

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION)	DOCKETS UE-190334, UG-190335, and UE-190222 (<i>Consolidated</i>)
Complainant,)	
v.)	
AVISTA CORPORATION d/b/a AVISTA UTILITIES)	
Respondent.)	
_____)	

EXHIBIT BGM-10
GAS REVENUE GROWTH STUDY

Natural Gas			
Revenue Growth Rate Calculation - Rate Year 2:			
	(a)	(b)	(c)
Category	Growth Rate	Revenue Portion of Category	Growth Rate % (a) x (b)
Operating Expenses ⁽¹⁾	2.14%	39.53%	0.85%
Depreciation/Amortization	3.77%	22.38%	0.84%
Taxes Other than Income	2.81%	7.97%	0.22%
Net Plant After ADFIT	2.20%	30.13%	0.66%
Annual Growth In Sales Revenue		100.00%	-1.34%
Total Revenue Growth Rate %			1.24%

⁽¹⁾ Reflects a 30 basis points efficiency adjustment in O&M expenses.

Revenue Growth Rate Analysis - Gas Services

Growth Rate Calculations

	Growth Rate	Account Amount	Weighting	Weighted Rate
<u>Depreciation Expense</u>				
Underground	3.81%	627	3.1%	0.12%
Distribution	3.29%	11,629	57.5%	1.89%
General	4.48%	7,965	39.4%	1.77%
			<i>Growth Factor</i>	3.77%
<u>Operations Expense</u>				
Purchased Gas	1.52%	959	2.6%	0.04%
Underground Storage	0.73%	1,532	4.1%	0.03%
Distribution	4.00%	12,308	33.2%	1.33%
Customer Accounting	2.77%	6,564	17.7%	0.49%
Customer Service	1.04%	1,232	3.3%	0.03%
General and Administrative	1.33%	14,445	39.0%	0.52%
			<i>Growth Factor</i>	2.44%
<u>Taxes Other than Income Taxes</u>				
UG Storage	1.53%	224	3.5%	0.05%
Distribution	2.86%	6,261	96.5%	2.76%
			<i>Growth Factor</i>	2.81%
<u>Net Plant</u>				
Underground Storage	1.64%	17,391	5.4%	0.09%
Distribution	3.09%	310,626	97.0%	3.00%
General	4.50%	81,699	25.5%	1.15%
ADIT	7.26%	(89,585)	-28.0%	-2.03%
			<i>Growth Factor</i>	2.20%

**Avista Gas Services Revenue Growth Study
Escalation Rate Evaluation**

Cost / Rate Base Category: **Purchased Gas Expense**

Selected trend period highlighted green and displayed as green dots in figure

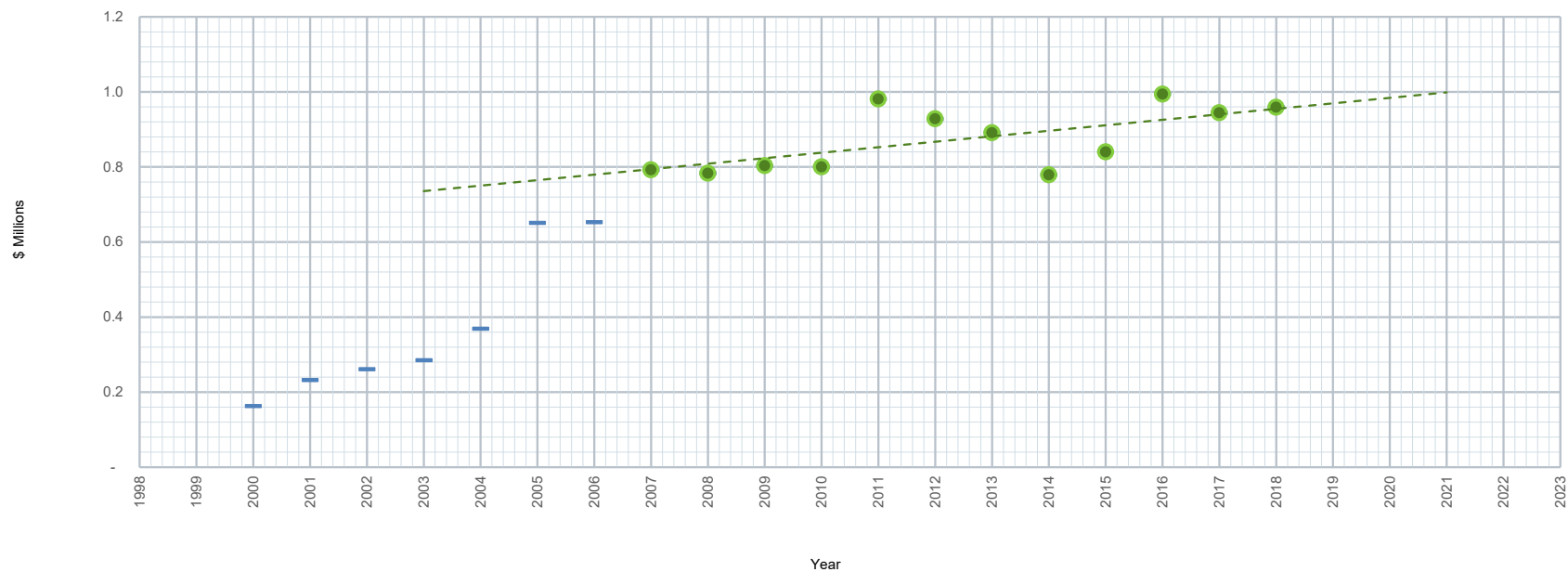
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Purchased Gas Expense	(1,915)	988	1,177	1,186	369	651	653	792	(9,103)	803	800	14	130	891	779	840	994	944	959
Remove Gas Cost	2,078	(756)	(916)	(901)	-	-	-	-	9,886	-	-	967	798						
Total Purchased Gas Expense	163	232	261	285	369	651	653	792	783	803	800	981	928	891	779	840	994	944	959

Statistics (Over Highlighted Period)

Slope of Best-Fit Line	15
R-Squared of Best Fit	0.39733
Annual Growth Rate (% of 2015)	1.52%
1-year Growth Rate	1.52%

Narrative

Amounts reflected in the purchased gas expense category of cost have remained relatively flat since 2007. The model uses escalation period of 2007 to 2016 for this category of cost.



**Avista Gas Services Revenue Growth Study
Escalation Rate Evaluation**

Cost / Rate Base Category: **Underground Storage Operating Expense**

Selected trend period highlighted green and displayed as green dots in figure

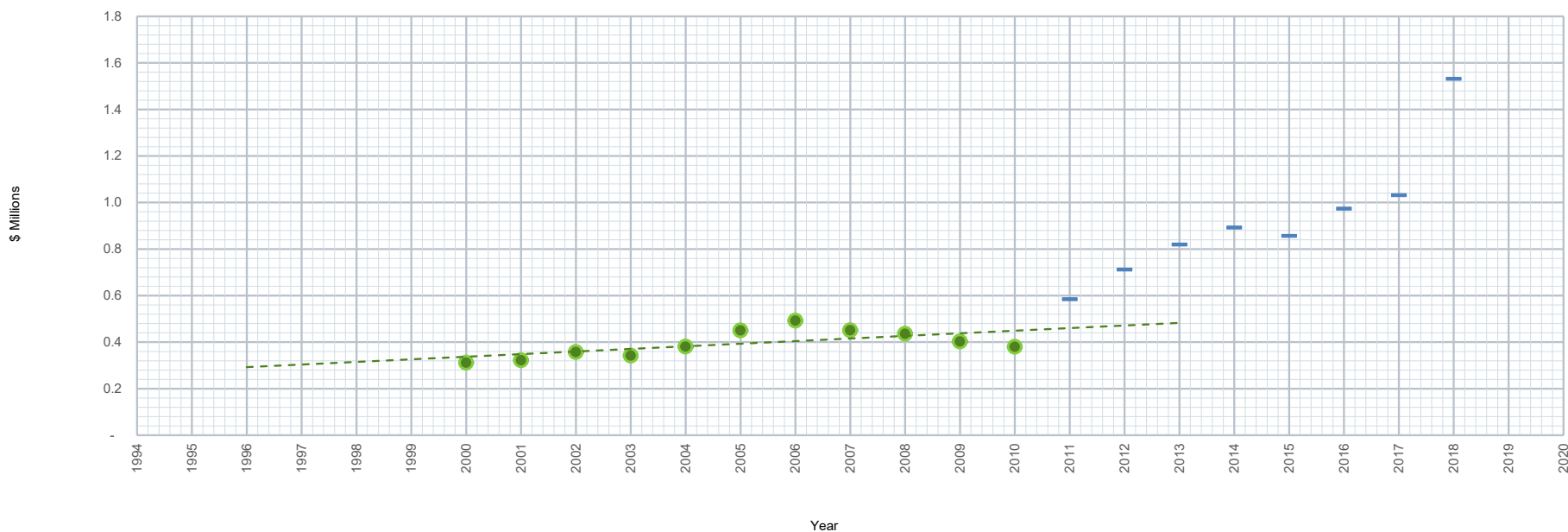
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Underground Storage Operating Expense	312	322	357	342	381	450	492	451	436	403	380	585	712	820	893	857	974	1,032	1,532
Total Underground Storage Operating Expense	312	322	357	342	381	450	492	451	436	403	380	585	712	820	893	857	974	1,032	1,532

Statistics (Over Highlighted Period)

Slope of Best-Fit Line	11
R-Squared of Best Fit	0.40246
Annual Growth Rate (% of 2015)	0.73%
1-year Growth Rate	0.73%

Narrative

The underground storage operating expense category of cost was relatively flat over the period 2000 through 2009. Model assumes category of cost will remain relatively flat in future periods, based on the historical experience over 2000 through 2010.



**Avista Gas Services Revenue Growth Study
Escalation Rate Evaluation**

Cost / Rate Base Category: **Underground Storage Depreciation and Amortization**

Selected trend period highlighted green and displayed as green dots in figure

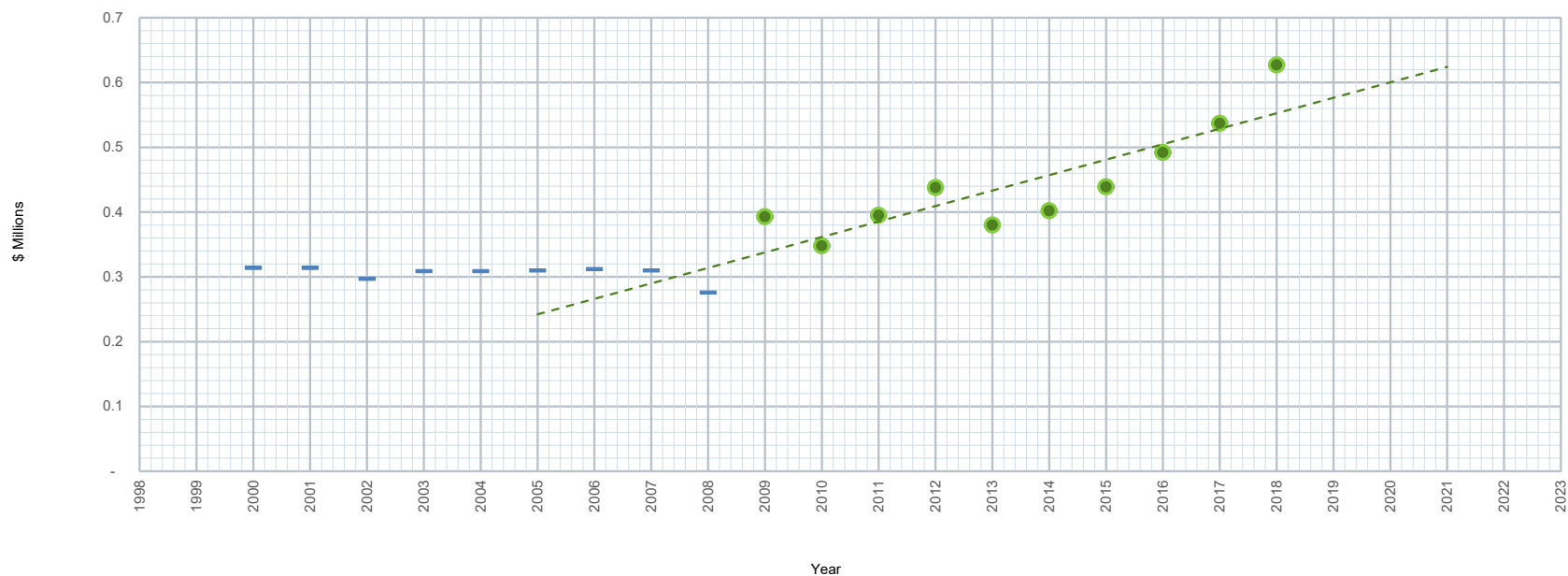
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Underground Storage Depreciation and Amor	314	314	297	309	309	310	312	310	276	393	348	395	438	380	402	439	492	537	627
Total Underground Storage Depreciation and Amortization	314	314	297	309	309	310	312	310	276	393	348	395	438	380	402	439	492	537	627

Statistics (Over Highlighted Period)

Slope of Best-Fit Line	24
R-Squared of Best Fit	0.72817
Annual Growth Rate (% of 2015)	3.81%
1-year Growth Rate	3.81%

Narrative

Beginning in 2009, however, the cost data begins to show a slightly different pattern, indicating a slight upward trend. While the pattern of this category of cost is not very well defined in the recent period, my model uses the linear trend over the period 2009 through 2016 for this category of cost.



**Avista Gas Services Revenue Growth Study
Escalation Rate Evaluation**

Cost / Rate Base Category: **Underground Storage Taxes Other Than Income Taxes**

Selected trend period highlighted green and displayed as green dots in figure

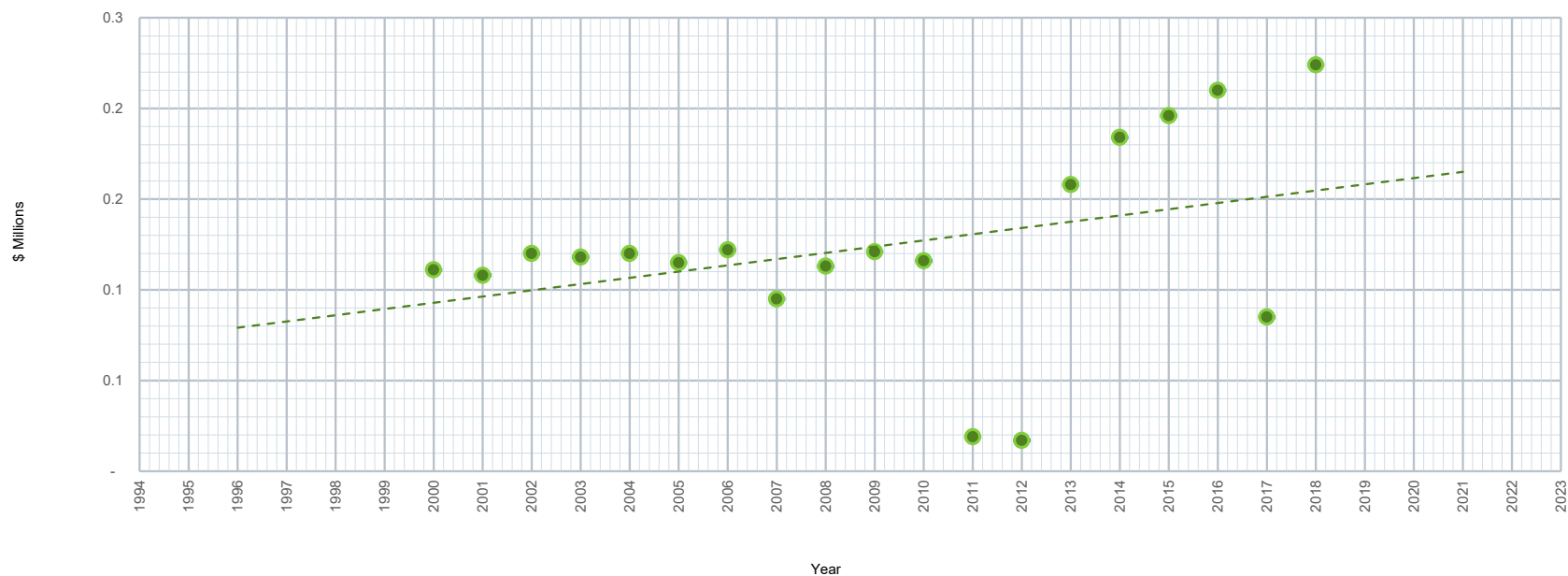
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Underground Storage Taxes	111	108	120	118	120	115	122	95	113	121	116	19	17	158	184	196	210	85	224
Total Underground Storage Taxes Other Than Income Taxes	111	108	120	118	120	115	122	95	113	121	116	19	17	158	184	196	210	85	224

Statistics (Over Highlighted Period)

Slope of Best-Fit Line	3
R-Squared of Best Fit	0.12717
Annual Growth Rate (% of 2015)	1.53%
1-year Growth Rate	1.53%

Narrative

Trend line calculated over the entire available period.



**Avista Gas Services Revenue Growth Study
Escalation Rate Evaluation**

Cost / Rate Base Category: **Distribution Operating Expenses**

Selected trend period highlighted green and displayed as green dots in figure

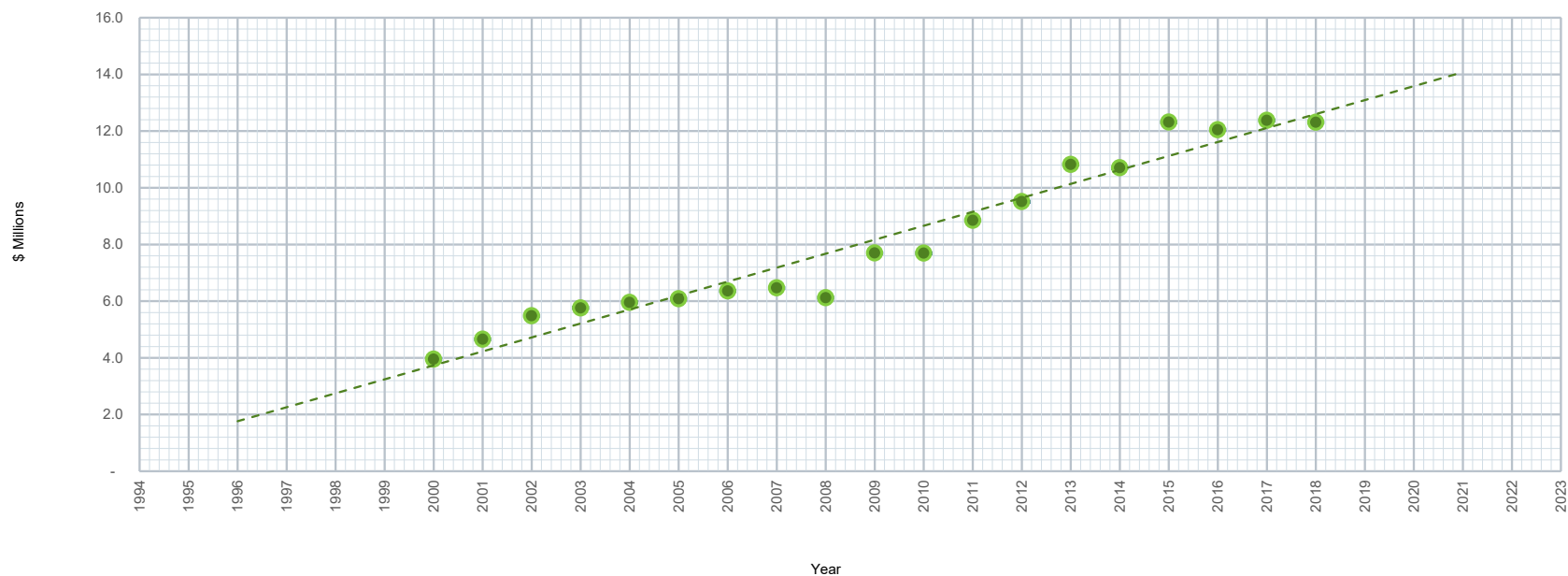
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Distribution Operating Expenses	3,956	4,655	5,482	5,762	5,958	6,084	6,359	6,467	6,123	7,700	7,696	8,854	9,511	10,820	10,704	12,315	12,050	12,380	12,308
Total Distribution Operating Expenses	3,956	4,655	5,482	5,762	5,958	6,084	6,359	6,467	6,123	7,700	7,696	8,854	9,511	10,820	10,704	12,315	12,050	12,380	12,308

Statistics (Over Highlighted Period)

Slope of Best-Fit Line	493
R-Squared of Best Fit	0.94713
Annual Growth Rate (% of 2015)	4.00%
1-year Growth Rate	4.00%

Narrative

Trend line calculated over the entire available period.



**Avista Gas Services Revenue Growth Study
Escalation Rate Evaluation**

Cost / Rate Base Category: **Distribution Depreciation Expense**

Selected trend period highlighted green and displayed as green dots in figure

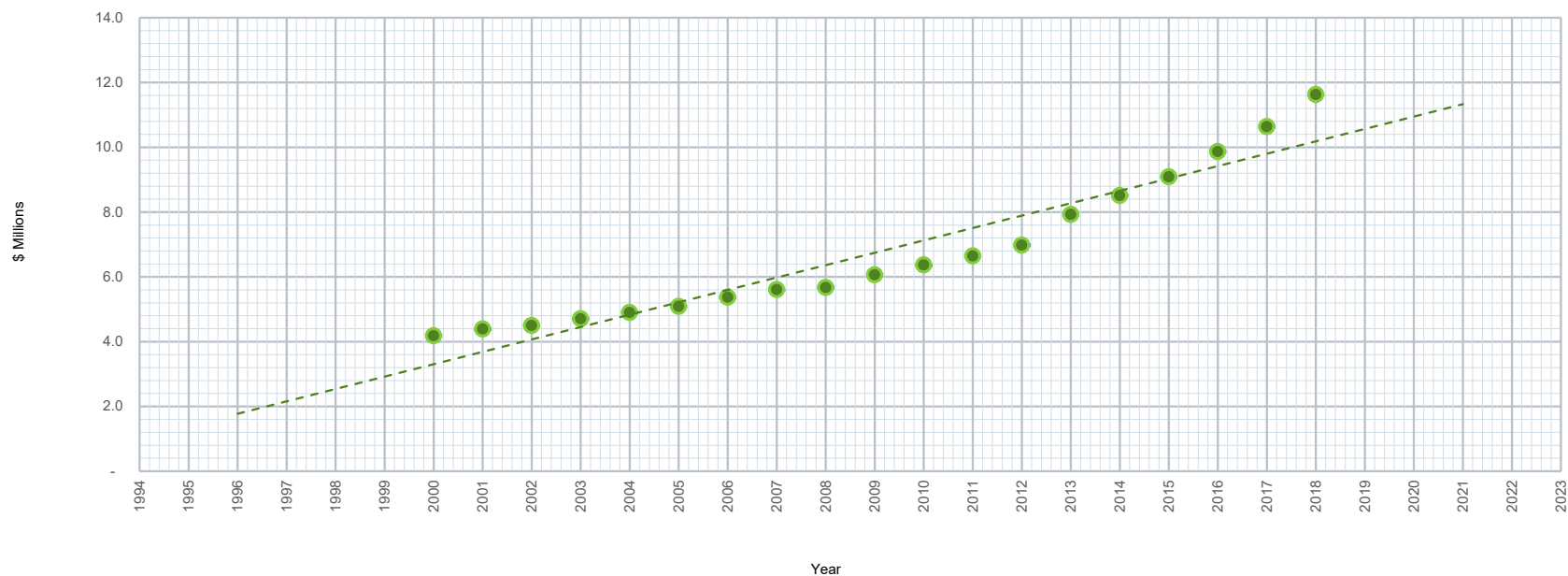
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Distribution Depreciation Expense	4,184	4,390	4,496	4,707	4,902	5,088	5,369	5,605	5,673	6,064	6,367	6,649	6,978	7,925	8,513	9,088	9,866	10,638	11,629
Total Distribution Depreciation Expense	4,184	4,390	4,496	4,707	4,902	5,088	5,369	5,605	5,673	6,064	6,367	6,649	6,978	7,925	8,513	9,088	9,866	10,638	11,629

Statistics (Over Highlighted Period)

Slope of Best-Fit Line	382
R-Squared of Best Fit	0.91289
Annual Growth Rate (% of 2015)	3.29%
1-year Growth Rate	3.29%

Narrative

Trend line calculated over the entire available period.



**Avista Gas Services Revenue Growth Study
Escalation Rate Evaluation**

Cost / Rate Base Category: **Distribution Taxes Other Than Income Taxes**

Selected trend period highlighted green and displayed as green dots in figure

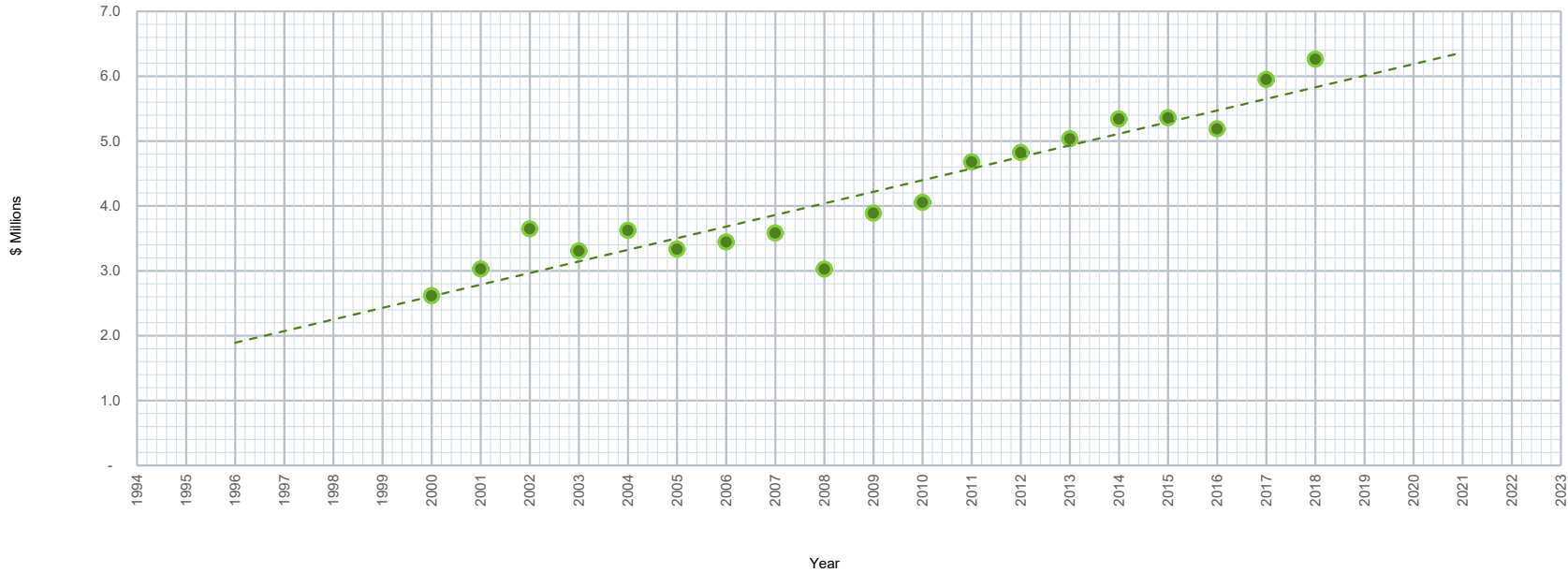
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Distribution Taxes Other Than Income Taxes	4,919	7,315	8,070	7,205	8,213	8,573	9,457	9,844	8,941	8,746	7,223	8,051	7,825	8,116	8,719	8,554	8,383	9,144	9,458
Less Gas Cost Taxes	(2,304)	(4,287)	(4,425)	(3,899)	(4,592)	(5,240)	(6,014)	(6,261)	(5,917)	(4,858)	(3,171)	(3,374)	(3,003)	(3,083)	(3,380)	(3,197)	(3,197)	(3,197)	(3,197)
Total Distribution Taxes Other Than Income Taxes	2,615	3,028	3,645	3,306	3,621	3,333	3,443	3,583	3,024	3,888	4,052	4,677	4,822	5,033	5,339	5,357	5,186	5,947	6,261

Statistics (Over Highlighted Period)

Slope of Best-Fit Line	179
R-Squared of Best Fit	0.87988
Annual Growth Rate (% of 2015)	2.86%
1-year Growth Rate	2.86%

Narrative

Trend line calculated over the entire available period.



**Avista Gas Services Revenue Growth Study
Escalation Rate Evaluation**

Cost / Rate Base Category: **Customer Accounting and Sales**

Selected trend period highlighted green and displayed as green dots in figure

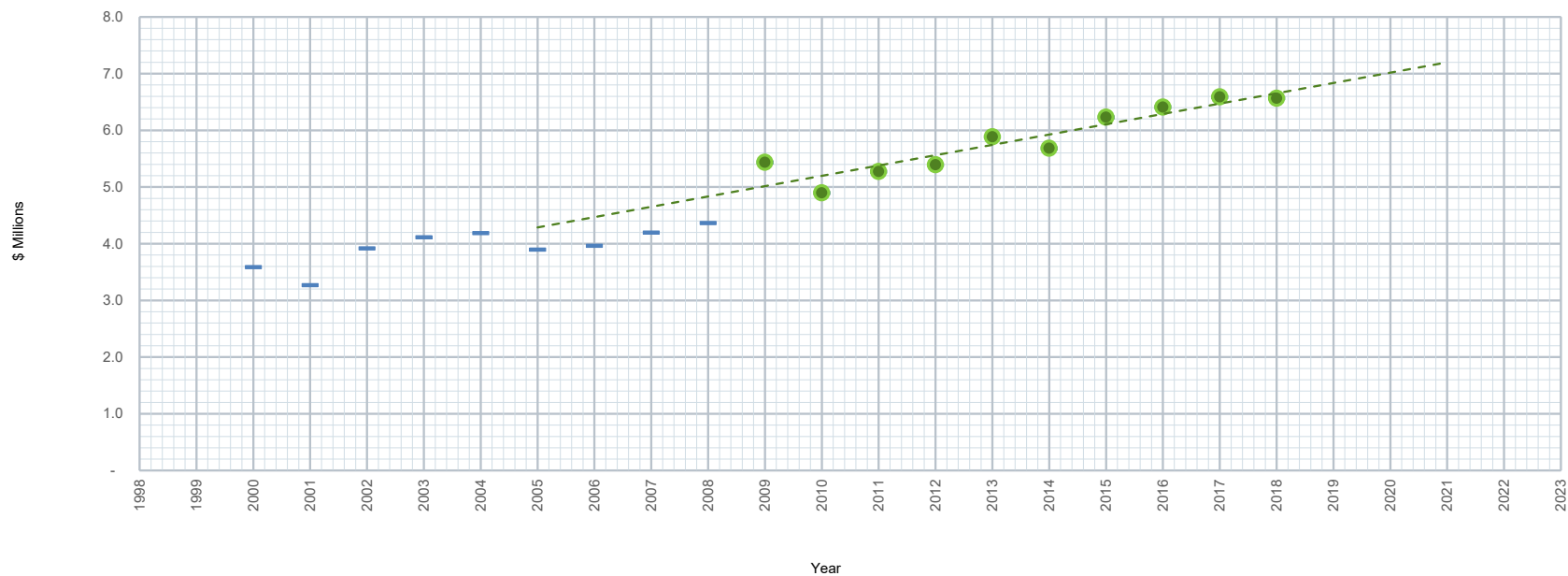
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Customer Accounting and Sales	3,878	3,812	4,483	4,613	4,764	4,569	4,721	5,003	5,134	6,083	5,339	5,743	5,799	6,273	6,108	6,632	6,811	6,991	6,967
Less: DSM, Decoupling and Gas Cost	(290)	(545)	(566)	(501)	(578)	(674)	(757)	(807)	(769)	(650)	(444)	(472)	(409)	(388)	(426)	(403)	(403)	(403)	(403)
Total Customer Accounting and Sales	3,588	3,267	3,917	4,112	4,186	3,895	3,964	4,196	4,365	5,433	4,895	5,271	5,390	5,885	5,682	6,229	6,408	6,588	6,564

Statistics (Over Highlighted Period)

Slope of Best-Fit Line	182
R-Squared of Best Fit	0.86220
Annual Growth Rate (% of 2015)	2.77%
1-year Growth Rate	2.77%

Narrative

Trend line calculated over the entire available period.



**Avista Gas Services Revenue Growth Study
Escalation Rate Evaluation**

Cost / Rate Base Category: **Customer Service & Information**

Selected trend period highlighted green and displayed as green dots in figure

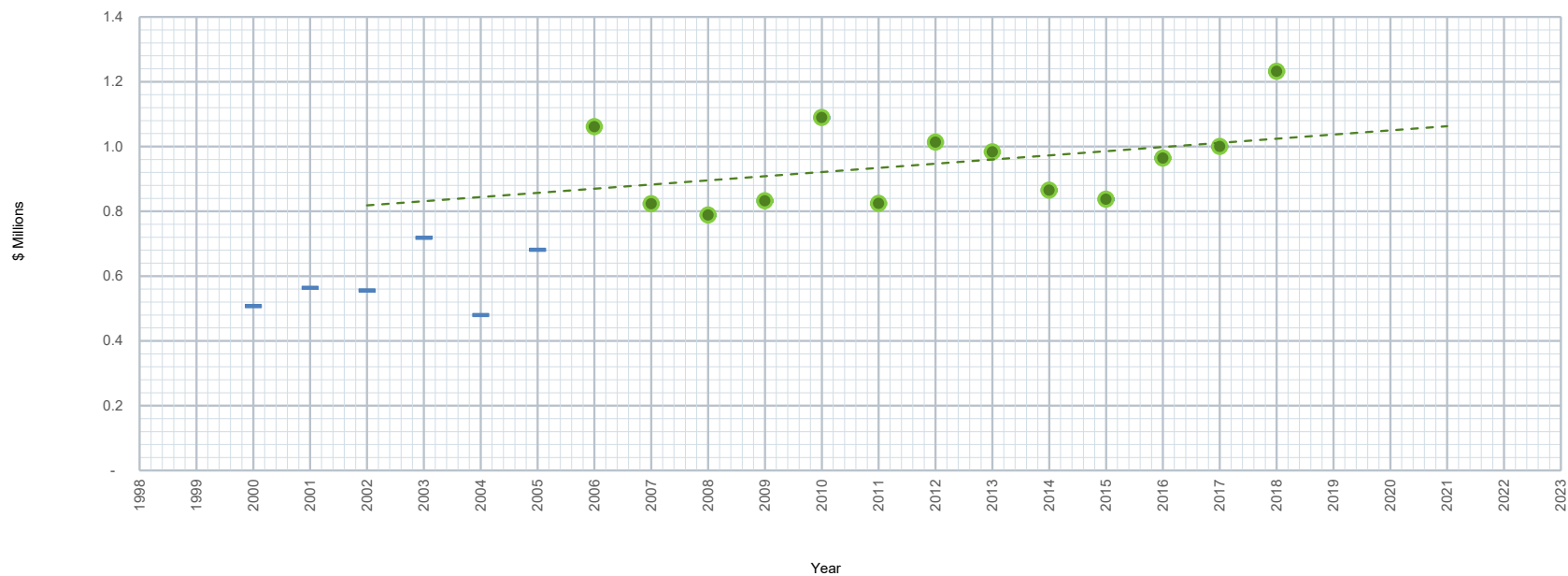
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Customer Service & Information	507	1,513	2,252	2,747	480	3,523	1,061	4,658	5,169	7,609	9,505	9,777	6,955	983	865	837	964	1,000	1,232
Less: DSM Expense	-	(949)	(1,696)	(2,029)	-	(2,842)	-	(3,835)	(4,381)	(6,777)	(8,416)	(8,953)	(5,942)						
Total Customer Service & Information	507	564	556	718	480	681	1,061	823	788	832	1,089	824	1,013	983	865	837	964	1,000	1,232

Statistics (Over Highlighted Period)

Slope of Best-Fit Line	13
R-Squared of Best Fit	0.14273
Annual Growth Rate (% of 2015)	1.04%
1-year Growth Rate	1.04%

Narrative

From the period 2006 through 2015, this category of cost has relatively flat. The model uses an escalation period 2006 through 2018.



**Avista Gas Services Revenue Growth Study
Escalation Rate Evaluation**

Cost / Rate Base Category: **Administrative and General Operations Expense**

Selected trend period highlighted green and displayed as green dots in figure

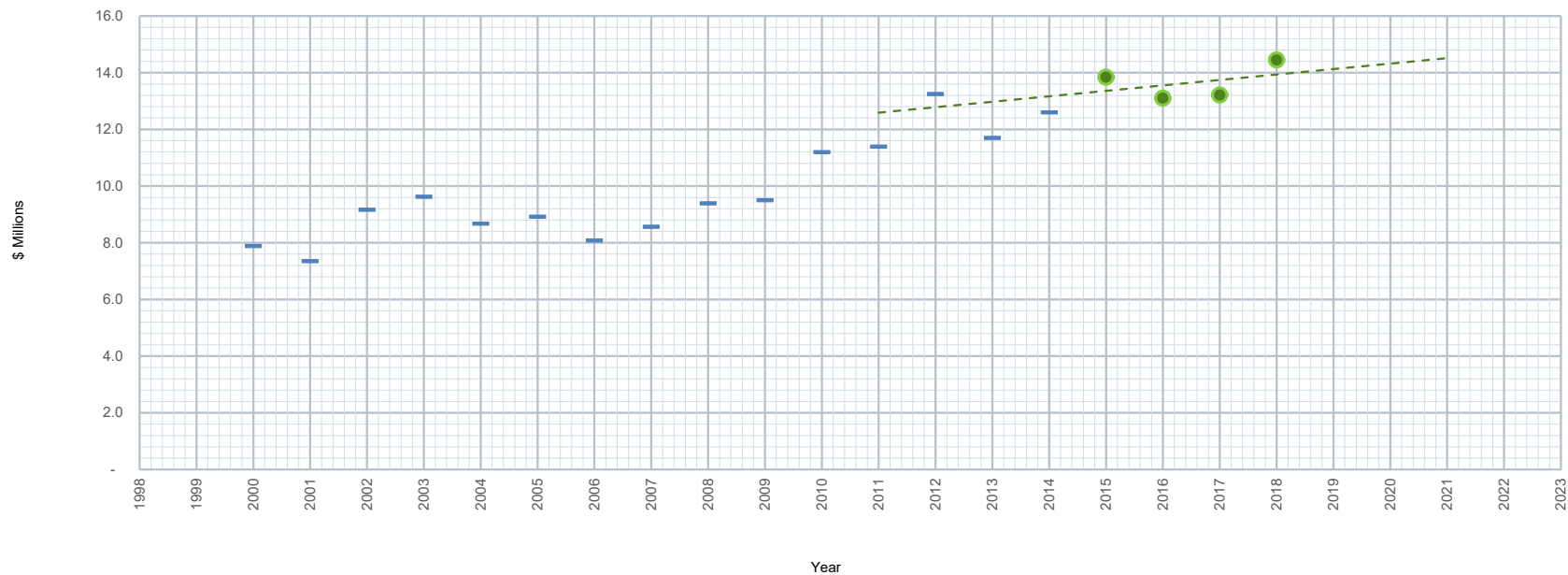
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
A&G Operations Expense	8,004	7,578	9,399	9,827	8,911	9,196	8,393	8,901	9,706	9,770	11,383	11,585	13,419	11,862	12,777	14,007	13,267	13,375	14,612
Less DSM and Gas Costs	(120)	(226)	(235)	(207)	(240)	(279)	(314)	(335)	(319)	(268)	(184)	(196)	(169)	(161)	(176)	(167)	(167)	(167)	(167)
Total Administrative and General Operations Expense	7,884	7,352	9,164	9,620	8,671	8,917	8,079	8,566	9,387	9,502	11,199	11,389	13,250	11,701	12,601	13,840	13,100	13,208	14,445

Statistics (Over Highlighted Period)

Slope of Best-Fit Line	192
R-Squared of Best Fit	0.15858
Annual Growth Rate (% of 2015)	1.33%
1-year Growth Rate	1.33%

Narrative

The trend line is calculated based on the most recent four years.



**Avista Gas Services Revenue Growth Study
Escalation Rate Evaluation**

Cost / Rate Base Category: **Administrative and General Depreciation Expense**

Selected trend period highlighted green and displayed as green dots in figure

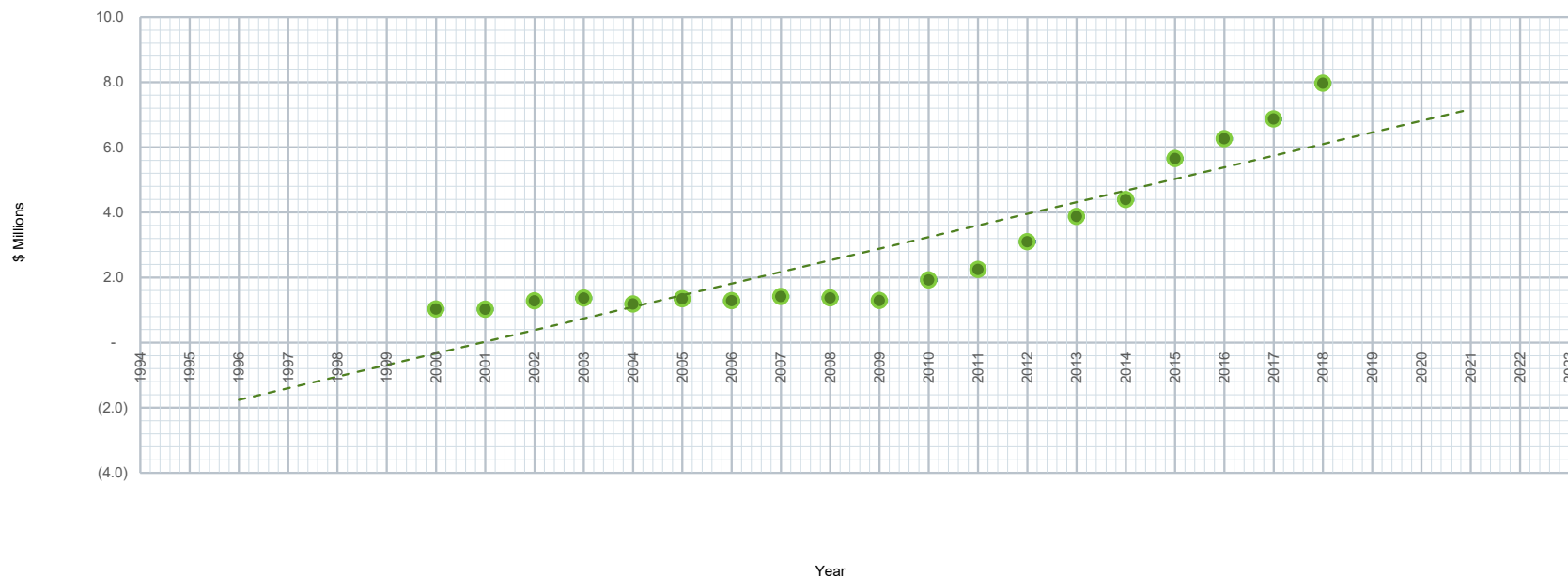
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
A&G Depreciation	1,027	1,020	1,275	1,363	1,180	1,343	1,282	1,498	1,803	1,999	2,412	2,734	3,276	3,868	4,389	5,649	6,260	6,864	7,965
Less: Decoupling Amort.								(85)	(432)	(710)	(494)	(494)	(183)			-	-	-	-
Total Administrative and General Depreciation Expense	1,027	1,020	1,275	1,363	1,180	1,343	1,282	1,413	1,371	1,289	1,918	2,240	3,093	3,868	4,389	5,649	6,260	6,864	7,965

Statistics (Over Highlighted Period)

Slope of Best-Fit Line	357
R-Squared of Best Fit	0.79043
Annual Growth Rate (% of 2015)	4.48%
1-year Growth Rate	4.48%

Narrative

Trend line calculated over the entire available period.



**Avista Gas Services Revenue Growth Study
Escalation Rate Evaluation**

Cost / Rate Base Category: **Underground Storage Net Plant**

Selected trend period highlighted green and displayed as green dots in figure

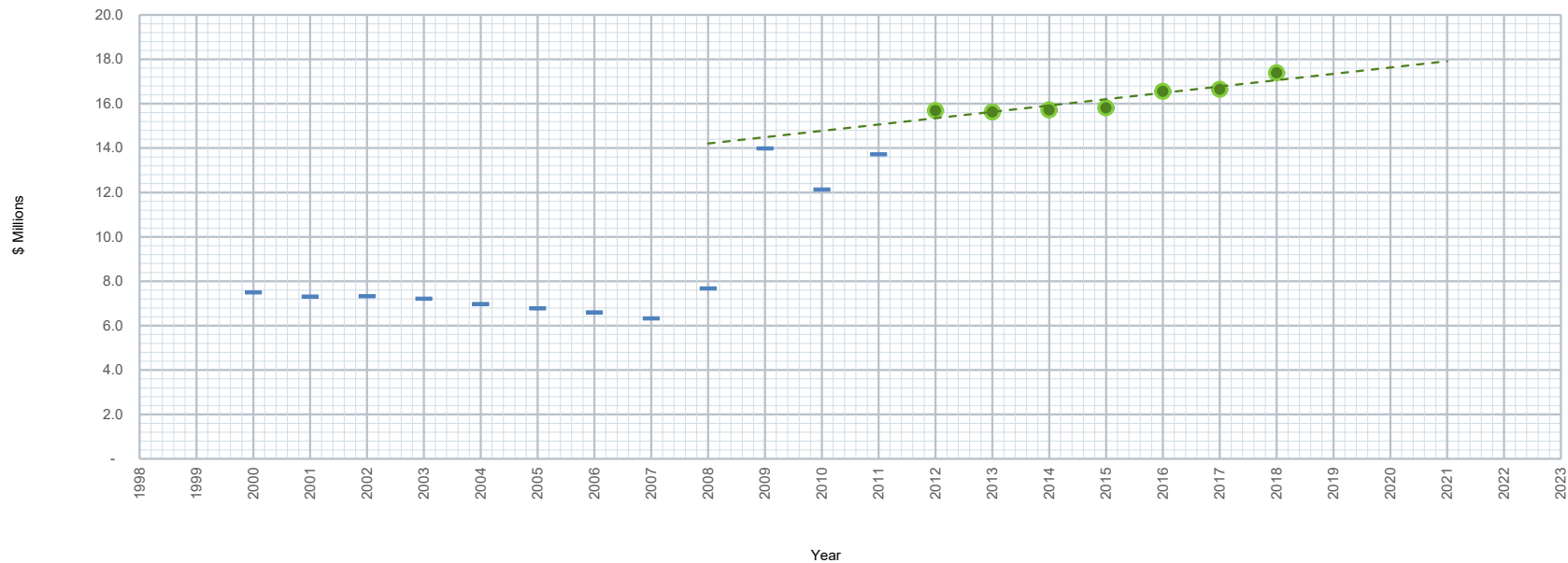
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Gross Plant	13,695	13,533	13,439	13,712	13,632	13,708	13,854	13,758	15,260	21,798	20,047	22,008	24,365	24,711	25,235	25,720	26,868	27,138	28,442
Depreciation Reserve	(6,192)	(6,220)	(6,115)	(6,495)	(6,659)	(6,924)	(7,249)	(7,427)	(7,581)	(7,807)	(7,912)	(8,286)	(8,677)	(9,088)	(9,521)	(9,906)	(10,318)	(10,493)	(11,051)
Total Underground Storage Net Plant	7,503	7,313	7,324	7,217	6,973	6,784	6,605	6,331	7,679	13,991	12,135	13,722	15,688	15,623	15,714	15,814	16,550	16,645	17,391

Statistics (Over Highlighted Period)

Slope of Best-Fit Line	285
R-Squared of Best Fit	0.83828
Annual Growth Rate (% of 2015)	1.64%
1-year Growth Rate	1.64%

Narrative

The category of plant related to underground storage net plant remained relatively flat over the period 2000 through 2008. Then, in 2009, this category of plant experienced a sharp increase. Subsequent to 2012, this category of plant has experienced a flat pattern. The model uses the period 2012 through 2018 as the escalation period for this category of plant.



**Avista Gas Services Revenue Growth Study
Escalation Rate Evaluation**

Cost / Rate Base Category: **Distribution Net Plant**

Selected trend period highlighted green and displayed as green dots in figure

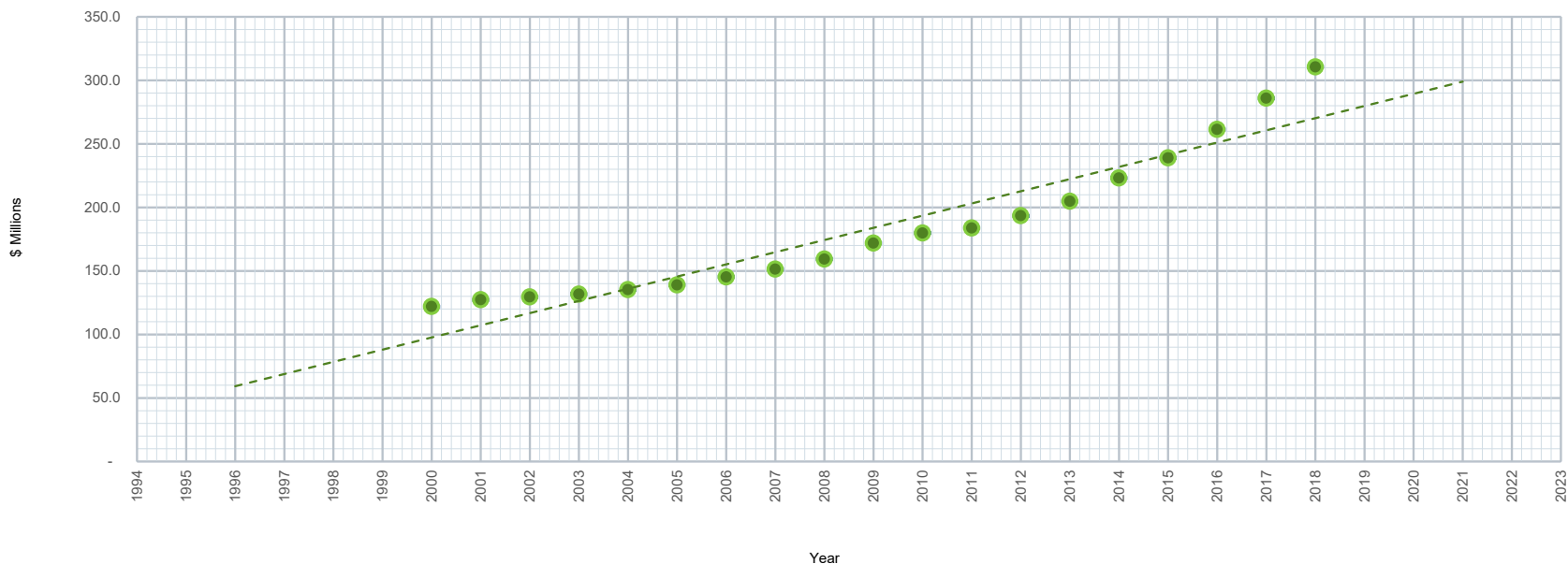
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Gross Plant	169,436	178,943	185,314	191,970	200,079	208,396	219,287	229,417	240,778	255,976	269,469	281,279	296,152	313,469	337,894	360,612	390,508	422,774	455,595
Depreciation Reserve	(47,423)	(51,645)	(55,845)	(60,239)	(64,817)	(69,428)	(74,019)	(77,997)	(81,405)	(84,021)	(89,620)	(97,489)	(102,678)	(108,662)	(114,795)	(121,623)	(129,098)	(136,840)	(144,969)
Total Distribution Net Plant	122,013	127,298	129,469	131,731	135,262	138,968	145,268	151,420	159,373	171,955	179,849	183,790	193,474	204,807	223,099	238,989	261,410	285,934	310,626

Statistics (Over Highlighted Period)

Slope of Best-Fit Line	9,590
R-Squared of Best Fit	0.90393
Annual Growth Rate (% of 2015)	3.09%
1-year Growth Rate	3.09%

Narrative

Similar to distribution related expenses, the model used the entire historical period for this category of cost.



**Avista Gas Services Revenue Growth Study
Escalation Rate Evaluation**

Cost / Rate Base Category: **General Net Plant**

Selected trend period highlighted green and displayed as green dots in figure

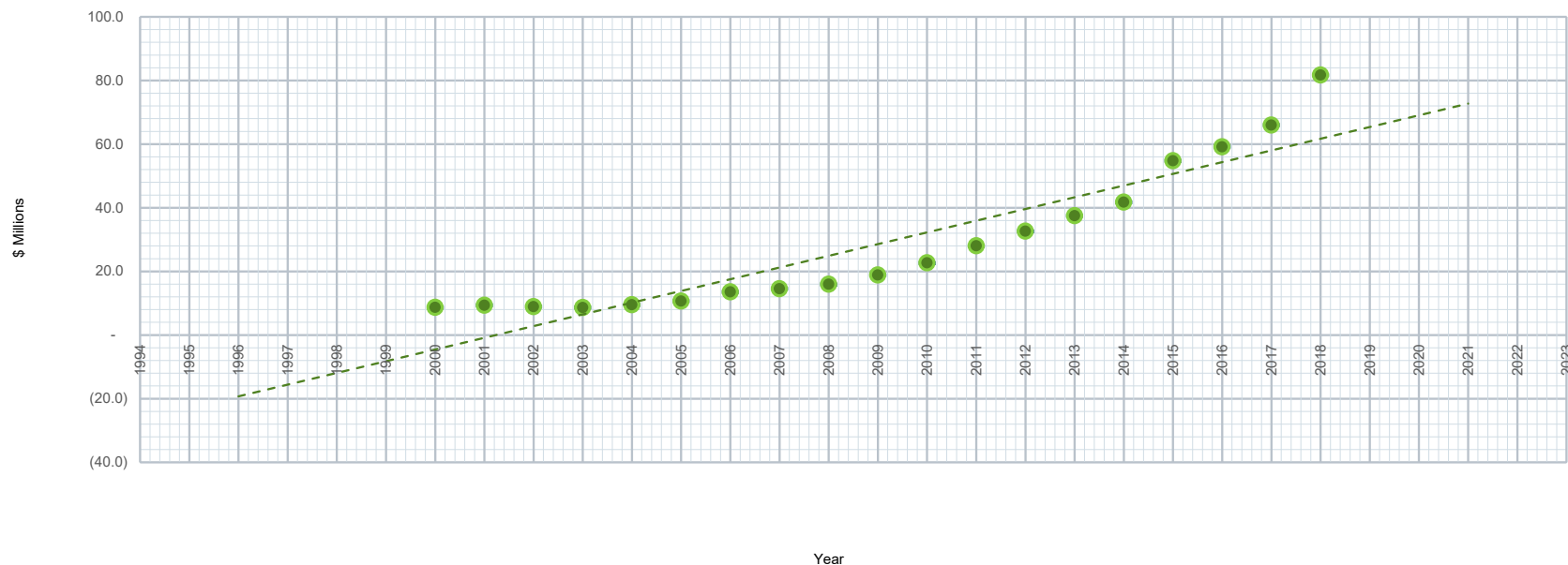
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Gross Plant	14,347	15,060	15,368	16,112	16,499	17,878	20,791	21,708	24,256	27,747	33,401	38,971	44,809	52,223	59,169	75,514	82,624	93,491	114,053
Depreciation Reserve	(5,661)	(5,695)	(6,442)	(7,446)	(6,984)	(7,208)	(7,230)	(7,136)	(8,309)	(8,882)	(10,722)	(10,926)	(12,186)	(14,724)	(17,429)	(20,741)	(23,473)	(27,497)	(32,354)
Total General Net Plant	8,686	9,365	8,926	8,666	9,515	10,670	13,561	14,572	15,947	18,865	22,679	28,045	32,623	37,499	41,740	54,773	59,151	65,994	81,699

Statistics (Over Highlighted Period)

Slope of Best-Fit Line	3,680
R-Squared of Best Fit	0.85262
Annual Growth Rate (% of 2015)	4.50%
1-year Growth Rate	4.50%

Narrative

Trend line calculated over the entire available period.



**Avista Gas Services Revenue Growth Study
Escalation Rate Evaluation**

Cost / Rate Base Category: **Accumulated Deferred Income Taxes**

Selected trend period highlighted green and displayed as green dots in figure

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Accumulated Deferred Income Taxes	13,317	14,476	15,979	22,570	26,800	23,805	24,645	26,823	28,945	31,005	36,762	42,004	46,498	50,170	54,652	64,929	74,181	83,133	89,585
Total Accumulated Deferred Income Taxes	13,317	14,476	15,979	22,570	26,800	23,805	24,645	26,823	28,945	31,005	36,762	42,004	46,498	50,170	54,652	64,929	74,181	83,133	89,585

Statistics (Over Highlighted Period)

Slope of Best-Fit Line	6,500
R-Squared of Best Fit	0.97508
Annual Growth Rate (% of 2015)	7.26%
1-year Growth Rate	7.26%

Narrative

The model uses the period 2009 through 2018 to establish the escalation rate for this category of cost.

