario D: Rising trend in costs</i>								
Year	-1	0	1	2	3	4	5	6
Costs	100	110	120	130	140	150	160	170
Allowance (1)		100	100	110	120	130	140	150
Profit-Sharing			0	5	5	5	5	5
Allowance (2)			100	115	125	135	145	155
Gain for Opco			-20	-15	-15	-15	-15	-15
Gain for consumers			0	-15	-25	-35	-45	-55
Cum. Gain for Opco			-20	-35	-50	-65	-80	-95
Cum. Gain for Cons.			0	-15	-40	-75	-120	-175
<i>Scenario E: Volatile costs</i>								
Year	-1	0	1	2	3	4	5	6
Costs	100	90	100	120	100	90	90	90
Allowance (1)		100	100	90	100	120	100	90
Profit-Sharing			0	-5	5	10	-10	-5
Allowance (2)			100	85	105	130	90	85
Gain for Opco			0	-35	5	40	0	-5
Gain for consumers			0	15	-5	-30	10	15
Cum. Gain for Opco			0	-35	-30	10	10	5
Cum. Gain for Cons.			0	15	10	-20	-10	5

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