## nationalgrid

### **RIIO baseline databook** Nov 2016 iteration



April 2017

#### **Cautionary statement**

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This announcement 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. These forward-looking statements are not guarantees of National Grid's future performance and are subject to assumptions, risks and uncertainties that could cause actual future results to differ materially from those expressed in or implied by such forward-looking statements. Many of these assumptions, risks and uncertainties relate to factors that are beyond National Grid's ability to control or estimate precisely, such as changes in laws or regulations, including any arising as a result of the United Kingdom's exit from the European Union, announcements from and decisions by governmental bodies or regulators (including the timeliness of consents for construction projects); the timing of construction and delivery by third parties of new generation projects requiring connection; breaches of, or changes in, environmental, climate change and health and safety laws or regulations, including breaches or other incidents arising from the potentially harmful nature of its activities; network failure or interruption, the inability to carry out critical non network operations and damage to infrastructure, due to adverse weather conditions including the impact of major storms as well as the results of climate change, due to counterparties being unable to deliver physical commodities, or due to the failure of or unauthorised access to or deliberate breaches of National Grid's IT systems and supporting technology; performance against regulatory targets and standards and against National Grid's peers with the aim of delivering stakeholder expectations regarding costs and efficiency savings, including those related to investment programmes and internal transformation and remediation plans; and customers and counterparties (including financial institutions) failing to perform their obligations to the Company. Other factors that could cause actual results to differ materially from those described in this announcement include fluctuations in exchange rates, interest rates and commodity price indices; restrictions and conditions (including filing requirements) in National Grid's borrowing and debt arrangements, funding costs and access to financing; regulatory requirements for the Company to maintain financial resources in certain parts of its business and restrictions on some subsidiaries' transactions such as paying dividends, lending or levying charges; inflation or deflation; the delayed timing of recoveries and payments in National Grid's regulated businesses and whether aspects of its activities are contestable; the funding requirements and performance of National Grid's pension schemes and other post-retirement benefit schemes; the failure to attract, train or retain employees with the necessary competencies, including leadership skills, and any significant disputes arising with the National Grid's employees or the breach of laws or regulations by its employees; and the failure to respond to market developments, including competition for onshore transmission, the threats and opportunities presented by emerging technology, development activities relating to changes in the energy mix and the integration of distributed energy resources, and the need to grow the Company's business to deliver its strategy, as well as incorrect or unforeseen assumptions or conclusions (including unanticipated costs and liabilities) relating to business development activity, including assumptions in connection with joint ventures. For further details regarding these and other assumptions, risks and uncertainties that may impact National Grid, please read the Strategic Report section and the 'Risk factors' on pages 183 to 186 of National Grid's most recent Annual Report and Accounts, as updated by National Grid's unaudited half-year financial information for the six months ended 30 September 2016 published on 10 November 2016. In addition, new factors emerge from time to time and National Grid cannot assess the potential impact of any such factor on its activities or the extent to which any factor, or combination of factors, may cause actual future results to differ materially from those contained in any forward-looking statement. Except as may be required by law or regulation, the Company undertakes no obligation to update any of its forward-looking statements, which speak only as of the date of this announcement. 2



#### Introduction

Baseline databook

- This databook is a summary of data contained in Ofgem's financial model iteration of November 2016 including Ofgem's baseline view of expenditure
- It does not reflect National Grid forecasts or views of levels of future investment or revenues

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### Updates from previous databooks

- Data reflects Ofgem's updated baseline view
- Additional updates from 2015 databook reflects Ofgem's November 2016 iteration including updates for 2015/16 actual spend and Ofgem's view of 2015/16 outputs delivered (shown in row 'outputs adjustments')
- RPI used for nominal data has been updated to reflect actual for 15/16 and a revised forecast of RPI post 15/16
- Allowed cost of debt: 2.92% real for 13/14, 2.72% real for 14/15, 2.55% real for 15/16, 2.38 real for 16/17, 2.22 real for 17/18 and 2.22% thereafter.



**Baseline databook** 

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### **Finance package**

Cost of equity	7.0%
Cost of debt	index
Gearing	60%
Transitional measures	1 period/8
	years
Totex capitalisation rate (TO)	85%
Totex capitalisation rate (SO)	27.9%
IQI ratio	112
Totex incentive rate	47%

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### **Totex & RAV allowances**

£bn	8 year total (nominal)	8 year total (09/10 prices)
TO capex - load-related	1.4	1.2
TO capex - non-load related	6.1	4.8
Uncertainty mechanism capex	3.9	3.2
Uncertainty mechanism opex	0.2	0.2
Controllable opex	2.0	1.6
Totex Incentive Mechanism	(1.0)	(0.9)
TO Totex	12.7	10.1
Non controllable opex	0.9	0.7
SO capex	0.3	0.2
Controllable opex	0.8	0.6
Totex Incentive Mechanism	(0.0)	(0.0)
SO Totex	1.1	0.9
NGET Controllable Totex	13.8	11.0
RAV at 31 March 2013	10.2	8.9
RAV at 31 March 2021	16.9	12.2

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### Transmission owner (TO) fast/slow money split & RAV roll forward

NGET TO

£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	Total
Baseline Capex allowances	1,390	1,529	1,447	1,366	1,142	1,089	938	766	9,667
Baseline Regulatory Controllable Opex allowances	192	196	203	204	206	206	208	208	1,624
Baseline Totex allowance	1,583	1,725	1,650	1,570	1,348	1,295	1,146	974	11,291
Outputs adjustment	29	(146)	(149)	(94)	(15)	35	18	7	(316)
Updated Totex allowance	1,611	1,579	1,501	1,477	1,333	1,330	1,164	981	10,975
Capex spend	999	679	742	1,258	1,082	1,067	922	767	7,517
Regulatory Controllable Opex spend	200	220	223	219	251	262	242	213	1,830
Totex spend	1,199	899	965	1,477	1,333	1,330	1,164	981	9,347
Post-sharing totex	1,392	1,218	1,217	1,477	1,333	1,330	1,164	981	10,110
Fast money	209	183	182	222	200	199	175	147	1,517
Slow money	1,183	1,035	1,034	1,255	1,133	1,130	989	834	8,594

NGET TO & shadow RAV								
£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Opening	8,791	9,229	9,670	10,084	10,698	11,164	11,607	11,899
Update for TPCR4 Actuals	(177)	-	-	-	-	-	-	-
Slow Money	1,183	1,035	1,034	1,255	1,133	1,130	989	834
Depreciation (Existing Assets)	(569)	(550)	(537)	(523)	(510)	(499)	(480)	(462)
Depreciation (New Assets)	-	(44)	(83)	(118)	(157)	(189)	(218)	(241)
Closing Balance	9,229	9,670	10,084	10,698	11,164	11,607	11,899	12,029

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### **TO allowed revenue calculation**

£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Opening (excl Shadow RAV)	8,691	9,134	9,582	10,002	10,698	11,164	11,607	11,899
Update for TPCR4 Actuals	(177)	-	-	-	-	-	-	-
Transfers in	-	-	-	82	-	-	-	-
Additions	1,183	1,035	1,034	1,255	1,133	1,130	989	834
Depreciation	(564)	(587)	(614)	(641)	(667)	(688)	(697)	(704)
Closing Balance (Excl Shadow RAV)	9,134	9,582	10,002	10,698	11,164	11,607	11,899	12,029
Closing shadow RAV	95	89	82	-	-	-	-	-

£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	Total
Fast money	209	183	182	222	200	199	175	147	1,517
Non controllable costs	94	88	88	88	88	88	88	88	708
Pensions	32	32	36	36	36	36	36	36	280
Equity injection costs	-	-	-	-	-	-	-	-	-
IQI adjustment	15	16	16	15	13	13	11	10	109
Tax allowance	86	72	80	88	71	73	74	79	622
Depreciation & return on RAV	960	993	1,029	1,071	1,110	1,149	1,173	1,188	8,673
TIRG revenue	14	13	13	-	-	-	-	-	40
Other Revenue adjustments	45	46	47	46	48	50	52	54	387
Total revenue	1,455	1,443	1,490	1,566	1,566	1,606	1,608	1,601	12,335

#### Memo: Other Revenue Adjustments

Present Value

£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
TPCR4 base capex incentive	19	20	21	22	23	24	24	25
TPCR4 capex incentive adjustment and Rollover and TII capex incentive	19	20	20	21	22	23	24	25
Excluded services costs	7	6	6	3	3	3	3	-
Other Revenue adjustments	45	46	47	46	48	50	52	54
Memo: Calculation of MOD Adjustments								
£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Total revenue per Nov 2014 model run	1,455	1,443	1,490	1,566	1,566	1,606	1,608	1,60
Less								
TIRG Revenue	14	13	13	-	-	-	-	
Excluded services revenue	123	123	130	126	127	129	130	132
Regulated base revenue: Nov 2015 model run	1,319	1,306	1,347	1,440	1,438	1,478	1,478	1,469
£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Baseline Regulated Base Revenue	1,342	1,444	1,476	1,571	1,555	1,588	1,585	1,572
MOD adjustment	-	(5)	(114)	(185)	(253)			
Annual Iteration Base Revenue	1,342	1,438	1,361	1,386	1,302			
Present Value						7,439		
Regulated base revenue: Nov 2015 model run	1,319	1,306	1,347	1,440	1,438			

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### System operator (SO) fast/slow money split & RAV roll forward

SO RAV	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	
£m (2009/10 prices)						-	-	-	
Opening	74	94	106	116	122	126	125	125	
Update for TPCR4 Actuals	3								
Additions	33	31	32	31	32	30	31	32	
Depreciation	(16)	(19)	(22)	(25)	(28)	(30)	(32)	(32)	
Closing Balance	94	106	116	122	126	125	125	125	
so									
£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	Total
Baseline Capex allowances	39	34	31	28	31	21	26	26	238
Baseline Regulatory Controllable Opex allowances	74	75	83	83	84	85	86	88	658
Baseline Totex allowance	113	109	114	112	115	106	113	114	896
Outputs adjustment	13	3	8	6	6	6	6	5	52
Updated Totex allowance	126	112	122	118	120	112	118	120	948
Capex spend	32	34	33	28	31	21	26	26	233
Regulatory Controllable Opex spend	80	77	80	83	84	85	86	88	663
Totex spend	112	112	114	112	115	106	113	114	897
Post-sharing totex	118	112	114	112	115	106	113	114	904
Fast money	85	81	82	81	83	76	81	83	651
Slow money	33	31	32	31	32	30	31	32	252



#### SO allowed revenue calculation

£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Fast money	85	81	82	81	83	76	81	83
Non controllable costs	-	-	-	-	-	-	-	-
Pensions	10	10	11	12	11	11	12	12
Equity injection costs	-	-	-	-	-	-	-	-
IQI adjustment	1	1	1	1	1	1	1	1
Tax allowance	2	1	1	0	1	0	1	1
Depreciation & return on RAV	19	24	27	30	33	35	37	37
Other Revenue adjustments	2	2	2	2	2	2	3	3
Total revenue	120	119	125	125	132	127	134	136
£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Baseline Regulated Base Revenue	114	114	114	117	123	118	125	126
MOD adjustment	-	4	6	21	9			
Annual Iteration Base Revenue	114	117	120	138	132			
Present Value						673		
Regulated base revenue: Nov 2015 model run	120	119	125	125	132			
Present Value						673		

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### Totel summary total RAV (incl. shadow & SO RAV)

£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	Total
TO capex - load-related	242	206	183	187	143	124	44	28	1,159
TO capex - non-load-related	506	499	485	489	623	716	784	704	4,806
Uncertainty mechanism capex	670	674	621	581	317	227	94	35	3,219
Uncertainty mechanism opex	1	3	9	14	45	56	34	5	167
Regulatory Controllable opex	192	196	203	204	206	206	208	208	1,624
Totex Incentive Mechanism	(219)	(361)	(285)	-	-	-	-	-	(865)
TO Totex	1,392	1,218	1,217	1,477	1,333	1,330	1,164	981	10,110
Non controllable opex	94	88	88	88	88	88	88	88	708
SO capex	39	34	29	27	30	20	25	25	231
Regulatory Controllable opex	74	75	77	79	79	80	82	84	629
Totex Incentive Mechanism	(7)	(0)	(0)	-	-	-	-	-	(8)
SO Totex	106	109	106	106	109	100	107	109	852

£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Opening	8,865	9,323	9,776	10,200	10,820	11,290	11,732	12,024
Update for TPCR4 Actuals	(174)							
Additions	1,269	1,115	1,116	1,336	1,216	1,207	1,071	916
Depreciation	(585)	(613)	(642)	(666)	(695)	(718)	(729)	(735)
Closing Balance	9,323	9,776	10,200	10,820	11,290	11,732	12,024	12,154



**Baseline databook** 

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### **Finance package**

	Final proposals
Cost of equity	6.8%
Cost of debt	index
Gearing	62.5%
Transitional measures	N/A
Base Totex capitalisation rate (TO)	64%
UM Totex capitalisation rate (TO)	90%
Totex capitalisation rate (SO)	37.4%
IQI ratio	123
Totex incentive rate	44%

### **Totex & RAV allowances**

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£bn	8 year total 8	l 8 year total		
	(nominal)	(09/10		
		prices)		
TO capex - load-related	0.3	0.2		
TO capex - non-load related	1.1	0.9		
Uncertainty mechanism capex	0.2	0.2		
Uncertainty mechanism opex	-	-		
Controllable opex	0.8	0.6		
Totex Incentive Mechanism	(0.0)	(0.0)		
TO Totex	2.3	1.8		
Non controllable opex	3.0	2.4		
SO capex	0.2	0.2		
Uncertainty mechanism capex	0.1	0.1		
Uncertainty mechanism opex	0.1	0.1		
Controllable opex	0.4	0.3		
Totex Incentive Mechanism	(0.0)	(0.0)		
SO Totex	0.7	0.6		
NGGT Controllable Totex	3.0	2.4		
RAV at 31 March 2013	5.3	4.6		
RAV at 31 March 2021	7.0	5.0		

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### Transmission owner (TO) fast/slow money split RAV roll forward

£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	Totals
	2013/14	2014/15	2013/10	2010/17	2017/10	2010/15	2015/20	2020/21	Totals
Baseline Load-related Capex allowances	25	14	10	60	85	9	0	-	204
Baseline Non-load related Capex allowances	97	110	114	124	138	118	102	91	894
Baseline Regulatory Controllable Opex allowances	64	65	71	79	84	85	81	77	607
Totex allowances	187	190	195	264	307	211	183	169	1,705
Outputs adjustment	27	18	11	13	32	33	21	6	160
Updated Totex allowance	214	208	206	276	340	243	203	175	1,865
Load-related Capex spend	3	1	1	60	85	9	0	-	159
Non-load related Capex spend	115	108	111	137	170	150	122	98	1,011
Regulatory Controllable Opex spend	70	73	74	79	84	85	81	77	623
Totex spend	188	182	186	276	340	243	203	175	1,794
Post-sharing Totex	200	193	195	276	340	243	203	175	1,826
Fast money	63	63	65	95	113	78	67	61	605
Slow money	137	130	129	181	227	165	136	114	1,220

£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Opening	4,562	4,635	4,642	4,689	4,825	4,963	4,985	4,956
Update for TPCR4 Actuals	68							
Additions	151	156	199	290	296	186	137	114
Depreciation (Existing Assets)	(146)	(145)	(144)	(144)	(144)	(144)	(143)	(141)
Depreciation (New Assets)	-	(5)	(7)	(10)	(14)	(19)	(23)	(26)
Closing Balance	4,635	4,642	4,689	4,825	4,963	4,985	4,956	4,903

Annual Iteration Base Revenue

Regulated base revenue: Nov 2015 model run

**Present Value** 

**Present Value** 

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### **TO allowed revenue collection**

£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Opening	4,014	4,319	4,309	4,298	4,349	4,893	4,964	4,955
Update for TPCR4 Actuals	68							
Transfers in	171	2	2	15	476	69	21	1
Additions	205	130	129	181	227	165	136	114
Depreciation	(139)	(142)	(143)	(145)	(159)	(164)	(166)	(167)
Closing Balance	4,319	4,309	4,298	4,349	4,893	4,964	4,955	4,903
Shadow RAV	315	332	391	476	69	21	1	-
£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Fast money	63	63	65	95	113	78	67	61
Non controllable costs	110	110	110	110	110	110	110	110
Pensions	41	41	65	65	66	66	67	67
Equity injection costs	-	-	-	-	-	-	-	-
IQI adjustment	(1)	(1)	(1)	(2)	(2)	(1)	(1)	(1)
Tax allowance	9	12	15	22	28	22	23	26
Depreciation & return on RAV	322	321	318	316	346	355	358	358
Revenue adjustments	(10)	(9)	(9)	(9)	10	11	12	12
Regulated revenue	535	537	563	<b>598</b>	671	641	636	634
Excluded service revenue	4	3	3	3	3	3	3	3
Total revenue	538	540	566	602	674	644	639	637
MOD adjustment								
£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Baseline Regulated Base Revenue	539	543	548	581	659	627	622	620
MOD adjustment	-	8	10	10	6			

551

537

558

563

591

598

665

671

3,135

3,135

539

535

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### System operator (SO) fast/slow money split & RAV roll forward

SO									
£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	Total
Capex allowances	41	32	25	25	22	18	19	17	199
Regulatory Controllable Opex allowances	44	46	51	52	51	50	49	50	392
Totex allowances	85	79	76	77	73	68	68	66	591
Outputs adjustment	13	0	0	0	(6)	1	4	1	13
Updated Totex allowance	98	79	76	77	68	69	72	68	604
Capex spend	18	27	36	25	20	18	20	17	181
Regulatory Controllable Opex spend	41	46	47	52	48	50	51	51	386
Totex spend	59	73	83	77	68	69	72	68	568
Post-sharing Totex	76	76	80	77	68	69	72	68	584
Fast money	48	47	50	48	42	43	45	42	366
Slow money	28	28	30	29	25	26	27	25	218

SO RAV

£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Opening	53	68	82	95	104	107	108	108
Update for TPCR4 Actuals	(3)							
Additions	28	28	30	29	25	26	27	25
Depreciation	(11)	(14)	(17)	(20)	(22)	(25)	(27)	(27)
Closing Balance	68	82	95	104	107	108	108	106

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### SO allowed revenue calculation

£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Fast money	48	47	50	48	42	43	45	42
Non controllable costs	-	-	-	-	-	-	-	-
Equity injection costs	-	-	-	-	-	-	-	-
IQI adjustment	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Tax allowance	1	0	0	-	-	-	0	1
Depreciation & return on RAV	13	17	20	24	27	29	31	31
Revenue adjustments	0	0	1	1	1	1	1	1
Regulated revenue	62	65	71	72	69	72	76	75
NGGT SO Revenue Driver Income	94	87	79	59	0	0	-	-
Total revenue	156	152	150	131	69	72	76	75
£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Baseline Regulated Base Revenue	67	67	69	73	74	73	75	74
MOD adjustment	-	(1)	(14)	1	3			
Annual Iteration Base Revenue	67	67	55	74	77			
Present Value						366		
Regulated base revenue: Nov 2015 model run	62	65	71	72	69			
Present Value						366		

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### Totex summary & total RAV (including shadow SO RAV)

£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	Total
TO baseline capex - load-related	25	14	10	60	85	9	0	-	204
TO baseline capex - non-load related	97	110	114	124	138	118	102	91	894
Uncertainty mechanism capex	27	18	11	13	32	33	21	6	160
Uncertainty mechanism opex	-	-	-	-	-	-	-	-	-
Controllable opex	64	65	71	79	84	85	81	77	607
Totex incentive mechanism	(14)	(14)	(11)	-	-	-	-	-	(39)
TO Totex	200	193	195	276	340	243	203	175	1,826
Non controllable opex	110	110	110	110	110	110	110	110	882
SO baseline capex	34	27	19	16	14	13	15	13	150
Uncertainty mechanism capex	20	5	7	9	6	6	5	4	61
Uncertainty mechanism opex	6	8	12	15	10	12	12	11	86
Controllable opex	38	39	39	37	38	38	39	39	307
Totex incentive mechanism	(21)	(3)	4	-	-	-	-	-	(20)
SO Totex	76	76	80	77	68	69	72	68	584
NGGT Controllable Totex	276	269	275	353	407	312	275	243	2,410

Total RAV (including shadow & SO RAV)								
£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Opening	4,615	4,703	4,724	4,785	4,929	5,070	5,093	5,063
Additions	244	185	229	318	322	212	164	140
Depreciation	(157)	(164)	(168)	(174)	(181)	(188)	(193)	(195)
Closing Balance	4,703	4,724	4,785	4,929	5,070	5,093	5,063	5,009
£m (2009/10 prices)	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Existing revenue drivers income	94	87	79	59	0	0	-	-
Existing revenue drivers investment	14	26	69	108	69	21	1	-