



This letter is addressed to consumers and their representatives, gas distribution networks (GDNs), independent gas transporters (IGTs), gas shippers and suppliers and any other interested parties

---

*Promoting choice and value for all customers*

Your Ref:  
Our Ref:  
Direct Dial: 020 7901 7021  
Email: joanna.whittington@ofgem.gov.uk

Date: 24 October 2007

Dear Colleague

## **Leakage and shrinkage baselines for GPCR 2008-13 – October Update Consultation**

### ***Introduction***

1. The GDNs procure gas for shrinkage, which includes leakage, own use gas and theft. For the one year control Ofgem based allowed shrinkage revenue on ex ante shrinkage factors, whereby shrinkage was expressed as a percentage of throughput and a gas price formula linking allowed shrinkage revenue to three month-ahead gas prices. In updated proposals we noted that our analysis suggested that leakage - the major component of shrinkage – did not vary directly with throughput. As a result, we proposed leakage baselines in terms of annual fixed volumes in updated proposals<sup>1</sup>.
2. We proposed throughput factors for the other components of shrinkage; theft of gas and own use gas. We also considered that there was a benefit to customers in setting the shrinkage gas reference price using day-ahead prices as opposed to three month-ahead prices. Our analysis showed that day-ahead prices had systematically been lower than three month-ahead prices. The combination of moving to day-ahead prices and a predominantly fixed leakage factor was that it became much easier for the GDNs to buy precisely the amount they would need, substantially eliminating the need for an uplift.
3. We additionally proposed a new environmental emissions incentive, based on the shadow price of carbon as per recently published Defra guidelines<sup>2</sup>. We used the same leakage baselines for the incentive as those used in setting the shrinkage allowance.

### ***Leakage data issues***

4. Unfortunately, the historical dataset for leakage published in updated proposals<sup>3</sup> was not correct. Since we had used some of this historical data to determine the baselines for leakage, this means that the baselines published in updated proposals

---

<sup>1</sup> Gas distribution price control review, updated proposals (ref 226/07), September 2007, p67

<sup>2</sup> ref

<sup>3</sup> Gas distribution price control review, updated proposals supplementary appendices (ref 226/07a), September 2007, pp104-106

are not appropriate. Additionally, the tables on pp67-68 of the document did not correctly reflect our views on the baselines. Having identified problems with the data we met with the GDNs and on the basis of that meeting GDNs resubmitted their data. Corrected historical data can be seen in annex 1 and revised proposed baselines can be seen in table 1 below (including 2006/07 actual and our forecast of 2007/08, which are outside the scope of this price control). Broadly speaking, our review of the GDNs' leakage forecasts suggest they are reasonable with the exception of a few issues. These are discussed below the table.

**Table 1: Updated proposed leakage baselines**

		Leakage volume (GWh)							
Owner		2006/07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	
		Total	Total	Total	Total	Total	Total	Total	
NGG	East Anglia	269	270	271	270	269	268	267	
	East Midlands	386	385	384	383	382	380	378	
	North Thames	377	378	375	374	371	368	364	
	North West	518	503	488	473	460	455	450	
	West Midlands	420	408	396	385	374	371	367	
NGN	Yorkshire	285	289	284	280	276	271	265	
	Northern	228	227	224	220	217	213	210	
SGN	Scotland	295	283	270	264	258	252	245	
	South East	472	459	433	421	409	396	383	
	Southern	319	305	294	288	282	276	270	
WWU	Wales North	69	67	64	61	58	57	56	
	Wales South	146	163	164	160	153	147	142	
	South West	338	309	296	286	279	272	265	
<b>Total</b>		<b>4,122</b>	<b>4,047</b>	<b>3,943</b>	<b>3,867</b>	<b>3,788</b>	<b>3,726</b>	<b>3,664</b>	

- The leakage model generates a figure expressed in volume units of million cubic metres (mcm). To set a shrinkage allowance we convert it into energy units of GWh. The conversion rate depends on the calorific value of the gas, which can vary across networks and over time, but is dependent on the mix of gas at point of entry and so not within GDNs' control. The GDNs have used different assumptions for variations in CV in their forecasts. For consistency, we have used the 2006/07 actual CV and carried it forward. To avoid windfall gains or losses, we will use the same CV in assessing performance against the emissions incentive as used in setting the baseline. Since the leakage model output is expressed as a volume, there may be merit in setting the incentive based on volumes which avoids the need to consider the impact of variations in CV altogether, although there would be an assumption in respect of CV required in setting the parameters of the incentive. The argument for using actual CV is that this reflects the actual carbon footprint of the leakage and GDNs ought to be able to manage the impact of any variations in the incentive out-turn, which are likely to be minor in any case. We welcome respondents' views on the matter.
- While most GDNs' forecasts show a fairly consistent downward trend from 2006/07 forward, which is broadly in line with our expectations of the impact of the mains replacement programme, WWU are forecasting an increase in leakage from 2006/07 to 2007/08 before the downward trend takes effect. Assessing this movement by LDZ is difficult, because of the impact of reallocation of asset records between LDZs in 2006/07. However, at the GDN level, the 2007/08 leakage forecast is almost exactly the same as 2002/03 actual leakage. This implies that five years of mains replacement has had no net effect on leakage, even allowing for small increase in average system pressure across the GDN. It is not clear from the data we have received why this should be the case. Thus we have adjusted WWU's 2007/08 forecast on the assumption that the trend they forecast from 2008/09-2012/13 will also apply in 2007/08, that is, we have taken the 2006/07 actual leakage and reduce it by the average annual reduction from 2008-13. If WWU are able to provide

specific evidence of factors that are likely to lead to the increase in leakage they have forecast we will give that evidence due consideration.

### **Shrinkage**

7. We included varying factors across GDNs for own use gas and theft of gas, which represent around 5% of shrinkage. The GDNs have argued that it would be appropriate to include a factor of 0.031% of throughput to cover both items. Given they are a small proportion of total shrinkage, and the merits of setting a fixed volume in terms of substantially removing the need for an uplift, we have included 0.031% of forecast throughput for each GDN as a fixed element in the shrinkage baselines (along with the leakage baselines). The total proposed shrinkage volume allowances are shown below in table 2.

**Table 2: Updated proposed shrinkage volumes**

Shrinkage volume (GWh)						
Owner	LDZ	2008-09 Total	2009-10 Total	2010-11 Total	2011-12 Total	2012-13 Total
NGG	East Anglia	287	286	286	286	285
	East Midlands	409	409	409	408	406
	North Thames	396	396	393	390	386
	North West	515	501	488	484	480
	West Midlands	415	403	393	391	388
NGN	Yorkshire	299	296	292	288	283
	Northern	236	234	230	227	224
SGN	Scotland	290	284	278	272	266
	South East	457	445	433	421	409
	Southern	309	303	298	292	286
WWU	Wales North	67	64	61	60	59
	Wales South	174	170	163	157	153
	South West	308	299	292	285	278
<b>Total</b>		<b>4,162</b>	<b>4,090</b>	<b>4,016</b>	<b>3,960</b>	<b>3,904</b>

### **Next steps**

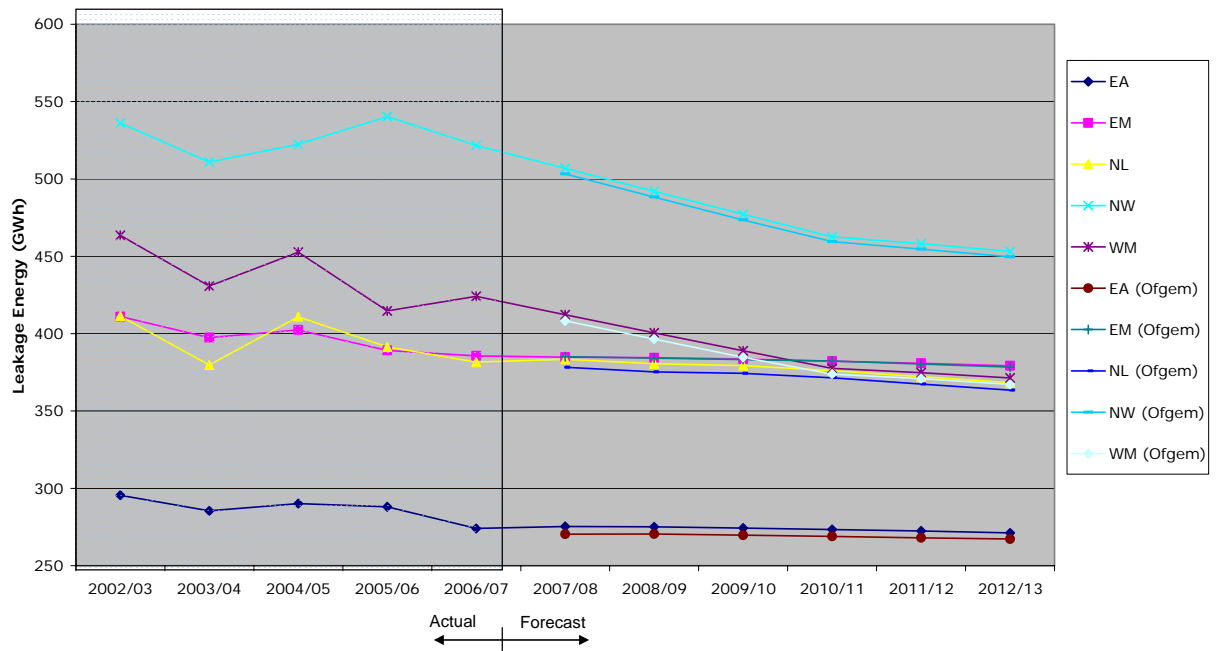
8. The closing date for responses to updated proposals was 22 October 2007 and in the short time since we have not had the opportunity to review in full respondents' submissions on this issue. We are aware that GDNs have expressed concerns in their responses regarding the derivation of baselines, but we consider that this letter should go some way to addressing their concerns. Responses to this consultation are invited and should be addressed in writing to [gdpcr@ofgem.gov.uk](mailto:gdpcr@ofgem.gov.uk) by 9 November 2007. If you would like to discuss any part of this consultation please contact Peter Dickinson or Kieran Donoghue by phone on 0207 9017274/0207 9017356 respectively or by e-mail at [peter.dickinson@ofgem.gov.uk](mailto:peter.dickinson@ofgem.gov.uk) / [kieran.donoghue@ofgem.gov.uk](mailto:kieran.donoghue@ofgem.gov.uk).

Yours sincerely

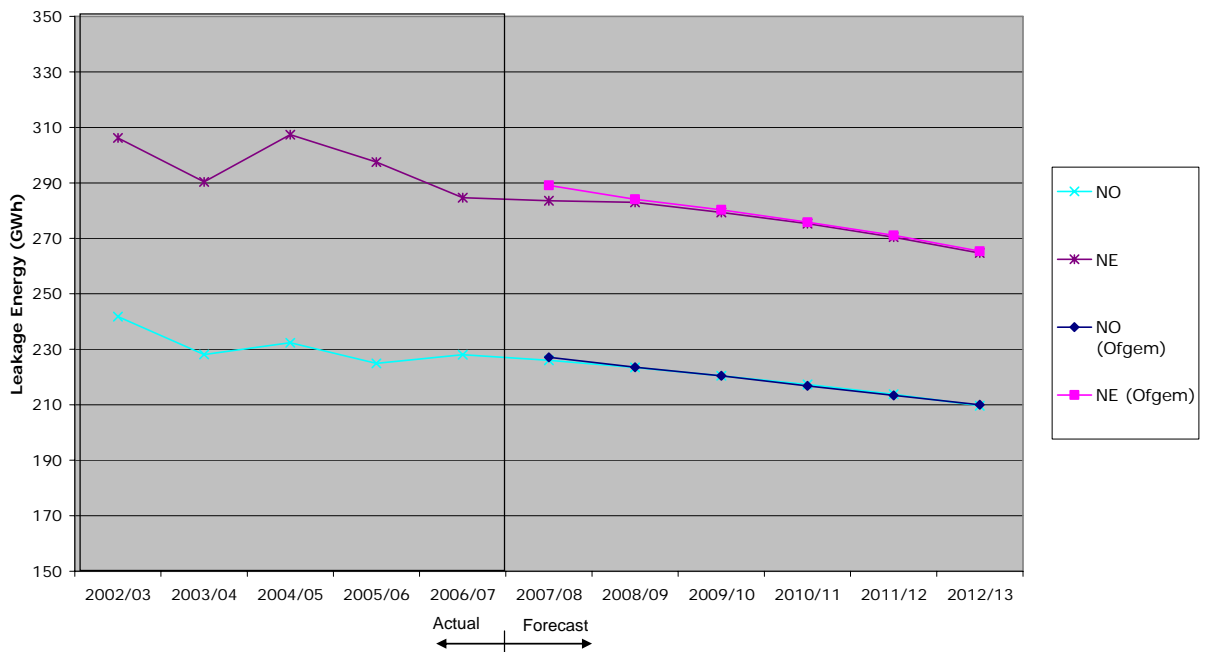
Joanna Whittington  
Director  
Gas Distribution

## Annex 1: GDNs' historical and forecast leakage figures

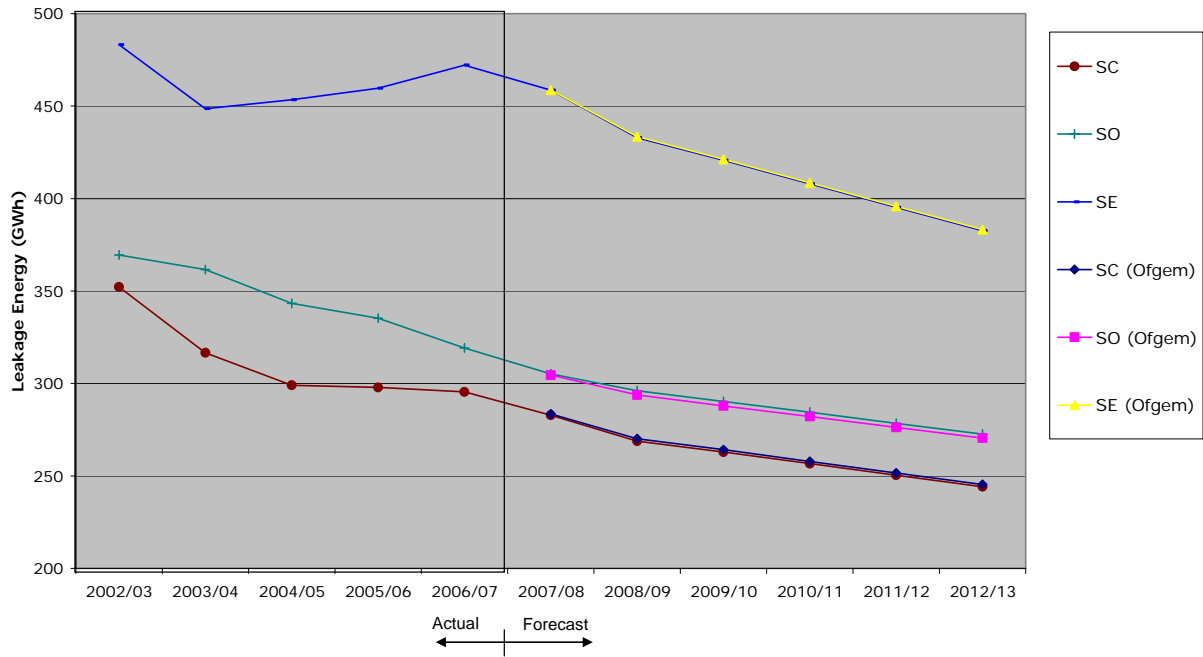
### LDZ Leakage - NGG



### LDZ Leakage - NGN



**LDZ Leakage - SGN**



**LDZ Leakage - WWU**

