

greener than you think

Nevada Conservation and Energy Efficiency

Holly Lloyd & Elyse Gresnick-Smith

AEE Meeting

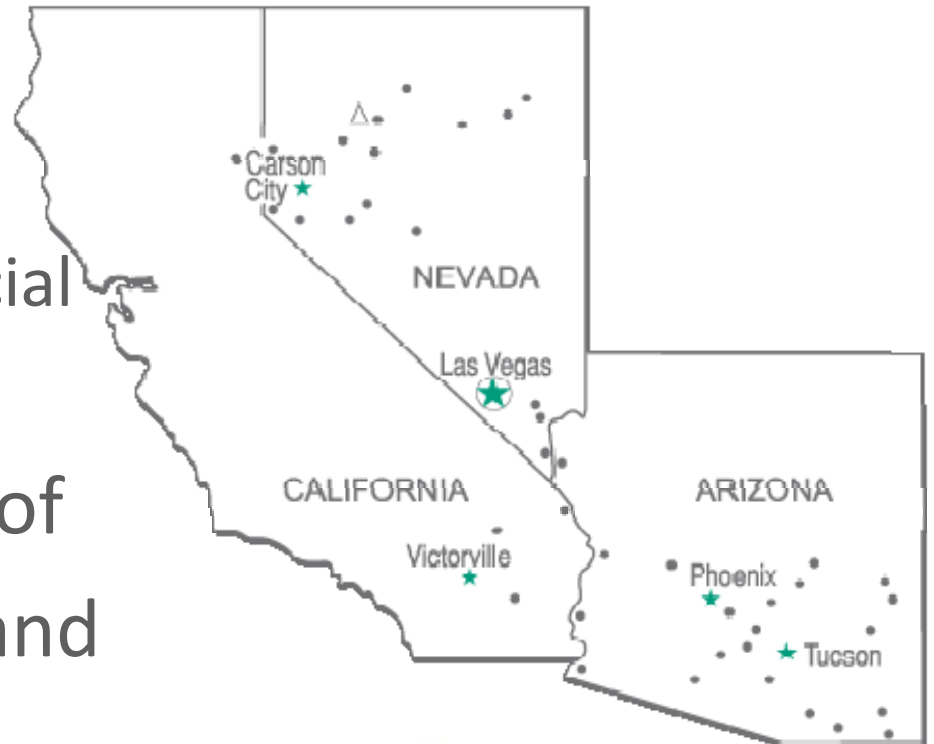
February 26, 2014



Southwest Gas Overview

greener than you think

- Over **1.8 million** customers in portions of AZ, CA and NV
 - Over **680,000** in NV
 - About **30,000** commercial customers in NV
- The largest distributor of natural gas in Arizona and Nevada



Regulatory Overview

greener than you think

- Energy efficiency programs are:
 - Funded by Southwest Gas customers in Nevada
 - Approved by the Public Utilities Commission of Nevada
 - On a three-year filing cycle (2013 – 2015)



CEE Programs

greener than you think

Arizona

Low-Income (Holly)

- SGB Low-Income Energy Conservation (LIEC) program (Weatherization & Bill Assistance)
- Low-Income Ratepayer Assistance (LIRA)

Residential (Elyse)

- SGB Residential Rebates program
- SGB Homes program (for builders)

Commercial (Holly)

- SGB Commercial Rebates program
- SGB Custom Commercial Rebates program
- SGB Distributed Generation

Solar (Elyse)

- SGB Solar Water Heating program

Nevada

Low-Income (Holly)

- SGB Low-Income Energy Conservation (LIEC) program – *Northern Nevada only*

Residential (Elyse)

- SGB Residential Rebates program
- SGB Homes program (for builders)

Commercial (Holly)

- SGB Commercial Rebates program

Solar (Elyse)

- SGB Solar Water Heating program

Energy Education

- NV EnergyWise Educators (Elyse)
- Commercial Customer Education (Holly)
- Energy Professionals & Gen. Education

California

Low-Income (Celine)

- Energy Savings Assistance Program (ESAP)
- California Alternative Rates for Energy (CARE) program

Residential (Elyse)

- SGB Residential Rebates program

Commercial (Holly)

- SGB Commercial Rebates program

**PENDING
APPROVAL**

Information about each program, including specific rebates available, can be found on the Southwest Gas website at swgasliving.com/efficiency

Cost-Effectiveness & TRC Model

greener than you think

- When proposing **programs** and **measures**, each must be **COST-EFFECTIVE**:

$$\frac{\text{BENEFITS}}{\text{(savings)}} \div \text{COSTS} = 1.0 \text{ or higher}$$

Cost-Effectiveness & TRC Model

- Program costs:
 - **Administration:** internal costs to run program
 - **Outreach:** costs to promote the program
 - **Delivery:** costs to process rebates (third-party contractor)
 - **MV&E:** post-installation inspections by third-party (impact evaluation)



Cost-Effectiveness & TRC Model

greener than you think

- Measure incremental costs & therm savings
 - Baseline vs. proposed
 - Example – storage water heater



- **Baseline:** Federal minimum standard (EF 0.58)
- **Proposed:** ENERGY STAR qualified (EF 0.67)
- Incremental costs & therm savings between the baseline & proposed units are used for the TRC model
- For measures that pass (1.0 or higher), rebates are calculated as a % of incremental cost

- Measure useful life

NV CEE Programs

greener than you think

January 1, 2014 – December 31, 2014

- **Commercial Rebates**
 - Water Heating
 - Commercial Food Service
 - Energy Audits
 - Custom Rebates
- **Energy Education**
- **Solar Rebates**
- **Residential Rebates**
- **Homes**
- **Low-Income Energy Conservation**



Commercial Overview

greener than you think

- Energy Audit
- Food Service
- Water Heating
- Air Curtains
- New Boilers
- Equipment for Existing Boilers
- Custom Rebates
- Solar Thermal

Commercial Rebates

- Energy Audit:

Natural Gas Equipment	Specification	Rebate Amount (up to 50% of audit cost)
Energy Audit	ASHRAE Level II Pre-approved by SWG	\$5,000/facility

***MUST BE PERFORMED BY A
PROGRAM AUTHORIZED CONTRACTOR***

For a list of authorized contractors or to become
an approved contractor, visit:
www.swgasliving.com/nvbusaudit



Commercial Rebates

- How to become an energy audit authorized contractor:
swgasliving.com/nvbusaudit
 - Must fill out an application annually
 - Must provide copy of a sample ASHRAE Level II audit
 - To be added to the published list of contractors for possible referrals, contractor must meet Energy Services' Referral Program Requirements



ASHRAE Audits

greener than you think

Level I: Walk Through Analysis

- Analysis of utility usage & costs → where energy is being used
- Identify efficiency improvements already completed
- Walk-through survey → provide a cost and savings analysis of low-cost/no-cost Energy Conservation Measures (ECMs)
- Provide a listing of capital improvements with initial estimate of savings & costs

Level II: Energy Survey & Analysis

***QUALIFIES FOR SWG REBATE!**

- Starts with results from Level I
- In-depth analysis of systems
- Results in a report of both no-cost/low-cost ECMs & more detailed ECMs requiring capital
- Identify capital intensive projects → Level III

Level III: Detailed Analysis of Capital Intensive Projects

- “Investment Grade” assessment of projects identified in Level II
- Can include building energy modeling to study changes in HVAC controls or equipment
- Could include temporary installation of data loggers to record actual equipment performance
- Detailed cost estimates for more accurate investment decisions

Commercial Rebates

- Food Service:

Natural Gas Equipment	Specification	Rebate Amount (up to 50% of equipment cost)
Steamer	ENERGY STAR qualified	\$200
Convection Oven	ENERGY STAR qualified	\$550
Conveyor Oven	Cooking efficiency $\geq 42\%$	\$300 – \$750
Dishwasher	ENERGY STAR qualified	\$1,050 – \$2,000



Commercial Rebates

■ Water Heating:

Natural Gas Equipment	Specification	Rebate Amount (up to 50% of equipment cost)
Storage Water Heater	Thermal efficiency (TE) \geq 95%; input rating \geq 199,000 Btu/hr	\$500
Tankless Water Heater	ENERGY STAR qualified and EF \geq 0.90	\$350



Commercial Rebates

greener than you think

■ Air Curtain:

Natural Gas Equipment	Specification	Rebate Amount (up to 50% of equipment cost)
Air Curtain*	Air Movement and Control Association (AMCA) certified; usage \geq 20 hours per week	\$1,950

**requires natural gas space heating*

- May be impacted by Adoption*



Commercial Rebates

■ NEW Boilers:

Natural Gas Equipment	Specification	Rebate Amount (up to 50% of equipment cost)
Non-Condensing Boiler	Combustion efficiency $\geq 85\%$ with modulating burner control with a minimum 5:1 turndown ratio; boilers ≥ 10 MMBtuh must also be installed with an O ₂ trim control pad	\$1.00/MBtuh
Condensing Boiler	Thermal efficiency $\geq 92\%$ with modulating burner control with a minimum 5:1 turndown ratio; boilers ≥ 10 MMBtuh must also be installed with an O ₂ trim control pad	\$1.25/MBtuh



Commercial Rebates

- Equipment for EXISTING Boilers:

Natural Gas Equipment	Specification	Rebate Amount (up to 50% of equipment cost)
Modulating Burner Control (for retrofits only)	Turndown ratio $\geq 5:1$	\$10,000
Steam Trap	Must be installed, replaced or repaired to operating function	\$250



Commercial Rebates

greener than you think

■ Program limitations:

- New equipment only; leased, used or rebuilt equipment is not eligible (incl. warranty replacements)
- Rebate amount cannot exceed 50% of purchase price
- Installation costs are not included
- Sales invoice/receipt must:
 - Be itemized to show each eligible equipment piece
 - Include itemized purchase price, date, brand and model number



SOUTHWEST GAS
smarter > greener > better

Commercial Rebates

greener than you think

- Who qualifies:
 - All non-residential customers that do not have a negotiated rate
 - Includes multi-family (master-metered) properties – individually-metered properties are eligible under the Residential Rebates program

Commercial Rebates

greener than you think

- How models qualify:
 - Energy audits are reviewed by DSM
 - All **residential, food service & water heating** equipment have a QPL
 - **Air curtains** – spec sheet or AMCA website (amca.org)
 - **New boilers & boiler equipment** – spec sheet

No.: DS-425
Date: October, 2012



IN-CEILING MOUNT-12

Ambient
Data Sheet

For Door Heights up to 12'

STANDARD FEATURES

- 1/2 hp three speed motor(s)
- Factory installed "Intelliswitch" digital programmable controller - see features below
- High efficiency, low noise Pro-V Nozzle
- Galvanized steel blower wheels & housing
- Lockable aluminum airfoil directional vanes
- Filter included (washable)

- Hinged white aluminum bottom access panel
- Powder coated inlet screen
- Five year parts warranty
- Crafted with Pride in the USA

OPTIONAL FEATURES

- Stainless steel or custom color finish

AMCA Certified Lab Data

MODEL	Nozzle Width (in)	Max FPM at Nozzle	Max CFM at Nozzle	CFM at Nozzle	Avg. Outlet Vel. (fpm)	Air Volume (scfm)	Power Rating (kW)	Outlet Vel. Unif. (%)	Motor(s) @ hp	Net Wgt (lbs)
FCA1036A	36"	5444	4382	2849	1573	1376	0.47	92	1 @ 1/2	100
FCA1042A	42"	4828	4189	2723	1549	1581	0.49	85	1 @ 1/2	107
FCA1048A	48"	4839	4912	3193	1377	1607	0.51	87	1 @ 1/2	113
FCA1060A	60"	4828	5985	3890	1027	1647	0.52	85	1 @ 1/2	133
FCA2060A	60"	5202	6903	4487	1674	2686	0.92	91	2 @ 1/2	170
FCA2072A	72"	5444	8765	5697	1573	2752	0.94	92	2 @ 1/2	177
FCA2084A	84"	4828	8379	5446	1549	3162	0.98	85	2 @ 1/2	202
FCA2096A	96"	4839	9823	6385	1336	3214	1.02	87	2 @ 1/2	215
FCA3096A	96"	5500	11807	7674	1688	4042	1.39	91	3 @ 1/2	252
FCA2108A	108"	4828	10772	7002	1243	3262	1.04	85	2 @ 1/2	222
FCA3108A	108"	4828	10772	7002	1573	4128	1.45	92	3 @ 1/2	259
FCA3120A	117"	4828	11969	7780	1596	4538	1.45	85	3 @ 1/2	269
FCA3132A	132"	4839	13507	8779	1431	4769	1.49	85	3 @ 1/2	291
FCA3144A	144"	4839	14735	9578	1377	4821	1.53	87	3 @ 1/2	304
FCA4144A	144"	5444	17530	11394	1573	5504	1.88	92	4 @ 1/2	341



Intelliswitch Features:

- ◆ Time Delay
- ◆ 3 Speed Fan Selection
- ◆ On/Off/Auto Operation
- ◆ Start/Stop Times
- ◆ Low Voltage Control Circuit
- ◆ Time Clock
- ◆ LED Display
- ◆ Lockable Display

POWER SUPPLIES/MOTOR AMP DRAWS

VOLTS	120	208	240	480	600	220*	380*
PHASE	1	1	1	3	3	1	1
HERTZ	60	60	60	60	60	50	50
AMPS per MOTOR	8.5	4.3	4.3	1.4	1.0	4.3	4.3

*Operation at 50 Hz will generate approximately a 17% reduction in performance.

VELOCITY PROFILE Model: FCA1036A

Distance from Nozzle (ft)	3	6.5	10
---------------------------	---	-----	----



Berner International Corporation certifies that the air curtains shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program. Rated data shown is for base (un-heated) units.

The AMCA Certified Ratings Seal applies to airflow rate, average outlet velocity, outlet velocity uniformity, velocity projection and power rating at free delivery only. Models FCA1060A & FCA2108 are not licensed to bear AMCA seal.

Sound level measured 10' (3m) from the unit in free field:

an you think

THWEST GAS
ter > greener > better

Job: _____
 Engineer: _____
 Contractor: _____
 Prepared By: _____ Date: _____
 Model: _____ Indoor/Outdoor: _____

XFire™ - Type H

Condensing Heating Boilers
 Models 300A-850A

94% Thermal Efficiency at Full Rate, up to 99% at Part Load
 Indoor/Outdoor Construction Standard

PVC*, CPVC, Centrotherm™ Polypropylene or
 Stainless Venting Certified

VERSA IC Integrated Control Platform

Soft Start, Electronic Modulation, 5:1 Turndown

LCD Status Display with Full Diagnostics and Fault Memory

Zero Clearance to Combustibles

Meets 2012 NOx Requirements (< 20 ppm)

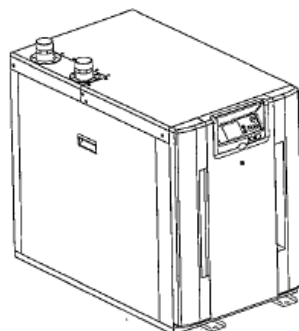
Maximum Outlet Water Temperature: 195°F

Maximum System Temperature: 190°F*

Limited 25-Year Thermal Shock Warranty

Limited 10-Year Heat Exchanger Warranty

Modbus RTU RS485 Port



Made in the USA

Heat Exchanger

- All Stainless Steel Construction with copper connections
- Gasketless Heat Exchanger Design
- ASME H Stamped
- 180 PSIG Working Pressure
- National Board Approved
- ASME Pressure Relief Valve
 - 45 PSIG - Standard (300 & 400)
 - 60 PSIG - Standard (500 - 850)
 - PSIG - Optional
- Temperature and Pressure Gauge, Shipped Loose

Control

- 120V, 60Hz, 1Ø, Power Supply
- Versa IC Operating Control with LCD display
- Outdoor reset with Indirect Priority
- 0-10 VDC input for BMS
- Cascade up to 4 boilers
- Spark Ignition (DSI)
- Remote Flame Sensor
- High Limit, Manual Reset, Fixed, 200°F
- Alarm Dry Contact Connection
- On/Off Power Switch
- Flow Switch
- Blocked Vent Pressure Switch
- Boiler, DHW & System Pump Contacts
- Water Temperature Sensors (5) 10kΩ (3 shipped loose)

*Configured for PVC Vent Standard. Maximum Return Water Temperature of 170°F for PVC Vent. See I & O Manual Cat. 1000.65

- Outdoor Air Sensor (1) 10kΩ (optional)

Burner

- Ultra-Low NOx: Less than 20 PPM

Gas Train

- Fuel
 - Natural Gas
 - Propane
- Dual-Seat Combination Valve
- Electronic Modulating Firing Mode (H7)

Construction

- Indoor/Outdoor Construction
- Front Controls Enclosed
- PolyTuf Powder Coat Finish
- Rear Connections (Electrical, Gas, Vent, Combustion Air)
- Top Connections (Water)
- Design Certified ANSI Z21.13/CSA 4.9
- Combustion Air Filter
- Condensate Trap
- CSA Certified - AB 1953 & VLA 193 Low Lead Compliant

Venting (PVC*-CPVC-Centrotherm™ Polypropylene - Stainless.)

- Vent Termination
 - Indoor, Vertical - Option D-11
 - Indoor, Horizontal - Option D-15 S/S
 - Outdoor
 - D-33 Polypropylene Adapter

Extractor - Optional

- By others
- Not required

Multi-Boiler System Controllers

- B-36 TempTracker Mod+ Hybrid Digital Controller, 2-4 Boilers, OA Reset
- B-37 TempTracker Mod+ Hybrid Digital Controller, 5-10 Boilers, OA Reset
- B-38 TempTracker Mod+ Hybrid Digital Controller, 11-16 Boilers, OA Reset

Options

- D-21 TruSeal™ Combustion Air Inlet (Mounted)
- D-22 TruSeal™ Combustion Air Inlet (Loose)
- F-10 Low Water Cut-Off, Remote Probe
- P- Pump: _____ HP, 120V, 1Ø, 60Hz
 - Cast Iron
 - Bronze/SS
- S-1/S-2 High/Low Gas Pressure Switch, Manual Reset
- Z-12 Condensate Neutralizer Kit

Regulatory Agency Requirements



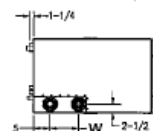
XFire - Type H

Models 300A-850A

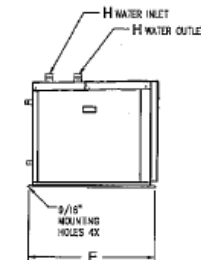
Model _____

CLEARANCES

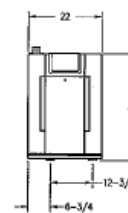
	Certified Minimum	Service Minimum
Front	24"	24"
Rear	24"	24"
Right	0"	0"
Left	0"	0"
Top	12"	24"
Floor	0"	---
Vent	1"	---



TOP VIEW



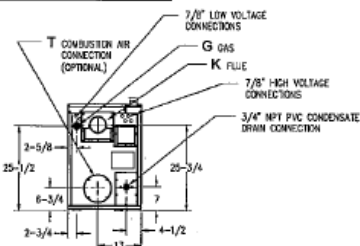
LEFT VIEW



FRONT



RIGHT VIEW



REAR

output/
input =
efficiency
(94%)

Model (H7-)	MBTUH		Dimensions (in.)							
	Input	Output	A Length	F Mounting	G NPT	H NPT	K Flue Ø	T C/A Ø	W (Water)	
300A	300	282	28-1/4	27-9/16	3/4	1-1/2	4	4	8-1/2	
400A	399	375	30-3/4	32-5/16	1	2	4	4	7-1/16	
500A	500	470	37-1/4	36-9/16	1	2	4	4	8-1/2	
700A	700	658	47-3/4	49-5/16	1-1/4	2	6	6	10-9/16	
850A	850	799	54-1/4	53-9/16	1-1/4	2	6	6	10-9/16	

Ratings shown are for elevations up to 2,000 feet. For installations at elevations above 2,000 feet, please consult the factory for additional instructions.

RATES OF FLOW AND PRESSURE DROPS

Model (H7-)	20°F ΔT		30°F ΔT		35°F ΔT		Min Flow		Max Flow	
	GPM	ΔP**	GPM	ΔP**	GPM	ΔP	ΔP**	ΔT	GPM	ΔP**
300A	28	17	19	8	16	6	14	5	39	36
400A	38	18	25	7	21	5	19	4	39	47
500A	47	16	31	7	27	5	24	4	39	56
700A	66	30	44	13	38	9	34	7	39	70
850A	80	40	53	17	46	12	41	10	39	80

* Closed systems only

** Connected plumbing pressure drops are not included.

Model	Amps*	Foot-Print (Ft²)	Ship Weight (Lbs.)
300A	3	4.3	410
400A	4	4.7	465
500A	4	5.7	505
700A	5	7.3	550
850A	5	8.3	580

* Current draw is for heater only.
 (Supply breaker must have delayed trip.)



Step 1

Step 2

Step 3

Step 4

Step 5

Step 6

Nevada Boiler Equipment - Business

< Return to Rebates & Promotions

For Your Home

For Your Business

For Builders & Contractors

Energy Efficiency Rebates

Arizona

California

Nevada

Natural Gas Vehicles

Resource Center

Safety

Savings with Solar Energy

The Salvation Army generates quite a savings with a solar water heating system.

Learn More

Carbon Calculator

See how you can reduce carbon emissions by shifting energy use.

Newsletter

Gain access to unique services, insightful information, and free tools to help your business.

Sign Up

Nevada Boiler Equipment - Business

Did you know that boilers generally account for more than 40% of the heating energy in commercial buildings? If you are a Southwest Gas commercial customer in Nevada who is interested in improving the energy efficiency of your business, then you may be eligible to receive a rebate to improve efficiency of your existing boiler, or on the purchase and installation of a new, high-efficiency boiler.

Boiler Equipment	Program Requirements	Available Rebate Up to 50% of equipment cost
Natural Gas Non-Condensing Boiler	Combustion efficiency \geq 85%; must be installed with modulating burner control with a minimum 5:1 turndown ratio; boilers \geq 10 MMBtuh must also be installed with an O2 trim control pad	\$1.00/MBtuh
Natural Gas Condensing Boiler	Thermal efficiency \geq 92%; must be installed with modulating burner control with a minimum 5:1 turndown ratio; boilers $>$ 10 MMBtuh must also be installed with an O2 trim control pad	\$1.25/MBtuh
Boiler-Modulating Burner Control	Turndown ratio of \geq 5:1; for retrofits only	\$10,000
Boiler-Steam Trap Low/High Pressure	Must be installed, replaced or repaired to original operating function	\$250

Rebate Application

Other Rebates Available

Please review the rebate application for additional requirements and full terms and conditions.

Rebates are available for purchases made January 1, 2014, through December 31, 2014, or until program funds are no



SOUTHWEST GAS
Greener Than You Think

Home | My Account



► [Why Natural Gas](#)

► [Rebates & Promotions](#)

► [About Us](#)

[Contact Us](#)

► [For Your Home](#)

► [For Your Business](#)

[For Builders & Contractors](#)

► [Energy Efficiency Rebates](#)

[Natural Gas Vehicles](#)

► [Resource Center](#)

[Safety](#)



Savings with Solar Energy

The Salvation Army generates quite a savings with a solar water heating system.

[Learn More](#)

Nevada Natural Gas Storage Water Heater - Business

[< Return to Rebates & Promotions](#)

Nevada

Boost your bottom line with energy-efficient equipment that has a positive impact on your business!

High efficiency commercial models simply have better insulation, heat traps, and more efficient burners; improvements that have a modest impact on price but increase efficiency by about 7.5%. To increase efficiency further, manufacturers may add a power vent to accelerate the venting of combustion gases.

Equipment Requirements	Rebate Amount
Thermal Efficiency \geq 95% and input rating \geq 199,000Btu/hour	\$500 up to 50%

[Apply Online /
Check Status](#)

[Qualifying
Models](#)

[Rebate
Application](#)

[Other Rebates
Available](#)

swgasliving.com

Commercial Rebates

greener than you think

- How to calculate rebates:

quantity x rebate amount

Equipment	Quantity Purchased (A)	Rebate Amount (B) (up to 50% of equipment cost)	Rebate Total = (A x B)
Dishwasher (Must have natural gas water heating at installation address.) <i>Qualifying dishwashers must be ENERGY STAR qualified.</i>			
Low Temp: Door Type	# of Unit(s) <input type="text"/>	\$1,050 / unit	\$ <input type="text" value="0"/>
	Model No. <input type="text"/>	Install Date <input type="text"/>	
Low Temp: Single Tank Conveyor	# of Unit(s) <input type="text"/>	\$1,500 / unit	\$ <input type="text" value="0"/>
	Model No. <input type="text"/>	Install Date <input type="text"/>	
Low Temp: Multiple Tank Conveyor	# of Unit(s) <input type="text"/>	\$2,000 / unit	\$ <input type="text" value="0"/>
	Model No. <input type="text"/>	Install Date <input type="text"/>	
Boiler Equipment (Must include manufacturer specification sheet.)			
Natural Gas Non-Condensing Boiler <small>Qualifying natural gas non-condensing boilers must have a Combustion Efficiency (CE) of 85% or higher.</small>	Size <input type="text"/> MMBtuh	\$1.00 / MBtuh	\$ <input type="text" value="0"/>

Commercial Rebates

greener than you think

- Data required to validate requirements:
 - **Receipt/invoice** showing itemized purchase price, purchase date, brand and model number
 - **Usage schedule** to verify air curtains are used ≥ 20 hours per week
 - **Manufacturer specification sheet** to verify the efficiencies of new or existing boilers
 - **Combustion report** to verify MBCs meet a minimum 5:1 turndown ratio

Commercial Custom Rebates

■ Equipment:

Natural Gas Equipment	Specification	Rebate Amount (up to 50% of incremental cost)
Custom Rebate	Approved by SWG	\$1/therm

Qualifying measures include those that:

- 1. Produce verifiable natural gas usage reduction*
- 2. Are installed in either existing or new construction applications, where the system's efficiency exceeds applicable codes or standard industry practice*
- 3. Have a minimum useful life of 7 years*
- 4. Exceed minimum cost-effectiveness*



Commercial Custom Rebates

greener than you think

- Program limitations:
 - A rebate application should be submitted prior to project installation
 - An installation notice must be submitted after the project is completed
 - Rebate amount cannot exceed 50% of incremental cost



Commercial Custom Rebates

greener than you think

REBATE APPLICATION

Should be submitted **prior** to purchase and installation

SWG RESERVATION APPROVAL LETTER

Includes rebate reservation amount*, installation notice deadline, project site & project reference number

**The final rebate amount will be based on the completed project. Final rebate amounts cannot exceed 120% of the rebate approved with the Rebate Application.*

PURCHASE, INSTALL & COMMISSION

Must be completed **after** receiving approval from Southwest Gas

INSTALLATION NOTICE

Must be submitted **prior** to the installation notice deadline indicated on the “SWG Reservation Approval Letter”

Commercial

greener than you think

Custom Rebates

- Examples of qualifying measures:
 - Regenerative Thermal Oxidizer (RTO)
 - Process or waste heat recovery systems to offset other natural gas usage demands in the facility
 - Heat recovery chillers to serve process loads replacing boiler HW demands
 - Any process or commercial kitchen equipment not eligible for rebates under other SWG rebate programs
 - Industrial char broilers that exceed applicable codes or industry standard practice

Commercial

greener than you think

Custom Rebates

- Measures excluded from the program include those that:
 - Are rebate eligible under other SWG rebate programs
 - Rely solely on changes in customer behavior
 - Merely terminate existing processes, facilities, or operations
 - Are not fuel neutral
 - Are required by state or federal law, building or other codes, or are standard industry practice
 - Qualify for rebate through any other program offered by SWG



Commercial

greener than you think

Custom Rebates

- How to Calculate Rebates:
 - Lesser of:
 1. Estimated rebate amount
(annual therm savings x \$1.00)
 2. 50% of incremental cost
(difference in cost between baseline and HE units)
 3. \$20,000 cap

Commercial

greener than you think

Custom Rebates

- **Case Study: Regenerative Thermal Oxidizers (RTO)**
 - Allied Packaging's decision to install a RTO over a Recuperative oxidizer is estimated to save them \$170,000 per year
 - The SW Gas Custom Commercial Rebate Program paid Allied Packaging a rebate of \$20,473.80
 - The EEM is estimated to displace 224,125 therms annually as compared to a std. recuperative thermal oxidizer with 80% heat recovery

RTO Installed at Allied

greener than you think



Energy Education

- Commercial Education

- Collaboration with NV Energy & AEE

- AEE Lunch and Learns in collaboration with NV Energy

- Building Benchmarks/ENERGY STAR Portfolio
 - Retro-Commissioning/Energy Efficiency Measure (EEM) Awareness
 - Central Plan
 - Heat Recovery

- Certified Energy Manager Certification Rebates

- Nevada Industry Excellence Webinars

- Energy 101 Webinars

- Target small commercial customers



Energy Education

- Energy Professionals and General Education
 - Education of energy professionals, including:
 - Efficient use of natural gas
 - Environmental benefits of conservation in their businesses, as well as their homes
- EnergySmart Educators
 - High School and Middle School Students and Teachers
 - STEM
 - Green Boxes



Solar Water Heating Rebates

■ Available Rebates:

Facility Type	Current Rebate Amount	Rebate Maximum
Residential	\$13.00/therm	Up to 30% or \$3,000
Small Business (≤ 500 employees)	\$14.50/therm	Up to 30% or \$7,500
School	\$19.00/therm	Up to 50% or \$30,000
Public and Other (religious, non-profit, civic & county – federal agencies <u>not</u> eligible)	\$19.00/therm	Up to 50% or \$30,000



Solar Water Heating Rebates

greener than you think

REBATE APPLICATION (SECTION 1)

Must be submitted **prior** to purchase and installation

SWG CONFIRMED RESERVATION NOTICE

Includes rebate reservation amount, proof-of-progress deadlines*, expiration date, project site & project reference number

PURCHASE, INSTALL & COMMISSION

Must be completed **after** receiving approval from Southwest Gas

PROOF OF PROGRESS CHECKLISTS* (SECTIONS 2&3)

Must be submitted **prior** to the deadlines indicated on the “SWG Confirmed Reservation Notice”

REBATE CLAIM PACKAGE (SECTION 4)

Must be submitted **prior** to the expiration date indicated on the “SWG Confirmed Reservation Notice”

**Proof-of-progress checklists are only required for school, public and other property types. They are not required for residential or small business properties.*

Solar Water Heating Rebates

greener than you think

- Eligible technologies:
 - Domestic water heating
 - Space heating
 - Space conditioning
 - Combination of domestic water heating and space conditioning
- Pool heating is not eligible

Solar Water Heating Rebates

greener than you think

- Who qualifies:
 - Residential customers
 - Commercial customers with 500 employees or less
 - Schools (public or private)
 - Religious, non-profit and public entities – federal agencies **NOT** eligible

Solar Water Heating Rebates

- How to become a Solar qualified contractor:

solarwaterheatingrebate.com

- Must fill out an application annually
- Must attend a training session
- All approved contractors are added to a published list



Solar Water Heating Rebates

greener than you think

■ How to Calculate Rebates:

— Lesser of 3 amounts:

1. Estimated rebate amount

(annual therm savings* x current rebate level)

2. Percentage cap

3. \$ cap

Equipment Rebate:	<input type="text"/>	*	<input type="text"/>	=	<input type="text"/>
	Therm savings/yr		Rebate level ³		(A)
Rebate Cost Cap:	<input type="text"/>	*	<input type="text"/>	=	<input type="text"/>
	Est. Project Cost		% Cost cap ⁴		(B)
	\$3,000 for Residential				
	\$7,500 for Small Business				
Rebate Cap:	\$30,000 for School, Public, or Other			=	<input type="text"/>
					(C)
Estimated Rebate:				=	<input type="text"/>
					(Min of A, B, or C)

*System certification = savings are provided by the certification entity (i.e. SRCC or IAPMO)

Collector certification = savings are provided by PE

Solar Water Heating Rebates

greener than you think

- solarwaterheatingrebate.com



SOUTHWEST GAS

smarter > greener > better

Nevada *Smarter Greener Better*
Solar Water Heating Program

Program Overview

How Solar Water
Heating Works

Rebate Information

Contractor
Information

Other Energy
Efficiency Programs

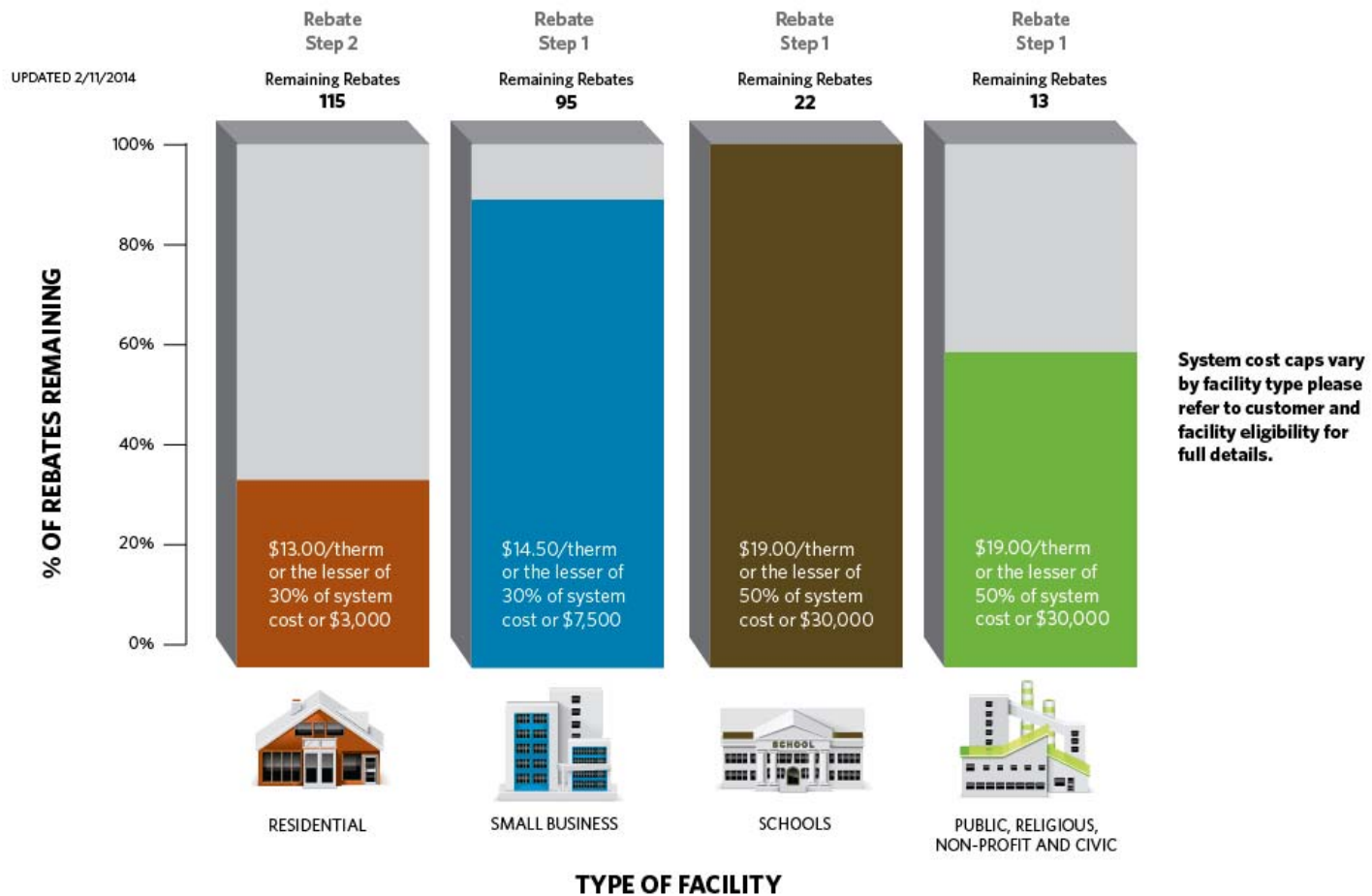
- *Solar Water Heating Rebate Application*
- *Program Brochure*
- *Solar Water Heating Qualified Contractors*
- *Best Practices Guide for Selecting a Qualified Contractor*

Solar water heaters are cost-effective, environmentally responsible and a great alternative to conventional water



solarwaterheatingrebate.com

Facility Type	Step 1		Step 2		Step 3	
	Number of Rebates Remaining/ Available	Rebate Amount	Number of Rebates Remaining/ Available	Rebate Amount	Number of Rebates Remaining/ Available	Rebate Amount
Residential			115/340	\$13.00/therm	1,020/1,020	\$11.00/therm
Small Business	95/102	\$14.50/therm	102/102	\$13.00/therm	306/306	\$11.00/therm
Schools	22/22	\$19.00/therm	22/22	\$17.00/therm	66/66	\$14.00/therm
Public, Religious, Non-Profit and Civic	13/22	\$19.00/therm	22/22	\$17.00/therm	66/66	\$14.00/therm



Salvation Army Case Study

greener than you think

- 45,000 square foot campus
- Dorm Facility houses and showers 600 people each night
 - Constitutes largest portion of natural gas bill each month
- Installed Solar Water Heating System on the dorm facility consisting of:
 - 4 UMA Brand SRCC Certified rooftop solar panel collectors
 - 3 Rheem Solar Storage Water Tanks
- Consumer Electronics Association donation covered half of the cost of the installation.
- **Rebate - \$12,785**
- **Therm savings – 841 therms**



Residential Rebates Program

greener than you think

- Residential Rebates Program
 - Available to residential customers with active residential meters
 - Includes builders of single-family and individually-metered multi-family properties
 - Builders participating in the Residential program are not eligible to participate in the Homes program
 - Measures: Tankless Water Heater, Clothes Dryer, Lavatory Faucet, Smart Low-Flow Showerhead, 3 Tiers of Furnaces (NNV ONLY), and Windows (builders not eligible)

Homes Program

greener than you think

- Homes Program
 - Available to builders of single-family and multi-family properties
 - Builders participating in the Homes program are not eligible to participate in the Residential program
 - Two Tiers
 - Tier 1 – ENERGY STAR Certification
 - Tier 2 – ENERGY STAR Certification and HERS Score ≤ 65

Low-Income Energy Conservation

greener than you think

(Northern Nevada only)

- Provides income-qualified customers:
 - Free energy education
 - Weatherization measures
 - Duct leakage sealing
 - Shell infiltration sealing
 - Ceiling, floor and duct insulation
 - Insulation of water heater and water heater pipes
 - Heating and cooling system repairs/replacements
 - Health and safety measures
- Program limitations
 - Must not exceed the income qualifications set forth by the U.S. Department of Energy's Weatherization Assistance Program

Questions?

greener than you think

Visit our website at:

www.swgasliving.com/efficiency

or call:

1-800-654-2765

