

The balance of risk in SGN's GD2 Draft Determination

4 September 2020



Introduction

The RIIO-2 draft determinations

On July 9th 2020, Ofgem published its draft determinations (DD) for the electricity transmission, gas transmission, gas distribution and system operator price controls. Following a period of consultation, final determinations (FD) are scheduled for December 2020. These will set the profile of allowed charges for the period 2020-25, the incentive regime and areas where important investment decisions can be reopened.

The importance of an appropriately calibrated price control

In an appropriately calibrated price control, there should be a broadly equal opportunity for companies to underperform and outperform against the determination (i.e. there will be a symmetrical distribution around CAPM-allowed returns and performance across various aspects of the price control). The package of measures should therefore enable a notionally efficient company to achieve the forecast cost profile for a typical level of activity, with a cost of capital that reflects efficient financing. This is consistent with the 'fair-bet' principle referred to by the CMA in the SONI appeal (2017).

Figure 1 illustrates a symmetrical distribution around CAPM-calibrated allowed return that would be expected in the case of a balanced price control. Some regulators and regulated firms accept that there can be some justification for a slight negative ex-ante distribution when there is customer evidence that some risks should be 'penalty-only', i.e. where there is no upside from good performance, but penalties for poor performance.

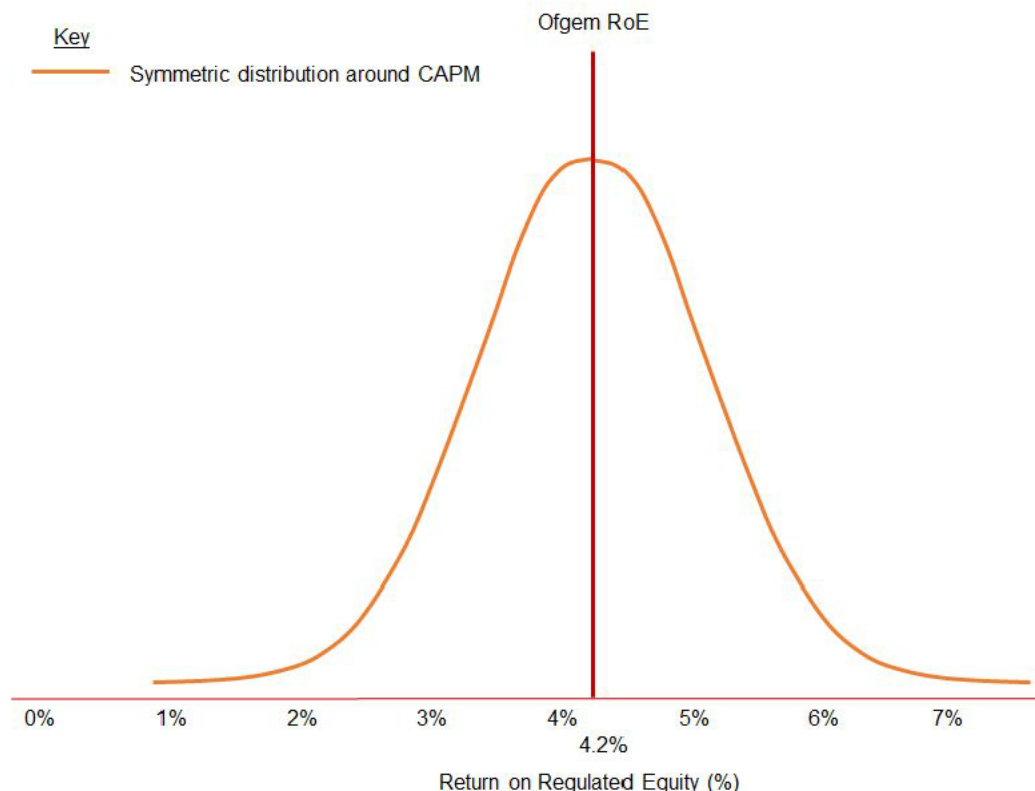
If the price control is not appropriately calibrated, a company can face asymmetric risks to the upside or the downside. In the case of significant downside asymmetries, a company faces the possibility of negative returns which can have significant impacts on its financeability, the ability to attract equity investment, credit downgrades and more expensive debt finance costs.

Highlighting the risks of miscalibration in GD2

SGN are concerned that the GD2 draft determination has been miscalibrated with a skewed risk profile resulting from the miscalibration of key DD parameters and introduction of further areas downside risks.

PwC have been commissioned by SGN to assess the balance of risks in the GD2 Draft Determination, and quantify the potential financial impacts across a range of scenarios.

Figure 1: Risk range for CAPM-allowed returns compared to Ofgem DD (Illustrative)



Structure of this document

Section	Page number	Description
1. Approach	Slide 4	We outline how we have identified the risks to SGN in Ofgem's GD2 draft determination, how we have defined the 3 performance scenarios and calibrated the relative risks, and how we have then analysed these risks to estimate financial impacts.
2. Risk taxonomy	Slide 5	The risk taxonomy outlines how we have categorised each of the risks identified in our analysis into the following categories: Totex, Capex, Repex, Opex, ODIs, NARM, Regulatory, Finance, and Other. Further details on each risk are provided in the annex.
3. Calibrating different types of risk	Slide 6	This slide outlines our approach to setting the P10, P50 and P90 values across the different risk elements.
4. Summary of modelling results	Slide 7 - 9	These slides present a summary of our modelling results including the adjustments to Ofgem's draft determination Return on Regulated Equity (RoRE) to the estimated P50 RoRE, the cumulative P10 and P90 RoRE ranges, and the average credit metrics under the 3 scenarios.
Annex: Assessment of risks	Slide 10 - 49	In the annex, for each risk, we present a description of the risk, the evidence we have used to calibrate the risk and the impact of the risk on the RoRE.

1. Approach

Our analysis of the risks of the GD2 price control is split across three phases, set out below.

1. Identify risks

- We have reviewed the GD2 DD, SGN's GD2 business plan and worked with SGN's subject matter experts to identify areas where regulatory decisions introduce additional risk.
- We focus on the range of likely performance of SGN's business, in comparison to the published DD. We don't seek to anticipate how and where Ofgem may change its decisions at FD.
- We distinguish, where relevant between SGN's two networks.
- We consider risks which relate to both: (i) an overall change in expected performance compared to the DD (e.g. an over- or under-recovery of costs) as well as: (ii) risks of uncertain events (e.g. environmental events).
- We identify 30 distinct risks which influence SGN's risk profile. Other residual risks are assumed to be contained within base totem variation.
- Our work has been prepared on the basis of the published DD. As additional issues are raised by the network companies and answers to questions provided by Ofgem, the balance of risk in GD2 will inevitably evolve.

2. Calibrate risks

- We define three performance scenarios:
 - **P10**: This is a 1-in-10 "downside" performance.
 - **P50/'Baseline'**: This is projected forecast performance for the RIIO-GD2 period, on the basis of the DD setting allowed revenues.
 - **P90**: This is a 1-in-10 "upside" performance.
- We obtain external information to support the calibration of risks, particularly in relation to macroeconomic and financial market risks
- We rely on SGN engineering and finance team expertise to provide estimates of consequential cost impacts arising from the DD. In some cases we are able to validate by reference to our wider asset management advisory work.
- We consider reasoned commercial responses to the DD, but neither we, nor SGN, have undertaken a full review of more radical actions which could influence the balance of risk in GD2.

3. Analyse risks

- We assume a base level of underlying risk for those areas of the business we have not reviewed. We use Ofgem's +/- 10% as a start point, but deduct areas of overlap (IT, disallowed capex) and therefore use an underlying variability of +/-7.2%.
- We analyse the financial impact of each risk at each of the P10/P50/P90 points.
- We provide the impact of each risk on the Regulated Return on Equity for the notional company (at 60% gearing) over GD2. We don't analyse risks to the allowed return on equity; rather this is a point of comparison for the RoRE itself. Ofgem have used a 3.95% allowed rate of return in the DD with overperformance expected to increase this to the cost of equity of 4.2%.
- SGN's financial model has been calibrated to the DDs. We use this model to provide impact of each risk on key financial metrics (e.g. Adjusted Interest Cover Ratio).
- We also provide a cumulative P10 and cumulative P90 for all risks combined. As we consider the risks are not perfectly correlated, the probability of these cumulative scenarios is less than 10%. This result therefore provides a helpful guide to a 'stress test' outcome.

2. Risk taxonomy

In order to assess the risk profile resulting from the Draft Determination, we have reviewed the draft determination, SGN's business plan and worked with SGN's subject matter experts to identify areas where regulatory decisions introduce additional risk. Through this exercise we identified the following categories where we conduct further risk analysis:

- Totex, Capex, Repex, Opex, ODIs, NARM, Regulatory, Finance, and Other

Within each of these categories, we have identified additional areas of risk. These are set out below. In the annex, for each risk, we present a description of the risk, evidence we have used to calibrate the risk and the impact of the risk on the RoRE

Table 1: Risks incorporated into our analysis

Category	#	Risk Name	Category	#	Risk Name
Totex	1	Ongoing productivity	ODIs	15	Customer Satisfaction ODI risk
	2	Benchmark efficiency		16	Complaints Metric ODI risk
	3	Calculation errors misstating top down econometric costs		17	Unplanned Interruptions ODI risk
	4	Redacted		18	Shrinkage and Environmental Emissions ODI risk
Capex	5	Capex disallowed without offsetting opex funding	NARM	19	NARM: Output, Costs and Funding Adjustment risks
	6	Capex disallowed without offsetting reduction in expected output	Regulatory	20	Uncertainty Mechanisms - missing UMs
	7	Local Transmission System schemes		21	Uncertainty Mechanisms - cost recovery challenges
Repex	8	Tier-1 Repex disallowed without offsetting opex funding		22	Uncertainty Mechanisms - unfunded risks
	9	Tier 2-3 Repex disallowed without offsetting opex funding		23	Risk to inflight projects and funding at end of GD2
	10	Stranded overheads (relating to repex)		24	Regulatory and legislative requirements
Opex	11	Opex disallowed without offsetting reduction in expected output	Other	25	indices for RPEs - Contractor
	12	Uncertainty in timed appointments implementation		26	Smart metering costs intervention rate and uncertainty
	13	Field force fatigue costs		27	IT costs
	14	Seasonal weather related costs	Finance	28	Environmental Action Plan funding
				29	CPI-CPIH inflation mismatches
				30	Debt premia risks

3. Calibrating different types of risk

We have worked closely with SGN's subject matter experts to understand these performance scenarios and the associated values. The P10/P50/P90 scenarios result in different impacts depending on the type of risk; we have set these out in Table 2 below

Table 2: Approach to setting P10/P50 and P90 across different risk elements

Risk type	P10	P50/"Baseline"	P90
Productivity frontier shift	An efficiency gain below reasonable frontier shift target	An efficiency gain in line with reasonable frontier shift target.	An efficiency gain above reasonable frontier shift target
Cost disallowance	This will be additional cost incurred above the baseline assumption, driven by unexpected events such as needing to use more costly solutions than anticipated.	Where an activity needs to occur despite the disallowed funding, the cost will form the baseline. This may occur due to shortcomings in technical assessment, or inappropriate benchmarks.	This could be a lower cost profile than the baseline resulting from less activities needing to be done than expected, or less costly solutions becoming available. In some cases where baseline activities reflect minimum safe levels, P90 will simply be baseline.
Cost recovery	This will be fewer costs recovered (or more unfunded activity) compared to baseline.	Assumption around how much cost will be spent/recovered (e.g. through UMs) as baseline/average.	This will be more costs recovered (or less unfunded activity) compared to baseline.
ODI	Downside performance against target; this is likely to be a failure to meet the target.	ODI performance under baseline scenario, which reflects expected performance under normal conditions - this may deviate (either positively or negatively) from the zero reward/penalty position depending on target difficulty.	Upside performance against target; assuming the DD target is achievable, this will be an outperformance against the target.
RPEs	SGN experienced RPEs greater than allowed RPEs	SGN experienced RPEs in line with reasonable RPE inflation indices.	SGN experienced RPEs less than allowed RPEs.
Financing	Additional debt costs incurred above the P50 assumption.	Additional debt costs are incurred in the P50 scenario relative to the DD where the DD does not provide allowances for them.	Debt costs incurred are lower than the P50 assumption but still higher than the DD allowance (as Ofgem does not provide allowances for the required premias).

It should be noted that for some risks we have not looked at P10/P90 scenarios explicitly, and we have instead modelled the financial impact of these risks as a downward shift of the achieved returns distribution, with equal impacts at the P10, P50 (baseline) and P90 points of this distribution. We have applied this approach for risks such as Ofgem calculation errors, whose financial impact is likely to be very similar (or identical) at all points of the performance distribution. This approach can also be applied to risks where it is particularly challenging to estimate P10 or P90 performance, such as estimating the additional cost impacts resulting from latent or unknown risks (which have no uncertainty mechanism available) that materialise during RIIO-2.

4. Results: Adjusted for risks, the P50/baseline RoRE is markedly below Ofgem's allowed return

The two charts below show the evolution of the P50/baseline moving from Ofgem's allowed return of 3.95% (not including Ofgem's expected outperformance), by incorporating all of the 30 risks in our analysis.

Chart 1: Movement from Ofgem DD to P50/baseline (Southern)

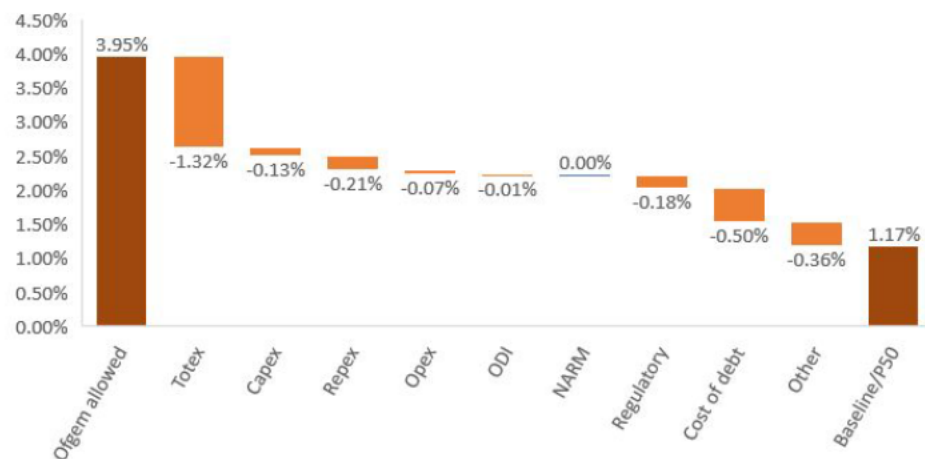
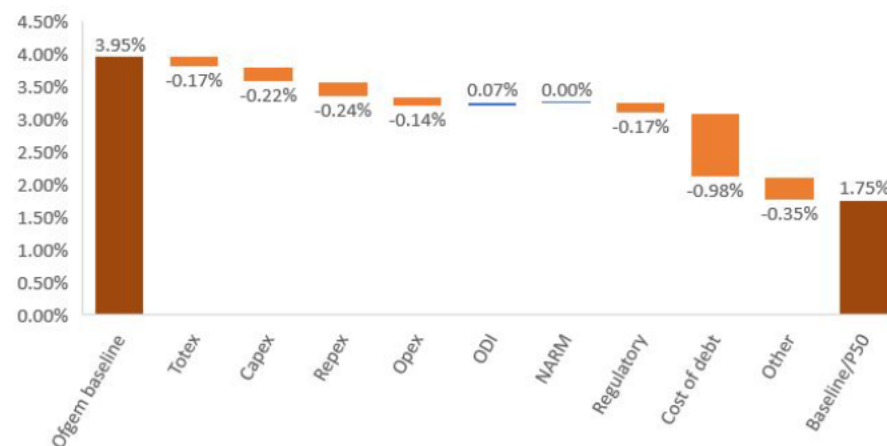


Chart 2: Movement from Ofgem DD to P50/baseline (Scotland)



Our analysis suggests the risks introduced by components of the price control mean that SGN will only expect to achieve a RoRE of +1.36% for its Southern network and +1.75% for its Scottish network under our baseline P50 performance assumptions. Both of these baseline RoRE impacts are substantial, leaving overall expected returns substantially lower than Ofgem's 4.2% expected return on equity. For both SGN networks, the differences between the Ofgem allowed baseline RoRE and the baseline/P50 performance expectation are driven by the aggregation across all the risk areas, but two stand out:

- Overall totex. This effect is dominated by the ongoing productivity challenge, benchmark efficiency percentile and Ofgem modelling errors. Redacted
The challenge and therefore risk to Southern is greater due to its performance relative to other GDNs.
- Cost of debt. This includes adjustments for infrequent issue premium, additional debt costs (incl index-linked premium, new issue premium and cost of carry) and swap costs. The risk of higher debt costs for the notional Scottish network have much bigger impact on the overall RoRE for the notional Scotland network.

4. Results: Annual RoRE ranges extend into substantially negative figures

The two charts below show range of risks around the P50 baseline, in comparison to Ofgem's allowed return of 3.95%. Charts 3 and 4 provide cumulative P10 (bottom of the bars) and cumulative P90 range (top of the bars).

Chart 3: Annual RoRE ranges for GD2 (Southern)

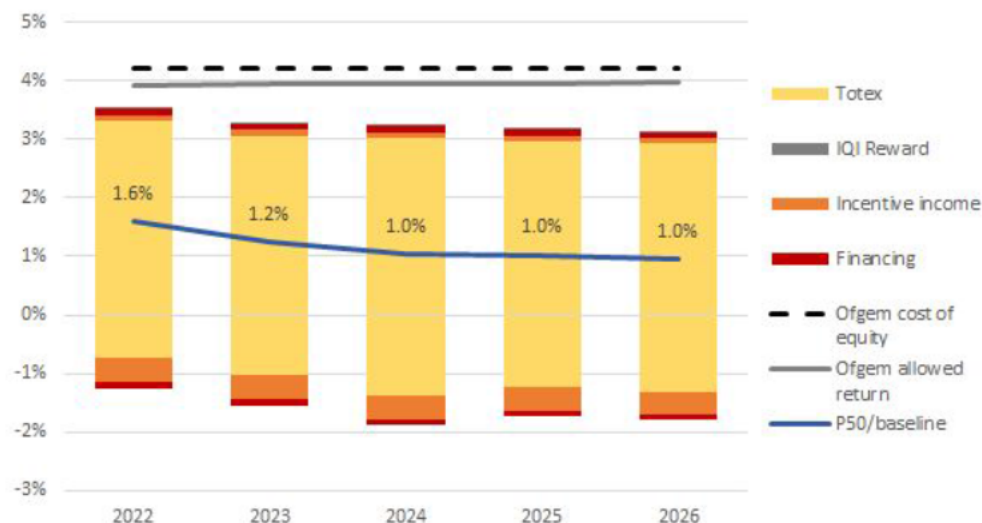


Chart 4: Annual RoRE ranges for GD2 (Scotland)



- For both SGN networks, risks related to totex performance that heavily impact overall RoRE returns. By contrast, the financial risks arising from SGN's four common ODIs are much smaller. Financing costs are also of importance, through additional cost of debt premia risks, but these impact the P50 more than the risk around the P50 for the notional company.
- Major drivers of downside risk relating to totex performance include:
 - Ongoing productivity, benchmark efficiency and modelling errors which drive stretch targets on cost allowances (higher impact in Southern)
 - Real price effects arising from rising contractor costs (concentrated impact in Southern)
 - Disallowed costs associated with capex, repex and challenging IT programme delivery
 - For Scotland there is a greater risk of underperforming Ofgem's cost of debt assumptions due to its smaller size (and associated financing costs).
- Our analysis is shown prior to the application of the Return Adjustment Mechanism (RAM) to show the full range of risk. The RAM would moderate the impact of the most severe outcomes.

4. Results: Credit metrics are strained at both P50 and P10 downside

The table below sets out P50 baseline, cumulative P10 and cumulative P90 financial ratios and the thresholds associated with a BBB+ rating. The cumulative P10 scenario is akin to a 'stress test' - we would not anticipate all risks would materialise, but the company should be sufficiently resilient to withstand all the risks.

Table 3: GD2 Average credit metrics for the notional company (60% gearing)

Metric	BBB+ threshold	Southern			Scotland			SGN		
		P50/Baseline	P10 (cuml.)	P90 (cuml.)	P50/Baseline	P10 (cuml.)	P90 (cuml.)	P50/Baseline	P10 (cuml.)	P90 (cuml.)
AICR	> 1.4x	1.04x	0.78x	1.20x	1.01x	0.74x	1.18x	1.03x	0.76x	1.19x
PMICR	> 1.5x Senior; 1.7x IDR	1.14x	0.87x	1.29x	1.12x	0.85x	1.28x	1.13x	0.86x	1.28x
Nominal PMICR	> 1.8x Senior; 2.0x IDR	1.78x	1.53x	1.91x	1.71x	1.46x	1.86x	1.75x	1.51x	1.90x
FFO:Debt	> 9%	8.9%	7.4%	9.4%	8.9%	7.5%	9.6%	8.9%	7.4%	9.5%

- Financial ratios have been calculated for the P50 and the cumulative P10 and P90. This includes all the 30 risks contains in this report. In reality all 30 risks are likely to materialise together on both the upside and downside, so the cumulative P10 can be considered a stress test.
- In the P50/Baseline, the AICR and PMICR for both Southern and Scotland is below the threshold for investment grade (BBB-). The other ratios (e.g. FFO:Debt) are closer to the BBB+ threshold.
- For Scotland, exposure to operational risks is lower than for Southern, but exposure to financial downsides is greater, which causes the credit metrics to narrow between the two networks.
- In the cumulative P10, the AICR and PMICR for both Southern and Scotland is below the BBB- threshold and significantly below 1.0x, meaning that shareholders will be required to support ongoing debt interest payments. The other ratios drop below BBB+ and remain barely investment grade. Given the importance in the AICR metric, particularly for Moody's, this suggests that both networks would not be able to support investment grade ratings were these risks to materialise.

Annex: Assessment of risks

Redacted due to commercial sensitivity