Geothermal: The Genius Renewable

Live at Groundwater Week in partnership with NGWA

Las Vegas, NV
December 5-7, 2023
YOUR PRESENTER TODAY

TITIAN BURRIS
National Sales Manager

• More than 20 years in HVAC, primarily ClimateMaster

• Well rounded training and education ranging from an MBA to technical training for installation of heating, air conditioning and hydronic systems
IS GEOTHERMAL THE FUTURE OF PLANNED DEVELOPMENTS IN THE US?

WE THINK SO.
Total Entitlements:
- 600 Acres
- 2,880 Dwelling Units
- 500,000 sf commercial
- Total Civic: 290,000 sf
HERE’S WHAT WE WANNA TALK ABOUT

- TIMELINE AND ORIGIN of the Norton Commons planned community

- TRANSFORMATION to a successful Geothermal commitment

- WHAT NOW?  FUTURE FORWARD Scaling and selling Geothermal communities
WHAT WE’LL ASK YOU TO LEAVE WITH

THERE’S A NEW GRID
GEO LOOPS ARE POISED TO GO MAINSTREAM

FINANCIALS
LET’S CHANGE THE GEOTHERMAL VALUE CONVERSATION

FUTURE

THIS MODEL CAN BE SCALED FOR THE FUTURE

Annual Conference, December 5 - 7, 2023 – Las Vegas, NV
Construction began in September of 2003, and now Norton Commons consists of more than 1500 homes, multi-family units, and town center businesses.

The vision changed in 2012, when research first began to find a solution to eliminate the noise pollution caused by crowded outdoor condenser units in residential areas.

Since 2018, Norton Commons requires every home to be built with geothermal HVAC. In addition, business, office buildings exceeding 20,000 square feet, and even the post office have been built and equipped with the same ground source technology.

Introduce new Government regulations, and a beneficial electrification and sustainability focus which have culminated into momentum for the future of geothermal living.

Norton Commons has become a blueprint for success. This model can be scaled and replicated.

This group and other likeminded innovators are set up to repeat this process in planned communities nationwide.
Before

Phase 1 Residential Construction

Extremely high utility bills
Before 2012

Phase 1 Residential Construction

- Close proximity
- Frequent Unit Failure
- Excessive Noise
THE VISION CHANGED IN 2012

Research first began to find a solution to eliminate the noise pollution caused by crowded outdoor condenser units in residential areas.
Between Phase 2 Residential Construction

- Ground Loop Installation
- Estimated 1800 individual loop fields
Between

Phase 2 Residential Construction
- Loop Installation- Under Garage Floor
Between 2012 and 2018:

- Phase 2 Residential Construction
- Ground Loop Installation - Wall Penetration
Between 2012 and 2018

Phase 2 Residential Construction

Residential Mechanical Space
PHASE 2 RESIDENTIAL OUTCOME

- Low Noise
- 40-60% increase on HVAC Efficiencies per home
- Unit serviceable life increased
- No outside condensers / noise
- Happy HOA
- Load leveling effect on utility grid
- Major reduction in fossil fuel use
GEOTHERMAL PLANNED COMMUNITY

PHASE 2 RESIDENTIAL OUTCOME

Church
Retail
Schools
Heat Pumps

Annual Conference, December 5 - 7, 2023 – Las Vegas, NV
The vision changed in 2012, when research first began to find a solution to eliminate the noise pollution caused by crowded outdoor condenser units in residential areas.

Since 2018, Norton Commons requires every home to be built with geothermal HVAC. In addition, business, office buildings exceeding 20,000 square feet, and even the post office have been built and equipped with the same ground source technology.

Introduce new Government regulations, and a beneficial electrification and sustainability focus which have culminated into momentum for the future of geothermal living.

Norton Commons has become a blueprint for success. This model can be scaled and replicated.

This group and other likeminded innovators are set up to repeat this process in planned communities nationwide.
FORWARD TO THE FUTURE

THE NEW GRID
GEO LOOPS ARE POISED TO GO MAINSTREAM

FINANCIALS
LET’S CHANGE THE GEOTHERMAL VALUE CONVERSATION

THIS MODEL CAN BE SCALED FOR THE FUTURE

Annual Conference, December 5 - 7, 2023 – Las Vegas, NV
FORWARD TO THE FUTURE

THE NEW GRID
GEO LOOPS ARE POISED TO GO MAINSTREAM

Taking geothermal mainstream will require you to **think differently** about how to develop land, similar to water/sewer lines.

**Planned communities** can use an individual loop per house, or an integrated community system of vertical bore holes—either planned and installed up front, similar to water/sewer lines.
FORWARD TO THE FUTURE
GEO LOOPS ARE POISED TO GO MAINSTREAM

INDIVIDUAL LOOP

Ground loops are in the ground prior to construction of the house. As they’re grading lots, they’re putting in loops.

Drilling each loop individually requires less upfront engineering, but requires having a strong team of local contractors, loop installers, product support.

COMMUNITY LOOP

Installing up front can translate to 40 percent lower installation costs on the community loop vs. individual.

This simplifies the process for a production builder and homeowners “plug” into the system similar to a sewer system.
INDIVIDUAL LOOPS

600 Acres, Single Family Town Homes
Loops are largely placed under garage slabs, where they won’t be disturbed — something that’s important in a high-density area like Norton Commons, where lot lines are sometimes only 6 feet apart

Infrastructure Pre-Planning is Key
Ground loops in the ground, prior to construction of each home. As they’re grading these lots, they’re putting in these loops; they just tap into it

Talking the Talk – Get Buy-In
Ground loops are already in the ground, prior to construction of each home
Installed Heat Pumps

Build Strong Manufacturer Relationships
HOW TO PREPARE FOR THE FUTURE

1. Build Strong Relationships with local developers, contractors, loop installers, drillers and product support / manufacturers.

2. Build relationships with production builders.

3. Educate yourself and your community by changing the Financial & Utility Narrative.
FORWARD TO THE FUTURE

FINANCIALS
LET'S CHANGE THE GEOTHERMAL VALUE CONVERSATION

$
Many start with conversations around energy savings, and say it will take three, five, seven years to payback,”

That’s the wrong start
CHANGE THE CONVERSATION

CASH POSITIVE FROM DAY ONE
More expensive to build? Yes. But the monthly payment for a geothermal home might be more than a home with a traditional HVAC system. But that increased monthly payment was less than their increased energy bill would have been.

COST OF OWNERSHIP
Over the life of the unit, you can quantify less maintenance, less care, piping, not to mention reinstatement of the geothermal tax credits, more cities and states adopting progressive building requirements and more homebuyers interested in an energy-efficient lifestyle.

NOISE ABATEMENT
Homebuyers are interested in an energy-efficient lifestyle. But what will ultimately end up drawing people to geothermal? No noisy outside condensing unit, it opens eyes (and ears).
WHAT NOW?

Understand how to talk to your community about the future and evangelize geothermal.

Change the financial conversation, stop focusing on ROI and build a better argument for planned developments.

Relationships with the right folks. Know your drillers, your installers, your manufacturers—so you can promote effective planning with developers. Be the Network.
QUESTIONS?

Scan to request a follow-up and get access to our Geo Economics Calculator.

Annual Conference, December 5 - 7, 2023 – Las Vegas, NV