# nationalgrid

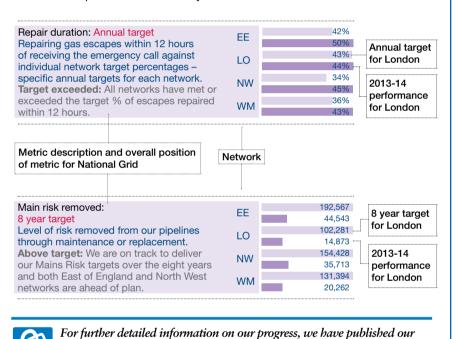
# Our performance for 2013-14



### How to use this document

On pages 8 to 11, we have summarised our performance for our four networks against our RIIO outputs. For each of our outputs, we have included a target – and have stated whether this is an 'Annual target' or an '8 year target' – along with our performance for 2013-14. The networks are labelled as EE for East of England, LO for London, NW for North West and WM for West Midlands.

We have included our overall position for our four networks, stating either 'Target met', 'Target exceeded', or 'Behind target' for annual outputs; and 'Above target', 'On target' or 'Below target' for outputs being assessed over eight years. Some outputs, such as our Capacity of Biomethane Connected, do not have a target, therefore, we have stated the output delivered for the year.



regulatory report pack for 2013-14, which includes supporting narrative

and tables. Please visit www.talkingnetworksngd.com/Price-control.aspx

### How to contact us

If you have a specific question, feedback or an opinion on our RIIO performance booklet, feel free to get in touch with us.

EMAIL: talkingnetworks.distribution@nationalgrid.com

WRITE: Tony Nixon, National Grid House, Warwick Technology Park, Gallows Hill, Warwick CV34 6DA

**TALKING NETWORKS WEBSITE:** 

www.talkingnetworksngd.com

Smell gas? Please call the 24-hour Gas Emergency line: 0800 111 999

### Hello...



Welcome to our first performance booklet under RIIO. We are pleased

to report extremely good progress against our output commitments in this first year, and in this booklet you can see how we have performed against each output along with some great examples of how we are innovating.

This year we have also worked on creating an ambition for 2017, which helps us to aim high and deliver stretching targets and our RIIO outputs in the most productive and efficient way.

We have been progressing well with many of our outputs, but, as ever, there is still room for improvement, particularly in putting the customer at the heart of what we do, truly embedding innovation and engaging with you. Year one of the RIIO contract has been successful, but as we move into year two, we will face new challenges as we continue to deliver the promised workload.

I hope you find the booklet useful and it gives you comfort that National Grid continues to keep you safe and deliver you a reliable service that you feel is value for money.

QuaThy Real

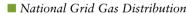
Emma FitzGerald
Director, UK Gas Distribution

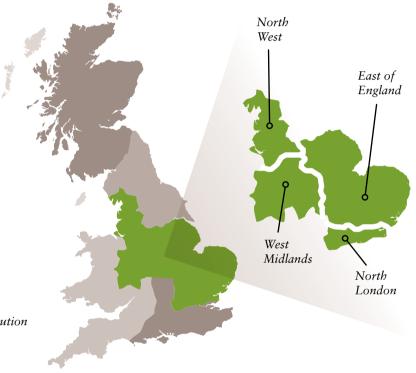
# Who we are, what we do and where we work

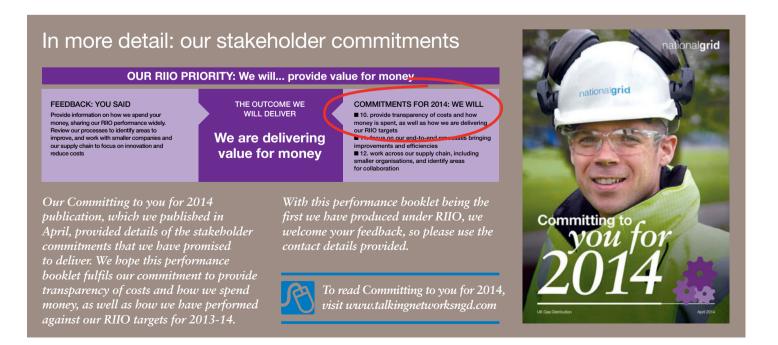
Our gas distribution networks keep you safe while delivering a reliable service to 11 million homes, schools and businesses

Our job is to keep our customers and stakeholders safe, and to deliver a reliable, high-quality service that provides value for money, 365 days a year. Our gas distribution network is the largest and most diverse in the UK.

We own four of the UK's gas distribution networks and transport gas to 11 million homes, schools and businesses through 81,000 miles of gas pipeline. Transporting gas is not the only thing we do, we also manage the national gas emergency number, respond to gas escapes and repair leaks. We work to make the gas supply safer and more reliable for future generations by replacing old gas pipes with modern ones, and we also provide new connections to domestic customers and support areas of fuel poverty.







# We will... keep you safe and warm

You told us that keeping safe and warm is your number-one priority, and it is our role to help make this happen. This year, we have exceeded our target for our emergency service standards across all four of our networks. Answering your emergency gas escape calls, providing advice and attending your property within the hour all help to keep you safe. Replacing old metal pipes with new and more reliable plastic ones will reduce the risk of our pipes leaking or breaking. We are on track to meet our gas pipe replacement targets as promised, and we have new contracting arrangements in place to ensure this work is completed in the safest and most efficient way using innovative techniques.

## CASE STUDY: CONTRACTING PARTNERS

Our new regulatory arrangements mean that we need to find better, faster and cheaper ways of maintaining and replacing gas pipes. You quite rightly wanted us to deliver our outputs at a reduced cost, therefore, we acted to make our business more efficient and positioned it to provide improved customer service.

We have established new arrangements with Balfour Beatty (North West and

West Midlands networks) and Morrison and Skanska (tRIIO) (East of England and London networks) for the full eight years of RIIO, and these companies have become our Gas Distribution Strategic Partners (GDSPs) to deliver our gas pipe replacement programme.

#### **Balfour Beatty**



A reduction in the number of contracting partners has generated administrative savings, given us the opportunity to change the organisational structure of our business and move the responsibilities for design and planning of jobs to our partners. The aim of this is to provide our partners with the best opportunity to plan work effectively in a way that reduces disruption to you.

#### **INNOVATIVE TECHNIQUES**

Innovation, which is one of the '1's in RIIO, has played a crucial role in our 2013-14 performance, particularly on the repair and replacement of pipes. Alongside tRIIO and ULC Robotics, we carried out a trial of the Cast Iron Sealing Robot (CISBOT) within our London network in November 2013. The robot can seal about 100 leaking joints from one excavation, where previously

each joint would require a separate hole to be dug. This significantly reduces the length of time required to carry out repairs in the street, therefore, reducing the impact on our customers and road congestion.

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The new technology was welcomed by the local authority in Camden in London. Brian Foxton, Network Manager, Camden Council, said: "In Camden, we have more than 16,000 excavations in the streets every year, so any reduction in this can only be of benefit to road users."

We will continue to assess the capabilities of CISBOT with the aim of using it across all our networks to repair pipes.



To see a video of the Camden trial of CISBOT, please visit http://bcove.me/1f64aajd

#### CASE STUDY: KEYHOLE TECHNOLOGY

We regularly review our repair techniques and have been successful in introducing keyhole technologies that reduce the time it takes to complete a job and minimise our environmental impact. Our current keyhole technique requires two lorries, one to cut and the other to vacuum an excavation for works to then be carried out below ground. Thanks to the latest keyhole technology, we can now drill a 600mm hole in the road, remove a core and vacuum the debris

to expose the gas pipe underneath, all with one vehicle. Works can also be completed above ground, reducing the safety risk to our employees. This new vehicle was unveiled in September 2013, and we can now locate a leak, repair it and reinstate it within a day, as opposed to over a week. Six of these second-generation vehicles are now in operation across our business, saving time, money, and reducing disruption to our customers and communities.





Engineers operating CISBOT above ground

# CASE STUDY: REDUCING DISRUPTION

A second innovation we are investing in is a replacement system that minimises excavations called a Tier One Replacement System (TORS). The overall objective for TORS is to renew a gas main within a street using just two excavations at each end of the road. The common method would require multiple additional holes to be dug where each property service connects to the main. TORS is currently in development, and, if the technology proves to reduce the time and cost of jobs, as well as disruption, we will use this technology across our networks.

# We will... be reliable

Keeping gas flowing to your homes and businesses is vital for cooking and heating. Our network reliability stands at 99.999% and we want to keep it that way. We have updated our asset health maintenance plan so that we are investing more efficiently for you, and are on track to hit our eight-year targets to improve how our assets function. We still need to reduce the amount of interruptions we cause to the gas supply when carrying out planned repair work, and we have plans to improve our performance over the coming years.

# CASE STUDY: ASSET HEALTH EXPLAINED

The eight-year RIIO price control arrangements introduce new network output measures (NOMs) that demonstrate how we invest your money in our assets to maintain the health and the 99.999% reliability levels that we are very proud of. We have been working with the other networks and Ofgem to develop a methodology that provides real clarity on what has been delivered through a consistent approach to the measurement of asset health and asset criticality.

We set out in our business plans how we have grouped our assets into asset families, which are as follows:

- Telemetry and communications: Equipment for the monitoring and control of network and extremity pressures
- Cathodic protection: Using electricity currents to prevent corrosion from taking place on our below-ground pipelines
- Local transmission system: Pipelines above 7 bar pressure level
- Distribution system: Covers our distribution system, including aboveground crossings and strategic valves
- Pressure reduction installations:
   Includes both national transmission system offtakes and our other network pressure reduction installations
- Governors: Above ground assets below 7 bar



 Storage: The majority of our storage sites are gas holders due to be decommissioned. Output delivery is covered by our gas holder demolition output measure.

Our progress for each asset family in 2013-14 is shown in our 'keep you safe, warm and be reliable' output summary on page 8. These are eight-year targets, and we have plans in place and are on target to deliver. This year, we have converted the health improvement made into points of risk removed, and shown this against the total level of risk points we have committed to remove for the eight years.

We plan to deliver these outputs in a phased approach, with year one delivering 3,163 points. This will increase year-on-year, and will see us delivering on average 4,000 risk points per annum to meet our NOMs targets.

Our plans are designed in this way so that we can deliver on long-term

initiatives that will see the deployment of new technologies, techniques and processes – all of which are designed to deliver NOMs more efficiently for customers.

#### **ASSET HEALTH MODELLING**

This innovative project is helping to deliver our asset health plan.

Alongside other Gas Distribution Networks, we are developing conditionbased risk models that will determine the future health of our governors and pressure reduction assets in order to prioritise future investment decisions.

The tool will allow for the future health and probability of failure of these assets to be simulated and assessed.



For more information, please visit the Energy Networks
Association Innovation Portal:
www.smarternetworks.org/Project.
aspx?ProjectID=1277#downloads



# We will... deliver a quality service to all

We are passionate about delivering excellent customer service. Put simply, it's the right thing to do. In 2013-14, we scored 9/10 or above for our emergency customer satisfaction across all four networks, and we were proud to achieve the Institute of Customer Service Accreditation Mark. While we continue to make progress in many aspects of the services we provide to our customers, we still have improvements to make, particularly when we carry out a planned repair or replacement work, or when you ask us to make a new gas connection. In summary, we want to make all our customer-related processes and systems work better for you.

#### **CASE STUDY: CONNECTIONS REVIEW**

Based on the feedback you gave us, we are currently working to make it easier for you to use our connections services. In particular, we are reducing the number of steps within the connections process, developing our existing systems and improving the customer capability of all our people so that we can provide

a better service. You told us that the areas you find most frustrating are:

- The application form is complex and time consuming
- Communication from us is often unclear and inconsistent
- We don't explain what value we have delivered for the fee paid
- We are not flexible to your requirements.

We are resolving these issues by:

- Simplifying the application process
- Providing you with a single point of contact to explain our charges
- Completing works in one visit wherever possible
- Closing out every job to your satisfaction.

We are currently redesigning the connections process to make sure it provides a better level of service to you. We started to make changes in mid-2014, and we will monitor customer satisfaction to ensure that our actions are working. Changes will be made step by step and in a way that will not negatively affect the service you currently receive.

#### CASE STUDY: **COMPLAINT HANDLING**

You have told us that we need to improve our communications, reduce the time you may be off gas through works and minimise the impacts our works have on your day-to-day lives. This year we have seen complaints reduce by 13.5%, and we have achieved this by acting on your feedback. We know that sometimes things don't go quite to plan and when this does happen, we hope we are ready to resolve things quickly and to your satisfaction.

To help us make a step change in resolving your complaints we have:

- Made substantial improvements to our overall complaints system
- Used performance excellence to gain a deeper understanding of root causes\*
- Promoted closer working between our office-based staff
- and front-line engineers to improve resolution timescales
  Used the feedback we've received from customers to highlight best practice, successes and areas for improvement.

We look to continue improving our customer service every year and, if it does go wrong, improve the way we handle complaints - please see page 10 for our complaint handling scores.

\*For more information on performance excellence, please see our value for money section on page 14.



# Keep you safe, warm and be reliable

Safety regulation compliance – Gas Safety	EE	<b>√</b>	Safety regulation compliance – Control of	EE	<b>√</b>
Management Regulations (GSMR): Annual target	LO	✓	Major Accident Hazards (COMAH): Annual target	LO	<b>√</b>
Reporting that our assets are being maintained to the required GSMR standard.	NW	✓	Reporting that our assets are being maintained to the required COMAH standard.	NW	✓
Target met: All networks have maintained compliance throughout the year.	WM	✓	Target met: All networks have maintained compliance throughout the year.	WM	✓
Uncontrolled escape response: Annual target	EE	97%	Controlled escape response: Annual target	EE	97%
Attending 97% of all uncontrolled gas	LO	97% 98%	Attending 97% of all controlled gas escapes within two hours.	LO	97% 99%
escapes within one hour.	NW	97%		NW	97%
Target exceeded: All networks have exceeded the 97% target for 2013-14	WM	99% 97%	Target exceeded: All networks have exceeded the 97% target for 2013-14 for	WM	99% 97%
for this primary output.		98%	this primary output.		99%
Programmed escape repair risk: Annual target Cumulative risk score of daily escapes	EE	5,166,275 3,023,211	Repair duration: Annual target Repairing gas escapes within 12 hours	EE	42% 50%
outstanding over year.  Behind target: At a National Grid	LO	4,621,376 4,863,933	of receiving the emergency call against individual network target percentages –	LO	43%
Distribution level we have exceeded 2012-13 performance, however, focus is required on	NW	4,911,749 5,322,794	specific annual targets for each network.  Target exceeded: All networks have met or	NW	34% 45%
this metric to ensure each network is below the target level year-on-year.	WM	2,502,277 3,037,830	exceeded the target % of escapes repaired within 12 hours.	WM	36% 43%
Responding to telephone calls:		90%	CO awareness:		
Annual target Answering 90% of emergency calls within	EE	94%	8 year target Movement in awareness scores from	EE	
30 seconds.	LO	94% 90%	customer survey results. Of customers surveyed, post awareness	LO	48% improvement in awareness from
Target exceeded: All networks have	NW	94% 90%	score increased from 5.52 out of 10 to 8.20	NW	those surveyed
exceeded the 90% target for 2013-14 for this primary output.	WM	94%	out of 10. Shows positive movement in raising customer awareness.	WM	
Gas holder demolition: 8 year target	EE	29	Mains risk removed:	EE	192,567 44,543
Specified number of gas holders demolished over eight years. Measure shows number of	LO	33	8 year target Level of risk removed from our pipelines	LO	102,281
gas holders demolished against eight-year RIIO-GD1 commitment.	NW	1 35	through maintenance or replacement.  Above target: We are on track to deliver	NW	14,873 154,428
On target: Programme being managed across all four networks and will see works	WM	4	our mains risk targets over the eight years and both East of England and North West	WM	35,713 131,394
move to other networks during RIIO-GD1.		-	networks are ahead of plan.		20,262
Gas in buildings events due to mains fractures: 8 year target	EE	911 74	Number of mains fractures:  8 year target	EE	13,517
Measuring the occurrences of gas in buildings due to gas mains fracture. Aim is to minimise	LO	329 24	Measuring the number of occurrences of fractured mains. Aim is to minimise level over	LO	4,039
level over RIIO-GD1.  Above target: The level of events has been	NW	1,069	RIIO-GD1.  Above target: The level of events has been	NW	12,527 755
lower than expected, potentially driven by the mild and wet weather for 2013-14 winter period	WM	633 47	lower than expected, potentially driven by the mild and wet weather for 2013-14 winter period.	WM	7,494 561
Length of main off risk (3 tier iron mains):		4,798	Number of non-PE services renewed:		243,018
8 year target Delivering mains replacement programme	EE	562 2,888	8 year target Specified volume of services renewed per	EE	33,421 171,845
(km). On target: Annual run rate is lower than 1/8th	LO	307 3,492	network over eight years.	LO	31,329 227,066
of the programme as km will increase year-	NW			NW	34,621
on-year to a neak level to achieve DIIO CD1		411	On target: We are on track to deliver the		160 001
on-year to a peak level to achieve RIIO-GD1 commitment.	WM	411 2,674 310	On target: We are on track to deliver the volumes over RIIO-GD1.	WM	169,001 25,543
Asset health methodology:		2,674	volumes over RIIO-GD1.  Telemetry and communications:	WM EE	25,543
Asset health methodology: Target December 2014 Publish how we intend to monitor the health	WM	2,674	volumes over RIIO-GD1.  Telemetry and communications: 8 year target Metric shows how much risk reduction		25,543 3,968 579 1,374
Asset health methodology: Target December 2014	WM EE LO	2,674 310 Due December 2014 Due December 2014	volumes over RIIO-GD1.  Telemetry and communications: 8 year target Metric shows how much risk reduction has been completed against our eight-year RIIO-GD1 commitment.	EE LO	25,543 3,968 579 1,374 170 2,040
Asset health methodology: Target December 2014 Publish how we intend to monitor the health	WM	2,674 310 Due December 2014	volumes over RIIO-GD1.  Telemetry and communications: 8 year target Metric shows how much risk reduction has been completed against our eight-year	EE	25,543 3,968 579 1,374

We have kept you safe and warm by exceeding target for all our emergency response outputs, removing 20% of our eight-year mains risk removed target in the first year. We've put in place a survey, and the output shows that our discussions explaining the dangers of CO poisoning increase knowledge

and awareness of those surveyed by 48%. We have maintained our 99.999% level of reliability by improving the health of our assets in year one, however, there is still some way to go to ensure we continue to maintain and deliver you a 99.999% reliable gas distribution system.

Cathodia protection:		410	Local transmission system pipelines		4,005
Cathodic protection:  8 year target	EE	132	Local transmission system pipelines:  8 year target	EE	4,005
Metric shows how much risk reduction	LO	197	Metric shows how much risk reduction	LO	1,117
has been completed against our eight-year	LO	27	has been completed against our eight-year	LO	32
RIIO-GD1 commitment.	NW	256	RIIO-GD1 commitment.	NW	1,510
On target: Annual run rate is higher than		27	On target: Annual run rate is lower than 1/8th of		64
1/8th of the programme and we are on track to achieve our RIIO-GD1 commitment.	WM	92	the programme and will increase year-on-year to	WM	1,547
to achieve our RIIO-GDT commitment.		0	a peak level to achieve RIIO-GD1 commitment.		137
Distribution system (excluding 3 tier iron	EE	1,432	Pressure reduction installations:	EE	3,258
mains): 8 year target		25	8 year target Metric shows how much risk reduction has		227 923
Metric shows how much risk reduction has been completed against our eight-year	LO	292 14	been completed for pressure reduction	LO	923
RIIO-GD1 commitment.	N IVA /	790	installations including transmission offtakes.	N IVA /	1,573
On target: Annual run rate is lower than 1/8th of	NW	28	9	NW	84
the programme and will increase year-on-year to	WM	464	On target: Annual run rate is on track to	WM	1,467
a peak level to achieve RIIO-GD1 commitment.	*****	32	achieve RIIO-GD1 commitment.	*****	128
Governors: 8 year target	EE	4,816	Achievement of 1:20 planning standard:	EE	<b>√</b>
Metric shows how much risk reduction	LL	190	Annual target	LL	·
has been completed against our eight-year RIIO-GD1 commitment.	LO	1,023	Ensuring that we plan for enough gas to be available to you during a bad winter	LO	✓
On target: Annual run rate is lower than 1/8th	NW	2,121	each year.	NW	✓
of the programme and will increase year-	1444	139	·	1444	
on-year to a peak level to achieve RIIO-GD1	WM	1,455	Target met: Forecast developed in	WM	✓
commitment.		283	accordance with 1:20 planning standard.		
Number of unplanned interruptions:	EE	106,922	Duration of unplanned interruptions:	EE	496
8 year target		15,435	8 year target	LL	116
Minimising the number of unplanned	LO	88,605	Minimising the amount of time customers	LO	1,106
interruptions.		13,168	are off gas as a result of emergency work		117
On target: The level of unplanned interruptions has been lower than expected,	NW	101,591 13,647	(millions of minutes). On target: While we have seen an increase in minutes during 2013-	NW	778
potentially driven by the mild and wet weather	14/8/4	70,575	14 we forecast improving year-on-year and	14/8/	479
for 2013-14 winter period.	WM	9,770	meeting the eight-year target levels.	WM	77
Number of planned interruptions:	ГГ	657,504	Duration of planned interruptions:		3,072
8 year target	EE	69,719	8 year target	EE	222
Minimising the number of planned	LO	409,561	Minimising the length of time customers are	LO	2,557
nterruptions.		49,921	off gas as a result of planned work (millions of		176
On target: Annual run rate is lower than	NW	551,735 58,637	minutes).	NW	2,862
On target: Annual run rate is lower than  1/8th of the programme, however, volume will	14/2.5	401,054	On target: Annual run rate is lower than 1/8th of the programme, however, volume will		1,998
increase in subsequent years.	WM	40,786	increase in subsequent years.	WM	143
Capacity utilisation of NTS offtake and		3	NTS offtake (Flat capacity) booked:		889
pressure reduction installations:	EE	-	Annual target	EE	816
8 year target	LO	1	Ensuring we optimise our NTS offtake	LO	468
Reduction of capacity utilisation at a set			capacity to meet demand.		437
number of installations over RIIO-GD1.	NW	2	Target exceeded: We have been able to	NW	536
On target: Due to overall forecast demand reductions no investment was required in		1	reduce our bookings through improvements in the commercial regime and improvements		518 364
2013-14 and is likely to continue.	WM	-	in our demand forecasts.	WM	359
Maintaining apprational performance			Offtako motor accuració		99.900%
Maintaining operational performance: Annual target	EE	✓	Offtake meter accuracy: Annual target	EE	99.900%
Ensuring that we operate the system	LO	<b>✓</b>	99.9% accuracy on offtake meter readings.	LO	99.900%
effectively in order to meet demand each year.	LU		· · · · · · · · · · · · · · · · · · ·	LU	100.000%
	NW	✓	T	NW	99.900%
	-		Target exceeded: We have reduced the		100.000%
Target met	WM	✓	number of errors during this year, which has improved our reliability.	WM	100.000%
		107.00			
Telemetered fault response:	EE	127.00	Pressure system regulation – fault response:	EE	8%
Annual target Keeping the amount of faults associated with		12.21 127.00	Annual target Strategic asset management to enable a		5% 9%
telemetry equipment to a minimum.	LO	45.25	reduction in faults of pressure system assets.	LO	4%
comony oquipmont to a minimum.	NII.A/	127.00	readelier in laune of pressure system assets.	NII A	18%
Target exceeded: We have reduced the	NW	27.21	Target exceeded: We have reduced the	NW	27%
number of faults on our system and improved	WM	127.00	number of faults during this year, which has	WM	6%
our reliability.		18.05	improved our reliability.		5%

# Deliver a quality service to all

We have delivered a quality service by improving our customer satisfaction scores for our emergency service. We have also improved our complaints process to reduce the time it takes us to resolve your complaints. For new connections activities, we have achieved above target for all our connections service standards, however, we have not delivered this to the quality you expect as we are behind on the connections satisfaction standards we have committed to. You will have seen how we plan to address this on page 7 of this document.

Customer satisfaction surveys (emergency):	EE	8.81	Customer satisfaction surveys (planned work):	EE	8.09
Annual target		9.18	Annual target		8.17
Achieving 8.81/10 for our emergency service customer satisfaction score.	LO	8.81 8.84	Achieving 8.09/10 for our planned work customer satisfaction score.	LO	8.09 7.90
	NW	8.81	cucionici cunciuciicii cocici	NW	8.09
Toward are and adv All material in horse		9.21	Dalaired towards We have alone in alone to		7.68
Target exceeded: All networks have exceeded the target satisfaction scores.	WM	8.81 9.06	<b>Behind target:</b> We have plans in place to improve scores for all networks.	WM	8.09 7.95
					44.57
Customer satisfaction surveys (connections):  Annual target	EE	8.04 7.59	Overall complaints score:  Annual target	EE	11.57 10.42
Achieving 8.04/10 for our connections	LO	8.04	Combined score from the four	LO	11.57
customer satisfaction score.	LO	6.61	complaint elements.	LO	11.46
	NW	8.04 8.03		NW	11.57 10.30
Behind target: We have plans in place to	10/04	8.04	Target met: All networks have met the target	WM	11.57
improve scores for all networks.	WM	7.52	to reduce the time to resolve complaints.	VVIVI	10.71
New entry connections information provision:	EE	<b>√</b>	New connections – provision of standard	EE	90%
Make a connections guide for Biomethane	LL		quotations (up to 275KWh):	LL	99%
connections publically available.	LO	✓	Annual target 90% of all quotations for new connections	LO	90%
	N IVA /	✓	or alterations issued within six working days	NW	90%
	NW	*	of receipt.	INVV	99%
Townst west	WM	✓	Townships of	WM	90%
Target met			Target met		9970
New connections – provision of non-standard	EE	90%	New connections – provision of non-standard	EE	90%
quotations (up to 275KWh): Annual target		90%	quotations (greater than 275KWh): Annual target		98% 90%
90% of all quotations for new connections or	LO	96%	90% of all quotations for new connections or	LO	98%
alterations issued within 11 working days of	NW	90%	alterations issued within 21 working days of	NW	90%
receipt.		96% 90%	receipt.		99%
Target met	WM	97%	Target met	WM	94%
Responses to land enquiries:		90%	New connections – provision of		90%
Annual target	EE	99%	commencement & SC dates (up to 275KWh):	EE	99%
90% of all land enquiries responded to within	LO	90%	Annual target	LO	90%
five working days of receipt.		90%	90% of commencement and substantial completion dates are provided within 20		97% 90%
	NW	99%	working days.	NW	99%
	WM	90%	_	WM	90%
Target met		99%	Target met		100%
New connections – provision of	EE	90%	New connections – substantial completion	EE	90%
commencement & SC dates		100%	by agreed date:		93%
(greater than 275KWh): Annual target	LO	97%	Annual target 90% of new or altered gas connections are	LO	93%
90% of commencement and substantial	NW	90%	substantially completed within the agreed	NW	90%
completion dates are provided within 20	1444	100%	timescales.	1444	97% 90%
working days. Target met	WM	90% 95%	Target met	WM	94%
Stakahaldar angagamant incentivo					
Stakeholder engagement incentive: Annual measure	EE	7.1 achieved			
Ofgem stakeholder incentive submission	LO	7.1 achieved			
demonstrating we are building stakeholder	-				
feedback into our annual priorities and					
feedback into our annual priorities and delivering against these priorities. Achieved highest score of all gas distribution	NW	7.1 achieved			

# Safeguard future generations

We are safeguarding future generations by achieving above target for our leakage reduction levels, which is our most significant contribution to lowering carbon emissions. We are facilitating new biomethane and renewable gas connections enquiries, which will deliver approximately 11 new connections in 2014-15. We have also been able to get ahead of our target in providing new gas connections to those in fuel poverty. We have reduced the amount of spoil we send to landfill and the amount of virgin aggregate we use when carrying out our works. However, we have got some way to go to lower our business carbon footprint emissions and reach the levels we aspire to achieve by the end of the RIIO period.

Distributed gas voluntary standards:  Develop and publish standards to provide	EE	✓	Capacity of biomethane applications in progress:  Annual target	EE	10.4
basic information to stakeholders wishing	LO	✓	Reporting the amount of connection enquiries	LO	
to put gas into our networks.			and applications being processed in terms on		0.4
	NW	✓	TWh capacity (includes any multiple applications for same site). We have facilitated a number	NW	1.2
	WM	<b>✓</b>	of enquiries and applications for biomethane	WM	_
Target met			connections in 2013-14.		2.3
Capacity of biomethane connected to	EE	-	Fuel poor connection volumes:	EE	10,080
network:	EE	0.06	8 year target	EE	1,625
8 year target	LO	-	Meeting our target to connect customers	LO	2,880
Reporting the capacity of biomethane connected to our networks in TWh.		-	under the fuel poor connection scheme.		13,330
Connected to our networks in Twin.	NW	-	On target: Across our four networks we are	NW	1,785
	WM	-	ahead of target, however, London network is	WM	8,360
		-	slightly behind target for 2013-14.	• • • • • • • • • • • • • • • • • • • •	1,136
Leakage volumes:	EE	459	Shrinkage volumes: 8 year target	EE	491
8 year target		491	Meeting our annual reduction targets of gas		522
Meeting our annual reduction in leakage of	LO	251 269	that leaves our network without passing	LO	267 285
gas from our distribution mains and other assets (GWh).	A 11 A /	314	through a meter (GWh).	<b>.</b>	335
Above target: We have reduced our	NW	365	Above target: We have reduced our	NW	387
leakage primarily through improved pressure	WM	275	shrinkage primarily through improved	WM	288
management.		303	pressure management.		317
Business carbon footprint emissions:	EE	17,055	Report on Potential Use of Smart Data:	EE	$\checkmark$
Annual target		18,306	Contributing to a network-wide report	LL	,
Reducing scope 1 and 2 emissions to below 46,606 tC02e for 2013-14 across networks.	LO	9,734 11,977	describing the potential benefits for customers from Smart Metering.	LO	✓
40,000 tooze for 2013-14 across fietworks.	NW	11,457	customers from Smart Metering.	NIVA/	1
Behind target: We have not achieved our	INVV	14,296	On target: Report provided to Ofgem.	NW	•
aspirational target for 2013-14 and have	WM	8,360 9,236	Report consultation available at	WM	✓
plans to improve for 2014-15.		9,230	www.gasgovernance.co.uk/sf/leakage		
Virgin aggregate:	EE	30%	Spoil to landfill:	EE	10%
Annual target		41% 30%	Annual target		7% 10%
Meeting target of less than 30% of non-recycled materials used to back fill	LO	0%	Meeting target of less than 10% of all spoil sent to landfill.	LO	4%
excavations.	NW	30%	Sent to landini.	NW	10%
	INVV	28%		INVV	3%
Target exceeded: We have reduced the use	WM	30%	Target exceeded: We have reduced the	WM	10%
of virgin aggregates for 2013-14.		370	amount of spoil to landfill for 2013-14.		270
ISO14001 compliance:	EE	<b>✓</b>	Containment of sites to statutory obligations:	EE	24
Annual target			8 year target		5
Meeting our target of no non-conformities	LO	<b>✓</b>	Number of sites where environmental risks	LO	2
under the ISO14001 audit process.	NIVA/	✓	have reduced to levels below statutory thresholds.	NIVA/	20
	NW		On target: Programme being managed	NW	5
Target met: All issues addressed by	WM	✓	across all four networks and will see works	WM	1
year end.			move to other networks during RIIO-GD1.		

# We will... safeguard future generations

Reducing the impact on the environment is vital to maintaining sustainable gas distribution networks, and we are on track to deliver our environmental targets across the first RIIO year. Managing the pressure within our pipes, combined with developing innovative techniques to reduce gas leakage, all helps to reduce our effect on the environment. As an example of our commitment to the government's renewable energy targets, we have commissioned our first commercial bio-gas project that will fuel 2,500 homes and businesses.

#### CASE STUDY: LEAKAGE REDUCTION

All our networks have performed well this year in terms of reducing leaks from our pipe system and other assets. One of the ways this is done is by managing the pressure at which the gas flows through our pipes. We have also improved processes across all areas of our business that contribute to reducing leaks. The aim is to ensure that we are developing a network that is fit for the future and supports the environmental agenda.

#### TREATING OUR PIPES

Approximately a quarter of our 33,000km low-pressure metal pipes have joints that are more prone to leaking. These would require roadworks to repair, causing disruption. We treat our pipes using a spray called mono-ethylene-glycol (MEG), which is absorbed by the gas and reduces the rate at which it leaks from the joints. The current average level of MEG across

IONAlgrid

Kill your speed
Drive Safely

all our networks is 22%, which reduces leakage by 15%. We are looking to significantly increase the levels of MEG in our pipes to reduce the chance of leaks even further, in turn reducing the amount of roadworks to repair these joints.

Image courtesy of The Technology Partnership plc

So how do we increase the rate at which gas can absorb MEG? We have been working with the Technology Partnership in Cambridge to trial an innovative vibrating diaphragm device that produces a fine mist of MEG. This increases the rate that MEG can be absorbed by the gas. If the ongoing trial proves to be successful, we can increase the level of MEG sprayed into pipes and reduce leakage further.

Reducing the amount of gas that leaks from our pipes will reduce the amount of public reports of gas escapes. This helps to keep you safer in your homes and communities and also contributes to fewer emissions released into the atmosphere.



# CASE STUDY: VULNERABLE CUSTOMERS

Collaborating across the industry to improve safety – particularly in the area of carbon monoxide (CO) awareness – has been a high priority for us during 2013-14. About 40 people die each year as a result of CO poisoning. Education and action holds the key to increasing CO awareness and keeping our communities safe and warm. Some CO awareness activities this year include:

- Our engineers are being equipped with CO detection equipment
- We have run CO awareness days for employees and encouraged them to share what they have learned with colleagues, friends and family
- We have provided 206,000 home safety resource packs for Cub Scouts, helping them to learn how to stay safe at home by spotting the signs of CO and knowing what to do in an emergency situation
- As well as our own CO awareness visits, our pilot with Staffordshire
   Fire and Rescue Service will see its officers providing free CO alarms to 3,000 hard-to-reach, vulnerable people while carrying out their visits.

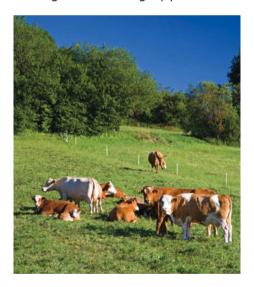
Our engineers continue to hand out our CO awareness surveys while on their safety visits, and we're looking to continue increasing the awareness of the dangers of CO in all the emergency work we do.

# CASE STUDY: BIO SYNTHETIC NATURAL GAS (BIOSNG) NETWORK INNOVATION COMPETITION PROJECT

Our vision for the future is for large-scale production of renewable gas, delivering cost-effective, low-carbon energy to consumers and helping to meet the UK's greenhouse gas reduction targets.

To help achieve this vision, National Grid and its partners, Advanced Plasma Power, Progressive Energy and Carbotech, have been successful in obtaining funding from both Ofgem's Network Innovation Competition and the European BESTF-ERANET programme to build a plant that demonstrates renewable gas production by thermal gasification of domestic and commercial waste.

The separate technological elements that are needed to make BioSNG from waste are already proven, but until now they had not been put together in an end-to-end process. The project started in April 2014 and is on target to complete at the end of March 2017. By early next decade, a fleet of BioSNG plants could be in operation, injecting large quantities of renewable natural gas into Britain's gas pipelines.





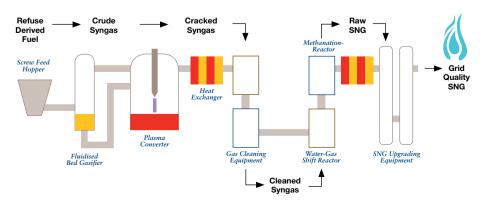
Any learning will be shared across the industry through stakeholder events. One of these will be the Low Carbon Networks & Innovation Conference from 20-22 October 2014 in Aberdeen, Scotland.

"It's great news that National Grid is championing a project to demonstrate, for the first time, the commercial possibility of making truly renewable gas from waste" Richard Court, Head of Stakeholder Delivery, National Grid



For information on the conference, please visit www.lcniconference.org

#### SCHEMATIC DIAGRAM OF A BIOSNG PLANT



# We will... provide value for money

Our regulatory cost allowances have been set by Ofgem through to 2021. In return for these cost allowances, we have committed to deliver the level of outputs you have asked us for. All the outputs we have delivered this year can be seen on pages 8 to 11 of this performance booklet. The cost targets Ofgem set for the RIIO period were significantly lower than our level of spend in 2012 in order to close the performance gap that other network operators had achieved for their customers. Our people have responded well to this challenge. We have not only reduced our costs to the cost target but we have gone beyond that. In the first year of RIIO, and taking into account our output performance, we have delivered additional estimated savings of about £120m.

This is great news for our customers. You will directly share in the benefit of any additional savings we make over future years.

Here are just some of the ways we work to provide value for money.

#### **NEW STRATEGIC PARTNERSHIP**

Appointing our Gas Distribution Strategic Partners to begin work in 2013 was the most significant factor in reducing the cost of our replacement programme. The long-term contracts have given us the platform to deliver our replacement programme and associated outputs in the most efficient way over the next eight years.

#### INNOVATION

On pages 4 to 7 and 12 to 13, we have described a number of significant new technologies and changes we have made across our business so that we can provide you with an improved service. Innovation is now playing a bigger role than ever before across our business and is now part of how we work day-to-day.

## PEOPLE ARE AT THE HEART OF OUR BUSINESS

We have also focused on our people, making sure everyone has the right skills and capabilities to deliver what you need from us.

Our people are experienced, dedicated and motivated to provide you with the best service possible. We have put in place a new staff reward framework that we believe has the balance we need to retain our best people and keep them motivated. We also introduced revised terms and conditions for our field force that rewards high performance and output delivery. By encouraging and rewarding additional productivity, we are also generating savings for customers through these new arrangements. At the same time, we are maintaining our emergency outputs and improving customer satisfaction.

#### **FUTURE PERFORMANCE**

The cost allowances for 2014-15 and beyond, that Ofgem has set, assume that we can improve productivity year-on-year. We will need to improve in line with those assumptions to continue to deliver the level of savings that we produced in 2013-14. In fact, we believe we will need to improve even further because we expect

to tackle more challenging

pipe replacement projects and

other increased activity levels in future years in order to deliver our eight-year output targets.

We are working hard to meet this efficiency challenge by improving the way we operate, maintain and replace assets, as well as using performance excellence techniques.

## FORECAST PERFORMANCE AND UNCERTAINTIES

We expect that our performance over the RIIO period will depend upon the success of our ongoing improvement initiatives. If some of these initiatives work – and we are confident that many will – we should be able to match, or better, the productivity targets we have been set.

The chart below shows the expected profile of expenditure up until 2021.

This is based on a scenario where we broadly maintain, on average, the level of savings (compared to regulatory cost targets) delivered in 2013-14 over each of the eight years of the RIIO period.

As you can see, the expected profile of expenditure is relatively flat across all categories of spend, despite our

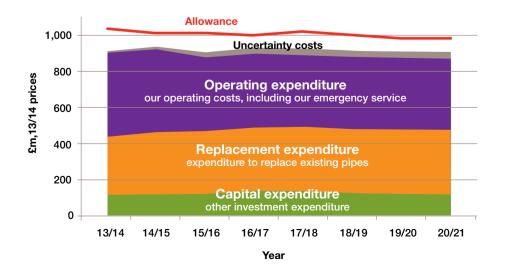
### PERFORMANCE EXCELLENCE

- is all about:
- Knowing what we need to do
- Doing it well
- Improving it

\_\_\_\_\_

Sharing it.

#### **EXPECTED PROFILE OF EXPENDITURE UP UNTIL 2021**



"Innovation is now playing a bigger role than ever across our business and is now part of how we work day-to-day. Our people are motivated and dedicated to providing you with the best service possible."

planned increase in output delivery.

This expenditure profile reflects the stable and predictable level of replacement work we have in front of us until 2021 and the further cost reductions in our operating costs. We believe that delivery of our replacement outputs provides our greatest opportunity to drive further savings to match, and potentially beat, the ongoing productivity challenges. We will also maintain our focus on other areas of operating and capital costs.

Overall, we believe we can deliver the outputs we have committed to at a cost below the regulatory target level throughout the RIIO period. As a result, customers should continue to benefit from our efficiency initiatives as they have done in 2013-14. If we can deliver better performance than in 2013-14, then the benefit to customers will be even greater and so we will continue to drive performance on your behalf.

#### **UNCERTAINTY COSTS**

Over the coming years, we now expect to deliver additional outputs for customers that were not predicted when calculating our forecast cost allowances. **Uncertainty mechanisms** will provide additional money for us to deliver these outputs.

### **UNCERTAINTY MECHANISMS**

are designed to remunerate efficient costs that were not certain enough to include in allowances at the time the RIIO controls were set.



To learn more about smart metering and what it means for you, visit www.ofgem.gov.uk/electricity/ retail-market/metering/ transition-smart-meters

#### UNDERSTANDING THE ENERGY BILL

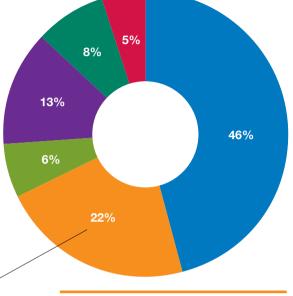
- Wholesale costs
- Network costs
- Environmental & social costs
- Supplier operating costs
- Pre-tax margin
- VAT

Our networks' proportion of the customer bill represents 18% of the total average network costs. The 4% is for other costs, including the Gas Transmission network.

The main uncertainty items are: **Physical Site Security:** upgrading our physical site security at a number of strategic sites driven by government policies to protect critical national infrastructure in the UK

#### Smart metering roll-out programme:

Costs that may arise from the smart metering roll-out programme being introduced by the Department of Energy & Climate Change and being implemented by gas and electricity suppliers.

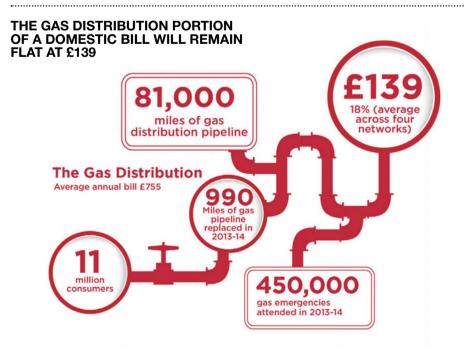




Bill breakdown available from Ofgem, visit www.ofgem.gov.uk/informationconsumers/domestic-consumers/ understanding-energy-bills

#### **NETWORK COSTS**

In 2013-14, the average domestic gas bill was around £755. In the areas where we provide the distribution infrastructure, the element of that bill relating to our Gas Distribution service was around £139, or 18% of the total. We expect the efficiencies we deliver to help keep this part of your bill broadly flat in today's prices through to 2021.



This document contains certain statements that are neither reported financial results nor other historical information. These statements are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These statements include information with respect to National Grid's financial condition, its results of operations and businesses, strategy, plans and objectives. Words such as 'anticipates', 'expects', 'should', 'intends', 'plans', 'believes', 'outlook', 'seeks', 'estimates', 'targets', 'may', 'will', 'continue', 'project' and similar expressions, as well as statements in the future tense, identify forward-looking statements. Furthermore, this document, which is provided for information only, does not constitute summary financial statements and does not contain sufficient information to allow for as full an understanding of the results and state of affairs of National Grid, including the principal risks and uncertainties facing National Grid, as would be provided by the full Annual Report and Accounts, including in particular the Strategic Report section and the 'Risk factors' on pages 167 to 169 of National Grid's latest Annual Report and Accounts. Copies of the most recent Annual Report and Accounts are available online at www.nationalgrid.com or from Capita Registrars. Except as may be required by law or regulation, National Grid undertakes no obligation to update any of its forward-looking statements, which speak only as of the date of this document. The content of any website references herein do not form part of this document.



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#### **National Grid Gas plc Distribution**

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