
The logo for Xserve, featuring the word "Xserve" in a blue, sans-serif font. The "X" is stylized with a blue arrow pointing to the right.

respect > commitment > teamwork

Supporting Document Demand Estimation Sub Committee Review of Summer Modelling performance

15th February 2017

- The following slides compare the results of the baseline approach (simulated UG percentages) and the Model 1 (Hol Ex) approach for the selected gas years
 - Cells highlighted in amber represents when the baseline model performed better than model Hol Ex
 - Cells highlighted in green represent when model Hol Ex performed better than the baseline model
- A comparison of the differences in the results between the two approaches are also presented in order to assess whether the Model 1 approach is closer to the simulated baseline data
- Gas Years 2012/13, 2013/14, 2014/15 and 2015/16* have been tested
 - * Note: The sample data for 2015/16 has recently become available and is therefore an additional year available for testing since the last DESC in November
- Results are aggregated at 'Season' and 'Quarter' level

Model 1: Results by Season – Gas Year 2015/16

GAS YEAR 2015	SEASONS												
Baseline	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Winter	1.54%	2.37%	4.41%	3.50%	3.30%	1.27%	1.64%	3.10%	2.97%	2.11%	1.58%	1.73%	2.46%
Summer	-5.48%	1.52%	-1.52%	-1.55%	1.52%	1.68%	0.01%	0.34%	5.08%	-0.21%	-1.75%	-1.99%	-0.20%
NW2014_HOL_EX	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Winter	1.57%	2.41%	4.35%	3.48%	3.42%	1.23%	1.63%	3.03%	2.95%	2.09%	1.53%	1.72%	2.45%
Summer	-5.51%	1.33%	-1.52%	-1.53%	1.79%	1.75%	0.01%	0.54%	5.10%	-0.26%	-1.72%	-1.97%	-0.17%
Differences	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Winter	0.03%	0.04%	-0.06%	-0.03%	0.12%	-0.05%	-0.01%	-0.07%	-0.02%	-0.02%	-0.05%	-0.02%	-0.01%
Summer	0.03%	-0.20%	0.00%	-0.01%	0.27%	0.07%	0.00%	0.20%	0.02%	0.05%	-0.03%	-0.03%	-0.03%
SEASONS IMPROVED	0	1	2	2	0	1	2	1	1	1	2	2	2

- Overall, both seasons have a slightly smaller UG when compared to the baseline.
 - 5 LDZs show an improvement in both seasons
 - 2 LDZs are worse in both seasons
 - 5 LDZs reveal mixed results of 1 season improving and 1 season worsening

Model 1: Results by Quarter – Gas Year 2015/16

GAS YEAR 2015	QUARTERS												
Baseline	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct-Dec	-0.08%	1.60%	3.29%	2.23%	2.15%	0.28%	0.15%	3.15%	2.93%	2.06%	-0.22%	-0.07%	1.46%
Jan-Mar	3.18%	3.15%	5.55%	4.79%	4.46%	2.28%	3.14%	3.04%	3.01%	2.16%	3.41%	3.55%	3.48%
Apr-Jun	-14.03%	-0.72%	-3.14%	-4.39%	-0.30%	0.67%	-0.57%	-2.31%	4.89%	-2.41%	-3.28%	-4.48%	-2.51%
Jul-Sep	3.16%	3.80%	0.11%	1.32%	3.36%	2.70%	0.60%	3.01%	5.27%	2.02%	-0.20%	0.52%	2.14%
NW2014_HOL_EX	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct-Dec	-0.23%	1.36%	3.00%	1.89%	2.50%	0.10%	-0.08%	3.04%	2.84%	1.94%	-0.36%	-0.13%	1.32%
Jan-Mar	3.40%	3.47%	5.71%	5.08%	4.35%	2.36%	3.36%	3.03%	3.06%	2.24%	3.45%	3.59%	3.59%
Apr-Jun	-13.90%	-0.91%	-3.01%	-4.06%	0.05%	0.78%	-0.45%	-1.89%	4.90%	-2.53%	-3.21%	-4.41%	-2.39%
Jul-Sep	2.97%	3.59%	-0.01%	1.02%	3.56%	2.74%	0.48%	3.00%	5.30%	2.04%	-0.22%	0.51%	2.08%
Differences	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct-Dec	0.16%	-0.24%	-0.28%	-0.34%	0.35%	-0.18%	-0.07%	-0.12%	-0.09%	-0.12%	0.14%	0.07%	-0.13%
Jan-Mar	0.21%	0.32%	0.16%	0.29%	-0.11%	0.08%	0.22%	-0.02%	0.05%	0.08%	0.04%	0.04%	0.11%
Apr-Jun	-0.13%	0.19%	-0.13%	-0.33%	-0.26%	0.11%	-0.11%	-0.41%	0.01%	0.12%	-0.07%	-0.07%	-0.12%
Jul-Sep	-0.18%	-0.21%	-0.10%	-0.30%	0.20%	0.04%	-0.12%	-0.01%	0.03%	0.03%	0.02%	-0.01%	-0.06%
QUARTERS IMPROVED	2	2	3	3	2	1	3	4	1	1	1	2	3

- Overall, 3 of 4 quarters have a slightly smaller UG compared with the baseline
- Mixed bag of results across the LDZs and quarters for this Gas Year

Model 1: Results by Season – Gas Year 2014/15

GAS YEAR 2014	SEASONS												
Baseline	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Winter	0.96%	0.37%	2.33%	2.44%	1.92%	1.24%	2.08%	0.88%	0.91%	-0.62%	2.74%	0.19%	1.29%
Summer	-4.96%	-1.20%	-5.79%	-1.99%	-2.94%	-1.94%	-2.89%	-1.19%	4.27%	1.69%	0.63%	-5.04%	-1.78%
NW2014_HOL_EX	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Winter	0.86%	0.22%	2.15%	2.21%	1.98%	1.09%	1.89%	0.77%	0.85%	-0.73%	2.64%	0.07%	1.17%
Summer	-4.79%	-1.04%	-5.44%	-1.67%	-3.09%	-1.65%	-2.58%	-0.87%	4.39%	1.83%	0.78%	-4.85%	-1.58%
Differences	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Winter	-0.09%	-0.15%	-0.18%	-0.24%	0.06%	-0.14%	-0.19%	-0.11%	-0.07%	0.12%	-0.10%	-0.12%	-0.12%
Summer	-0.17%	-0.16%	-0.36%	-0.32%	0.15%	-0.28%	-0.31%	-0.32%	0.12%	0.13%	0.15%	-0.19%	-0.20%
SEASONS IMPROVED	2	2	2	2	0	2	2	2	1	0	1	2	2

- Overall, both seasons have a slightly smaller UG when compared to the baseline.
 - 8 LDZs show an improvement in both seasons
 - 2 LDZs are worse in both seasons
 - 2 LDZs reveal mixed results of 1 season improving and 1 season worsening

Model 1: Results by Quarter – Gas Year 2014/15

GAS YEAR 2014	QUARTERS												
Baseline	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct-Dec	-0.44%	-1.47%	0.83%	0.19%	-0.06%	-0.43%	0.97%	-0.59%	-0.39%	-2.50%	0.97%	-2.06%	-0.41%
Jan-Mar	2.38%	2.26%	3.87%	4.75%	3.94%	2.95%	3.21%	2.38%	2.25%	1.31%	4.55%	2.48%	3.03%
Apr-Jun	-6.89%	-1.27%	-9.09%	-2.72%	-2.22%	-2.45%	-1.50%	-2.04%	4.52%	2.08%	1.53%	-4.43%	-2.04%
Jul-Sep	-3.01%	-1.13%	-2.46%	-1.25%	-3.66%	-1.42%	-4.29%	-0.33%	4.01%	1.31%	-0.28%	-5.65%	-1.51%

NW2014_HOL_E X	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct-Dec	-0.57%	-1.68%	0.60%	-0.08%	0.32%	-0.57%	0.81%	-0.68%	-0.44%	-2.59%	0.88%	-2.10%	-0.51%
Jan-Mar	2.32%	2.17%	3.73%	4.55%	3.67%	2.79%	3.00%	2.25%	2.17%	1.16%	4.45%	2.28%	2.88%
Apr-Jun	-6.76%	-1.19%	-8.70%	-2.25%	-2.48%	-2.18%	-1.14%	-1.49%	4.62%	2.10%	1.72%	-4.28%	-1.84%
Jul-Sep	-2.80%	-0.88%	-2.14%	-1.08%	-3.70%	-1.12%	-4.03%	-0.24%	4.16%	1.55%	-0.17%	-5.43%	-1.32%

Differences	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct-Dec	0.13%	0.20%	-0.22%	-0.11%	0.27%	0.13%	-0.17%	0.09%	0.05%	0.09%	-0.09%	0.04%	0.09%
Jan-Mar	-0.06%	-0.09%	-0.14%	-0.21%	-0.27%	-0.16%	-0.21%	-0.14%	-0.08%	-0.15%	-0.10%	-0.20%	-0.15%
Apr-Jun	-0.13%	-0.08%	-0.40%	-0.47%	0.26%	-0.27%	-0.36%	-0.55%	0.10%	0.02%	0.19%	-0.16%	-0.20%
Jul-Sep	-0.21%	-0.25%	-0.32%	-0.17%	0.04%	-0.30%	-0.26%	-0.10%	0.15%	0.24%	-0.12%	-0.22%	-0.19%

QUARTERS IMPROVED	3	3	4	4	1	3	4	3	1	1	3	3	3
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- Overall, 3 of 4 quarters have a slightly smaller UG compared with the baseline
- Majority of LDZs and quarters show an improvement for this Gas Year

Model 1: Results by Season – Gas Year 2013/14

GAS YEAR 2013	SEASONS												
Baseline	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Winter	-0.52%	1.17%	0.54%	0.58%	-0.02%	-1.30%	0.60%	-0.10%	-0.60%	-1.18%	-0.07%	-0.55%	-0.12%
Summer	-5.41%	-2.30%	-7.00%	-3.19%	-3.60%	-4.21%	-3.72%	-3.90%	1.20%	-2.24%	-4.25%	-6.37%	-3.75%
NW2014_HOL_EX	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Winter	-0.59%	1.05%	0.37%	0.37%	0.09%	-1.42%	0.44%	-0.21%	-0.65%	-1.28%	-0.15%	-0.64%	-0.22%
Summer	-5.40%	-2.27%	-6.75%	-2.88%	-3.35%	-3.95%	-3.45%	-3.58%	1.30%	-2.15%	-4.10%	-6.20%	-3.57%
Differences	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Winter	0.08%	-0.12%	-0.16%	-0.21%	0.07%	0.12%	-0.16%	0.10%	0.05%	0.09%	0.08%	0.09%	0.10%
Summer	-0.02%	-0.03%	-0.25%	-0.31%	-0.25%	-0.26%	-0.26%	-0.31%	0.10%	-0.09%	-0.15%	-0.17%	-0.18%
SEASONS IMPROVED	1	2	2	2	1	1	2	1	0	1	1	1	1

- Overall, summer has a slightly smaller UG when compared to the baseline.
 - 4 LDZs show an improvement in both seasons
 - 1 LDZ is worse in both seasons
 - 7 LDZs reveal mixed results of 1 season improving and 1 season worsening

Model 1: Results by Quarter – Gas Year 2013/14

GAS YEAR 2013	QUARTERS												
Baseline	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct-Dec	0.20%	2.45%	0.54%	0.83%	0.42%	-0.87%	0.49%	1.06%	0.95%	0.40%	-0.32%	-0.57%	0.46%
Jan-Mar	-1.25%	-0.13%	0.54%	0.32%	-0.47%	-1.73%	0.71%	-1.29%	-2.18%	-2.80%	0.19%	-0.52%	-0.72%
Apr-Jun	-8.05%	-5.66%	-9.03%	-3.84%	-4.61%	-5.58%	-3.82%	-3.19%	2.74%	-0.70%	-5.37%	-8.00%	-4.59%
Jul-Sep	-2.75%	1.10%	-4.95%	-2.54%	-2.59%	-2.81%	-3.61%	-4.62%	-0.36%	-3.80%	-3.11%	-4.73%	-2.90%
NW2014_HOL_EX	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct-Dec	0.12%	2.31%	0.38%	0.62%	0.80%	-0.94%	0.39%	1.02%	0.93%	0.41%	-0.38%	-0.54%	0.43%
Jan-Mar	-1.32%	-0.24%	0.37%	0.11%	-0.64%	-1.92%	0.50%	-1.46%	-2.28%	-2.99%	0.07%	-0.75%	-0.88%
Apr-Jun	-8.05%	-5.70%	-8.75%	-3.39%	-4.66%	-5.34%	-3.61%	-2.65%	2.79%	-0.75%	-5.17%	-7.88%	-4.43%
Jul-Sep	-2.72%	1.19%	-4.74%	-2.36%	-2.03%	-2.54%	-3.29%	-4.52%	-0.22%	-3.57%	-3.02%	-4.51%	-2.69%
Differences	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct-Dec	-0.08%	-0.14%	-0.16%	-0.22%	0.38%	0.06%	-0.10%	-0.03%	-0.01%	0.00%	0.06%	-0.04%	-0.04%
Jan-Mar	0.07%	0.11%	-0.17%	-0.20%	0.17%	0.19%	-0.21%	0.17%	0.10%	0.19%	-0.11%	0.23%	0.16%
Apr-Jun	0.00%	0.04%	-0.28%	-0.45%	0.05%	-0.25%	-0.21%	-0.53%	0.05%	0.05%	-0.20%	-0.12%	-0.16%
Jul-Sep	-0.03%	0.09%	-0.22%	-0.17%	-0.56%	-0.27%	-0.31%	-0.09%	-0.15%	-0.23%	-0.09%	-0.23%	-0.20%
QUARTERS IMPROVED	3	1	4	4	1	2	4	3	2	1	3	3	3

- Overall, 3 of 4 quarters have a slightly smaller UG compared with the baseline
- Majority of LDZs and quarters show an improvement for this Gas Year

Model 1: Results by Season – Gas Year 2012/13

GAS YEAR 2012	SEASONS													
Baseline	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs	
Winter	2.23%	3.61%	4.40%	3.54%	2.14%	1.23%	2.57%	3.45%	2.36%	1.87%	4.45%	2.81%	2.89%	
Summer	-4.76%	3.37%	-2.09%	-1.34%	-1.94%	-2.21%	0.10%	0.35%	5.38%	3.51%	-0.69%	-1.61%	-0.16%	

NW2014_HOL_EX	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Winter	2.25%	3.65%	4.35%	3.47%	2.03%	1.17%	2.52%	3.39%	2.34%	1.84%	4.42%	2.76%	2.85%
Summer	-4.80%	3.19%	-2.00%	-1.23%	-2.07%	-2.07%	0.21%	0.60%	5.45%	3.54%	-0.57%	-1.50%	-0.11%

Differences	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Winter	0.01%	0.05%	-0.05%	-0.07%	-0.11%	-0.06%	-0.05%	-0.06%	-0.02%	-0.03%	-0.04%	-0.05%	-0.04%
Summer	0.04%	-0.18%	-0.09%	-0.11%	0.13%	-0.14%	0.11%	0.25%	0.07%	0.03%	-0.12%	-0.11%	-0.06%

SEASONS IMPROVED	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
	0	1	2	2	1	2	1	1	1	1	2	2	2

- Overall, both seasons have a slightly smaller UG when compared to the baseline.
 - 5 LDZs show an improvement in both seasons
 - 1 LDZ is worse in both seasons
 - 6 LDZs reveal mixed results of 1 season improving and 1 season worsening

Model 1: Results by Quarter – Gas Year 2012/13

GAS YEAR 2012	QUARTERS												
Baseline	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct - Dec	2.09%	2.49%	3.80%	3.06%	1.59%	0.69%	1.68%	2.34%	0.93%	0.62%	3.29%	1.29%	1.99%
Jan - Mar	2.39%	4.75%	5.01%	4.02%	2.70%	1.78%	3.49%	4.58%	3.82%	3.14%	5.64%	4.36%	3.81%
Jul - Sep	-8.22%	2.05%	-4.77%	-1.93%	-3.52%	-4.23%	-0.98%	-1.00%	5.10%	2.16%	-2.01%	-3.83%	-1.76%
Apr -Jun	-1.27%	4.70%	0.61%	-0.74%	-0.35%	-0.17%	1.20%	1.70%	5.67%	4.87%	0.64%	0.64%	1.46%

NW2014_HOL_EX	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct - Dec	2.04%	2.39%	3.67%	2.83%	1.70%	0.62%	1.54%	2.30%	0.91%	0.61%	3.24%	1.30%	1.93%
Jan - Mar	2.47%	4.94%	5.05%	4.12%	2.37%	1.73%	3.53%	4.50%	3.80%	3.10%	5.62%	4.25%	3.79%
Jul - Sep	-8.31%	1.76%	-4.70%	-1.64%	-3.62%	-4.12%	-0.82%	-0.52%	5.13%	2.06%	-1.85%	-3.75%	-1.70%
Apr -Jun	-1.26%	4.64%	0.72%	-0.81%	-0.50%	0.00%	1.25%	1.73%	5.77%	5.03%	0.72%	0.77%	1.51%

Differences	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct-Dec	-0.05%	-0.10%	-0.13%	-0.23%	0.11%	-0.07%	-0.14%	-0.04%	-0.02%	-0.01%	-0.05%	0.01%	-0.06%
Jan-Mar	0.08%	0.20%	0.04%	0.10%	-0.33%	-0.05%	0.04%	-0.08%	-0.02%	-0.04%	-0.02%	-0.12%	-0.02%
Apr-Jun	0.09%	-0.29%	-0.07%	-0.29%	0.10%	-0.11%	-0.16%	-0.48%	0.03%	-0.09%	-0.15%	-0.08%	-0.07%
Jul-Sep	-0.01%	-0.06%	0.11%	0.08%	0.15%	-0.17%	0.05%	0.03%	0.10%	0.15%	0.08%	0.13%	0.05%

QUARTERS IMPROVED	2	3	2	2	1	4	2	3	2	3	3	2	3
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- Overall, 3 of 4 quarters have a slightly smaller UG compared with the baseline
- Majority of LDZs and quarters show an improvement for this Gas Year

- When considering the results for “All LDZs” for the ‘Seasons’, the majority show a marginal improvement in UG results.
- When considering the results for “All LDZs” for the ‘Quarters’, 12 of the 16 quarters showed a marginal improvement
- At an LDZ level, 60% of LDZs showed an overall improvement over the 4 years when analysed by seasons.
- At an LDZ level, 61% of LDZs showed an overall improvement over the 4 years when analysed by quarters.

- The following slides compare the results of the baseline approach (simulated UG percentages) and the Model 3 (Hol SR) approach for the selected gas years
 - Cells highlighted in amber represents when the baseline model performed better than model Hol Ex
 - Cells highlighted in green represent when model Hol SR performed better than the baseline model
- A comparison of the differences in the results between the two approaches are also presented in order to assess whether the Model 3 approach is closer to the simulated baseline data
- Gas Years 2012/13, 2013/14, 2014/15 and 2015/16* have been tested
 - * Note: The sample data for 2015/16 has recently become available and is therefore an additional year available for testing since the last DESC in November
- Results are aggregated at 'Season' and 'Quarter' level

Model 3: Results by Season – Gas Year 2015/16

GAS YEAR 2015	SEASONS												
Baseline	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Winter	1.54%	2.37%	4.41%	3.50%	3.30%	1.27%	1.64%	3.10%	2.97%	2.11%	1.58%	1.73%	2.46%
Summer	-5.48%	1.52%	-1.52%	-1.55%	1.52%	1.68%	0.01%	0.34%	5.08%	-0.21%	-1.75%	-1.99%	-0.20%

NW2014_HOL_SR	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Winter	1.55%	2.30%	4.26%	3.48%	3.27%	1.18%	1.56%	3.03%	2.95%	2.09%	1.53%	1.72%	2.41%
Summer	-5.59%	1.21%	-1.70%	-1.53%	1.53%	1.47%	-0.11%	0.54%	5.10%	-0.26%	-1.72%	-1.97%	-0.25%

Differences	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Winter	0.00%	-0.07%	-0.15%	-0.03%	-0.03%	-0.10%	-0.08%	-0.07%	-0.02%	-0.02%	-0.05%	-0.02%	-0.05%
Summer	0.11%	-0.32%	0.17%	-0.01%	0.01%	-0.21%	0.10%	0.20%	0.02%	0.05%	-0.03%	-0.03%	0.06%

SEASONS IMPROVED	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
	0	2	1	2	1	2	1	1	1	1	2	2	1

- Overall, winter has a slightly smaller UG when compared to the baseline.
 - 5 LDZs show an improvement in both seasons
 - 1 LDZs is worse in both seasons
 - 6 LDZs reveal mixed results of 1 season improving and 1 season worsening

Model 3: Results by Quarter – Gas Year 2015/16

GAS YEAR 2015	QUARTERS												
Baseline	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct-Dec	-0.08%	1.60%	3.29%	2.23%	2.15%	0.28%	0.15%	3.15%	2.93%	2.06%	-0.22%	-0.07%	1.46%
Jan-Mar	3.18%	3.15%	5.55%	4.79%	4.46%	2.28%	3.14%	3.04%	3.01%	2.16%	3.41%	3.55%	3.48%
Apr-Jun	-14.03%	-0.72%	-3.14%	-4.39%	-0.30%	0.67%	-0.57%	-2.31%	4.89%	-2.41%	-3.28%	-4.48%	-2.51%
Jul-Sep	3.16%	3.80%	0.11%	1.32%	3.36%	2.70%	0.60%	3.01%	5.27%	2.02%	-0.20%	0.52%	2.14%

NW2014_HOL_SR	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct-Dec	-0.55%	1.00%	2.65%	1.89%	2.00%	-0.13%	-0.37%	3.04%	2.84%	1.94%	-0.36%	-0.13%	1.15%
Jan-Mar	3.67%	3.61%	5.88%	5.08%	4.56%	2.49%	3.51%	3.03%	3.06%	2.24%	3.45%	3.59%	3.68%
Apr-Jun	-13.47%	-0.90%	-2.82%	-4.06%	0.04%	0.57%	-0.45%	-1.89%	4.90%	-2.53%	-3.21%	-4.41%	-2.35%
Jul-Sep	2.37%	3.34%	-0.56%	1.02%	3.03%	2.38%	0.23%	3.00%	5.30%	2.04%	-0.22%	0.51%	1.87%

Differences	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct-Dec	0.47%	-0.60%	-0.64%	-0.34%	-0.15%	-0.16%	0.22%	-0.12%	-0.09%	-0.12%	0.14%	0.07%	-0.31%
Jan-Mar	0.48%	0.46%	0.34%	0.29%	0.10%	0.22%	0.37%	-0.02%	0.05%	0.08%	0.04%	0.04%	0.20%
Apr-Jun	-0.56%	0.18%	-0.32%	-0.33%	-0.26%	-0.10%	-0.12%	-0.41%	0.01%	0.12%	-0.07%	-0.07%	-0.15%
Jul-Sep	-0.78%	-0.46%	0.45%	-0.30%	-0.33%	-0.32%	-0.37%	-0.01%	0.03%	0.03%	0.02%	-0.01%	-0.27%

QUARTERS IMPROVED	2	2	2	3	3	3	2	4	1	1	1	2	3
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- Overall, 3 of 4 quarters have a slightly smaller UG compared with the baseline
- Mixed bag of results across the LDZs and quarters for this Gas Year

Model 3: Results by Season – Gas Year 2014/15

GAS YEAR 2014	SEASONS												
Baseline	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Winter	0.96%	0.37%	2.33%	2.44%	1.92%	1.24%	2.08%	0.88%	0.91%	-0.62%	2.74%	0.19%	1.29%
Summer	-4.96%	-1.20%	-5.79%	-1.99%	-2.94%	-1.94%	-2.89%	-1.19%	4.27%	1.69%	0.63%	-5.04%	-1.78%
NW2014_HOL_SR	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Winter	0.80%	0.08%	2.08%	2.21%	1.83%	1.05%	1.85%	0.77%	0.85%	-0.73%	2.64%	0.07%	1.12%
Summer	-4.19%	-0.68%	-4.97%	-1.67%	-2.75%	-1.46%	-2.44%	-0.87%	4.39%	1.83%	0.78%	-4.85%	-1.41%
Differences	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Winter	-0.15%	-0.29%	-0.26%	-0.24%	-0.09%	-0.19%	-0.23%	-0.11%	-0.07%	0.12%	-0.10%	-0.12%	-0.16%
Summer	-0.78%	-0.53%	-0.82%	-0.32%	-0.19%	-0.48%	-0.45%	-0.32%	0.12%	0.13%	0.15%	-0.19%	-0.37%
SEASONS IMPROVED	2	2	2	2	2	2	2	2	1	0	1	2	2

- Overall, both seasons have a slightly smaller UG when compared to the baseline.
 - 9 LDZs show an improvement in both seasons
 - 1 LDZ is worse in both seasons
 - 2 LDZs reveal mixed results of 1 season improving and 1 season worsening

Model 3: Results by Quarter – Gas Year 2014/15

GAS YEAR 2014	QUARTERS												
Baseline	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct-Dec	-0.44%	-1.47%	0.83%	0.19%	-0.06%	-0.43%	0.97%	-0.59%	-0.39%	-2.50%	0.97%	-2.06%	-0.41%
Jan-Mar	2.38%	2.26%	3.87%	4.75%	3.94%	2.95%	3.21%	2.38%	2.25%	1.31%	4.55%	2.48%	3.03%
Apr-Jun	-6.89%	-1.27%	-9.09%	-2.72%	-2.22%	-2.45%	-1.50%	-2.04%	4.52%	2.08%	1.53%	-4.43%	-2.04%
Jul-Sep	-3.01%	-1.13%	-2.46%	-1.25%	-3.66%	-1.42%	-4.29%	-0.33%	4.01%	1.31%	-0.28%	-5.65%	-1.51%

NW2014_HOL_SR	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct-Dec	-0.93%	-2.07%	0.29%	-0.08%	-0.16%	-0.78%	0.58%	-0.68%	-0.44%	-2.59%	0.88%	-2.10%	-0.67%
Jan-Mar	2.57%	2.28%	3.91%	4.55%	3.86%	2.92%	3.14%	2.25%	2.17%	1.16%	4.45%	2.28%	2.96%
Apr-Jun	-5.74%	-0.48%	-7.74%	-2.25%	-1.69%	-1.73%	-0.75%	-1.49%	4.62%	2.10%	1.72%	-4.28%	-1.48%
Jul-Sep	-2.61%	-0.88%	-2.17%	-1.08%	-3.82%	-1.18%	-4.15%	-0.24%	4.16%	1.55%	-0.17%	-5.43%	-1.33%

Differences	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct-Dec	0.49%	0.59%	-0.54%	-0.11%	0.10%	0.34%	-0.39%	0.09%	0.05%	0.09%	-0.09%	0.04%	0.26%
Jan-Mar	0.19%	0.03%	0.03%	-0.21%	-0.08%	-0.03%	-0.07%	-0.14%	-0.08%	-0.15%	-0.10%	-0.20%	-0.07%
Apr-Jun	-1.15%	-0.79%	-1.35%	-0.47%	-0.53%	-0.71%	-0.75%	-0.55%	0.10%	0.02%	0.19%	-0.16%	-0.56%
Jul-Sep	-0.40%	-0.26%	-0.29%	-0.17%	0.16%	-0.24%	-0.14%	-0.10%	0.15%	0.24%	-0.12%	-0.22%	-0.18%

QUARTERS IMPROVED	2	2	3	4	2	3	4	3	1	1	3	3	3
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- Overall, 3 of 4 quarters have a slightly smaller UG compared with the baseline
- Majority of LDZs and quarters show an improvement for this Gas Year

Model 3: Results by Season – Gas Year 2013/14

GAS YEAR 2013	SEASONS												
Baseline	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Winter	-0.52%	1.17%	0.54%	0.58%	-0.02%	-1.30%	0.60%	-0.10%	-0.60%	-1.18%	-0.07%	-0.55%	-0.12%
Summer	-5.41%	-2.30%	-7.00%	-3.19%	-3.60%	-4.21%	-3.72%	-3.90%	1.20%	-2.24%	-4.25%	-6.37%	-3.75%

NW2014_HOL_SR	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Winter	-0.69%	0.89%	0.27%	0.37%	-0.10%	-1.49%	0.38%	-0.21%	-0.65%	-1.28%	-0.15%	-0.64%	-0.28%
Summer	-5.61%	-2.40%	-6.72%	-2.88%	-3.47%	-4.07%	-3.61%	-3.58%	1.30%	-2.15%	-4.10%	-6.20%	-3.62%

Differences	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Winter	0.17%	-0.29%	-0.27%	-0.21%	0.08%	0.19%	-0.22%	0.10%	0.05%	0.09%	0.08%	0.09%	0.15%
Summer	0.20%	0.11%	-0.29%	-0.31%	-0.14%	-0.13%	-0.11%	-0.31%	0.10%	-0.09%	-0.15%	-0.17%	-0.12%

SEASONS IMPROVED	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
	0	1	2	2	1	1	2	1	0	1	1	1	1

- Overall, summer has a slightly smaller UG when compared to the baseline.
 - 3 LDZs show an improvement in both seasons
 - 2 LDZs are worse in both seasons
 - 7 LDZs reveal mixed results of 1 season improving and 1 season worsening

Model 3: Results by Quarter – Gas Year 2013/14

GAS YEAR 2013	QUARTERS												
Baseline	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct-Dec	0.20%	2.45%	0.54%	0.83%	0.42%	-0.87%	0.49%	1.06%	0.95%	0.40%	-0.32%	-0.57%	0.46%
Jan-Mar	-1.25%	-0.13%	0.54%	0.32%	-0.47%	-1.73%	0.71%	-1.29%	-2.18%	-2.80%	0.19%	-0.52%	-0.72%
Apr-Jun	-8.05%	-5.66%	-9.03%	-3.84%	-4.61%	-5.58%	-3.82%	-3.19%	2.74%	-0.70%	-5.37%	-8.00%	-4.59%
Jul-Sep	-2.75%	1.10%	-4.95%	-2.54%	-2.59%	-2.81%	-3.61%	-4.62%	-0.36%	-3.80%	-3.11%	-4.73%	-2.90%

NW2014_HOL_SR	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct-Dec	-0.22%	1.97%	0.09%	0.62%	0.37%	-1.13%	0.18%	1.02%	0.93%	0.41%	-0.38%	-0.54%	0.28%
Jan-Mar	-1.17%	-0.22%	0.45%	0.11%	-0.58%	-1.85%	0.58%	-1.46%	-2.28%	-2.99%	0.07%	-0.75%	-0.84%
Apr-Jun	-7.78%	-5.41%	-8.16%	-3.39%	-4.15%	-5.22%	-3.54%	-2.65%	2.79%	-0.75%	-5.17%	-7.88%	-4.28%
Jul-Sep	-3.42%	0.63%	-5.25%	-2.36%	-2.78%	-2.91%	-3.67%	-4.52%	-0.22%	-3.57%	-3.02%	-4.51%	-2.97%

Differences	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct-Dec	0.01%	-0.48%	-0.45%	-0.22%	-0.05%	0.26%	-0.31%	-0.03%	-0.01%	0.00%	0.06%	-0.04%	-0.19%
Jan-Mar	-0.09%	0.09%	-0.09%	-0.20%	0.11%	0.12%	-0.13%	0.17%	0.10%	0.19%	-0.11%	0.23%	0.12%
Apr-Jun	-0.27%	-0.25%	-0.87%	-0.45%	-0.46%	-0.36%	-0.28%	-0.53%	0.05%	0.05%	-0.20%	-0.12%	-0.32%
Jul-Sep	0.67%	-0.46%	0.30%	-0.17%	0.19%	0.10%	0.06%	-0.09%	-0.15%	-0.23%	-0.09%	-0.23%	0.07%

QUARTERS IMPROVED	2	3	3	4	2	1	3	3	2	1	3	3	2
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- Overall, 2 of 4 quarters have a slightly smaller UG compared with the baseline
- Majority of LDZs and quarters show an improvement for this Gas Year

Model 3: Results by Season – Gas Year 2012/13

GAS YEAR 2012	SEASONS												
Baseline	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Winter	2.23%	3.61%	4.40%	3.54%	2.14%	1.23%	2.57%	3.45%	2.36%	1.87%	4.45%	2.81%	2.89%
Summer	-4.76%	3.37%	-2.09%	-1.34%	-1.94%	-2.21%	0.10%	0.35%	5.38%	3.51%	-0.69%	-1.61%	-0.16%

NW2014_HOL_SR	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Winter	2.38%	3.70%	4.43%	3.47%	2.13%	1.25%	2.59%	3.39%	2.34%	1.84%	4.42%	2.76%	2.89%
Summer	-4.70%	3.20%	-1.86%	-1.23%	-1.90%	-2.01%	0.21%	0.60%	5.45%	3.54%	-0.57%	-1.50%	-0.07%

Differences	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Winter	0.15%	0.10%	0.03%	-0.07%	-0.01%	0.02%	0.02%	-0.06%	-0.02%	-0.03%	-0.04%	-0.05%	0.00%
Summer	-0.07%	-0.17%	-0.23%	-0.11%	-0.04%	-0.21%	0.10%	0.25%	0.07%	0.03%	-0.12%	-0.11%	-0.10%

SEASONS IMPROVED	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
	1	1	1	2	2	1	0	1	1	1	2	2	1

- Overall, summer has a slightly smaller UG when compared to the baseline.
 - 4 LDZs show an improvement in both seasons
 - 1 LDZ is worse in both seasons
 - 7 LDZs reveal mixed results of 1 season improving and 1 season worsening

Model 3: Results by Quarter – Gas Year 2012/13

GAS YEAR 2012	QUARTERS												
Baseline	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct-Dec	2.09%	2.49%	3.80%	3.06%	1.59%	0.69%	1.68%	2.34%	0.93%	0.62%	3.29%	1.29%	1.99%
Jan-Mar	2.39%	4.75%	5.01%	4.02%	2.70%	1.78%	3.49%	4.58%	3.82%	3.14%	5.64%	4.36%	3.81%
Apr-Jun	-8.22%	2.05%	-4.77%	-1.93%	-3.52%	-4.23%	-0.98%	-1.00%	5.10%	2.16%	-2.01%	-3.83%	-1.76%
Jul-Sep	-1.27%	4.70%	0.61%	-0.74%	-0.35%	-0.17%	1.20%	1.70%	5.67%	4.87%	0.64%	0.64%	1.46%

NW2014_HOL_SR	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct - Dec	1.98%	2.28%	3.58%	2.83%	1.56%	0.58%	1.46%	2.30%	0.91%	0.61%	3.24%	1.30%	1.89%
Jan - Mar	2.80%	5.16%	5.30%	4.12%	2.72%	1.93%	3.75%	4.50%	3.80%	3.10%	5.62%	4.25%	3.92%
Jul - Sep	-7.99%	1.94%	-4.34%	-1.64%	-3.19%	-4.03%	-0.78%	-0.52%	5.13%	2.06%	-1.85%	-3.75%	-1.58%
Apr - Jun	-1.37%	4.47%	0.65%	-0.81%	-0.60%	0.04%	1.20%	1.73%	5.77%	5.03%	0.72%	0.77%	1.47%

Differences	SC	NO	NW	NE	EM	WM	WS	EA	NT	SE	SO	SW	All LDZs
Oct-Dec	-0.10%	-0.22%	-0.22%	-0.23%	-0.03%	-0.11%	-0.22%	-0.04%	-0.02%	-0.01%	-0.05%	0.01%	-0.10%
Jan-Mar	0.41%	0.41%	0.29%	0.10%	0.02%	0.15%	0.26%	-0.08%	-0.02%	-0.04%	-0.02%	-0.12%	0.11%
Apr-Jun	-0.23%	-0.12%	-0.43%	-0.29%	-0.32%	-0.20%	-0.20%	-0.48%	0.03%	-0.09%	-0.15%	-0.08%	-0.18%
Jul-Sep	0.10%	-0.23%	0.04%	0.08%	0.25%	-0.14%	0.00%	0.03%	0.10%	0.15%	0.08%	0.13%	0.01%

QUARTERS IMPROVED	2	3	2	2	2	3	2	3	2	3	3	2	2
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- Overall, 2 of 4 quarters have a slightly smaller UG compared with the baseline
- Majority of LDZs and quarters show an improvement for this Gas Year

- When considering the results for “All LDZs” for the ‘Seasons’, the majority show a marginal improvement in UG results.
- When considering the results for “All LDZs” for the ‘Quarters’, 10 of the 16 quarters showed a marginal improvement
- At an LDZ level, 60% of LDZs showed an overall improvement over the 4 years when analysed by seasons.
- At an LDZ level, 60% of LDZs showed an overall improvement over the 4 years when analysed by quarters.