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REPORT NAME: NW Natural 2012 GHG Emissions Report

COMPANY NAME: NW Natural

DOES REPORT CONTAIN CONFIDENTIAL INFORMATION? No Yes

If yes, please submit only the cover letter electronically. Submit confidential information as directed OAR 860-001-0070 or the terms of an applicable protective order.

If known, please select designation: RE (Electric) RG (Gas) RW (Water)
 RO (Other)

Report is required by: OAR Enter Rule number: OAR 860-085-0050(1)
 Statute Enter Statute:
 Order Enter Commission Order No.:
 Other Enter reason:

Is this report associated with a specific docket/case? No Yes
If Yes, enter docket number: Enter docket number:

Key words: NW Natural, 2012, 860-085-0050, GHG, Greenhouse gas emissions, reduction

If known, please select the PUC Section to which the report should be directed:

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June 29, 2012

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 550 Capitol Street, NE, Suite 215
 Post Office Box 2148
 Salem, Oregon 97308-2148

Attn: Filing Center

Re: RG-_____, OAR 860-085-0050(1) Greenhouse Gas (GHG) Compliance Report

Northwest Natural Gas Company, dba NW Natural (NW Natural or Company), submits this letter in compliance with OAR 86-085-0050(1), which requires natural gas utilities to report their estimated greenhouse gas (GHG) emissions from company operations for 1990 (estimated actual), 2005 (estimated actual), and 2020 (projected). This information will inform Staff’s report to the legislature, required per OAR 86-085-0050(7), that will include the estimated rate impacts for reducing utilities’ GHG emissions by 10% below 1990 emissions levels and 15% below 2005 emissions levels.

In Table I below, NW Natural provides annual GHG emissions from 2008 to 2011 associated with the Company’s operational activities identified as office facilities, gas storage facilities, and fleet vehicles. Unlike the report submitted in 2010, the Company has not included emissions for electricity as these are commonly referred to as Scope 2 emissions by the Environmental Protection Agency (EPA) and would likely not be the gas utilities’ responsibility.

Table I – NW Natural’s Operational GHG Emissions¹

	<u>A</u>	<u>B</u>	<u>C</u> <u>Avg of</u> <u>2008-</u> <u>2009*</u>	<u>D</u>	<u>E</u>
NWN Internal CO2 emissions (metric tons)	<u>2008</u>	<u>2009</u>	<u>2009*</u>	<u>2010</u>	<u>2011</u>
Office Facilities	1,360	1,189	1,275	2,151	2,137
Gas Storage Facilities	25,734	15,956	20,845	7,350	9,321
Fleet (S1)	7,595	7,471	7,533	6,857	6,799
Total CO2 Footprint	34,689	24,616	29,653	16,358	18,256

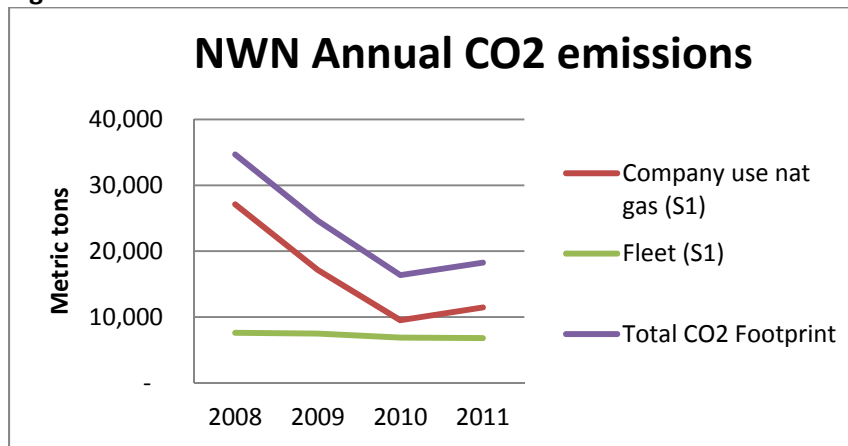
*Proxy for 1990 and 2005 emissions levels

¹ NW Natural’s carbon footprint does not include “unaccounted for gas” which is a measurement reported in a utility’s FERC Form 2. Since this is a commonly filed metric, it is worth noting that it is an accounting tool that is more indicative of metering discrepancies than of fugitive emissions. Fugitive emissions are also not included in this analysis as no methodology for measuring these has been established. The Company is willing to refine future reports to include fugitive emissions if measurement is possible. NW Natural does not believe line losses will significantly impact the company’s carbon footprint, as NW Natural has replaced most of its steel pipe which is a key contributor to fugitive emissions.

NW Natural does not have historical energy consumption data necessary for determining its 1990 or 2005 GHG emissions. For the purposes of this study, NW Natural uses the average emissions for 2008 and 2009 as the proxy for both 1990 and 2005. (See column C in Table I above.) The Company believes this is a reasonable assumption because, although the Company serves more customers than it did in 1990, it has fewer employees. Also, equipment and fleet replacements made since 1990 have resulted in improved energy efficiency.

The Company further assumes that its emissions related to its fleet and office facilities will remain steady through 2020. The Company does not foresee significant long-term changes in these areas, and, as mentioned, the Company is mindful to ensure that it makes energy efficient equipment purchases, building retrofits, and new fleet choices. Presumably gained efficiencies could offset the impact of increased operations, were that to occur. But, as noted previously, the Company's operations have reduced in size in spite of serving more customers. Figure I below provides a visual representation of the Company's reduced GHG emissions since 2008.

Figure I



This exercise has revealed that the Company's operational emissions are impacted most by its use of compressors to move gas in and out of storage. When gas prices are volatile, storage gas is used more as a least cost supply-side resource. When gas storage usage is up, the Company has more GHG emissions. Lately, due to the influx of shale gas into the market, gas prices have been lower and less volatile. As a result, the Company has used less gas from storage to meet its peak day demand and, therefore, has experienced lower GHG emissions.

In fact, the Company's 2011 GHG emissions are 55% lower than its 1990 and 2005 levels based on the Company's assumptions for historic emissions levels. If the Company's 2011 GHG emissions are unchanged through 2020, no GHG reductions will be necessary to meet the reduction goals and no cost will be incurred. However, if in 2020, the Company uses more gas storage as it did in its proxy year for 1990 and 2005 (see column C in Table I above), then GHG reductions will be necessary in 2020. Table II below provides a range of potential GHG emissions for 2020.

Table II

NWN Internal CO2 emissions (metric tons)	<u>Avg of 2008- 2009*</u>	<u>2011</u>	<u>Low Forecast</u>	<u>High Forecast</u>
			<u>2020</u>	<u>2020</u>
Office Facilities	1,275	2,137	2,137	2,137
Gas Storage Facilities	20,845	9,321	9,321	20,845
Fleet (S1)	7,533	6,799	6,799	6,799
Total CO2 Footprint	29,653	18,256	18,256	29,781

*Proxy for 1990 and 2005 emissions levels

Based on the higher forecast, the Company would need to reduce its emissions by 2,965 metric tons to meet the goal of 10% below 1990 levels and it would need to reduce emissions by 4,447 metric tons to meet the goal of 15% below 2005. See Table III below for the Company's 2020 GHG emissions goals.

Table III

NWN Internal CO2 emissions	GHG Emissions (metric tons)
Total CO2 Footprint for 1990 & 2005	29,653
2020 goal: 10% below 1990	26,688
2020 goal: 15% below 2005	25,333

The Company does not intend to include a cost for carbon in its next IRP since no viable carbon legislation is currently under consideration. The Company understands that this assumption is consistent with the assumptions in other gas utilities' current IRPs. However, in the Company's last acknowledged IRP,² the cost of carbon was forecast to begin in 2014 at a cost of \$15 per ton and to escalate at a compound annual growth rate of 7.8%. Under this scenario, the cost of carbon would be \$24 per ton in 2020.

If in 2020, gas storage is being used more than it is today, resulting in the Company having the higher GHG footprint forecast in Table II, NW Natural expects it would have to purchase offsets to meet the standard because the Company has no other appreciable steps it can take to reduce its operational GHG emissions. Table IV below provides an upper band for costs the Company might incur for meeting the GHG emissions goals established in OAR 860-086-0050 if the Company's emissions are the higher forecast provided in Table II and carbon costs are as forecast in the Company's 2011 Modified IRP.

² NW Natural's 2011 Modified IRP was filed in Public Utility Commission of Oregon Docket No. LC 51 and acknowledged by the Commission in Order No. 12-161.

Table IV

NWN Internal CO2 emissions	<u>2020 High Forecast</u> <u>(Metric Tons)</u>	<u>Potential Cost</u>
Total CO2 Footprint for 1990 & 2005	29,781	
2020 goal: 10% below 1990	-2,965	\$71,160
2020 goal: 15% below 2005	-4,447	\$106,728

NW Natural provides this information with the understanding that this analysis incorporates numerous assumptions about uncertain future events, any of which may prove inaccurate.

Please contact me at (503)226-4211, extension 3590, if you have questions.

Thank you.

Sincerely,

/s/ Jennifer Gross

Jennifer Gross