

Case Study

Residential Drainback System



Overview: In 2006, after completely re-insulating their house, a couple from Burke, Virginia decided to go one step further to make their home more energy efficient. After much research on solar hot water systems, they decided to install an Apricus AP-30 Evacuated Tube Collector on their 3,000 sqft home. The collector was installed on the roof on the back of the house so only a sliver of the top of the collector on the roof line is visible from the street. Displacing natural gas, the drainback solar system provided immediate results.

“We can get by for a week without sunshine,” said the homeowner. “We’ve never had to refill our regular hot water heater once we shut it down for the season, thanks to solar.”

Maintaining the system has been simple for the couple. Since drainback systems use no antifreeze service calls are not needed; other system types require the antifreeze be replaced every couple of years. The only maintenance the homeowners have had to do is replace the water flowing through their system. They plan to do this once every five years (first water change was 2011).

Site Description:

Building Use:	3,000 sqft Private Residence
Location:	Burke, VA
System Type:	Drainback Domestic Hot Water
Displaced:	Natural Gas

Project Highlights:

Array Size:	1 Apricus AP-30 Collector
Storage Tank:	85 gal
Annual Energy Savings:	Estimated \$1900

After nearly 7 years of operation, the homeowners reported that they had not had a single issue with the system. The couple also reported that their neighbor with an identical house spent \$3,000 on annual energy costs last year while they paid just under \$600 for gas and electric combined!



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“As empty nesters we love to travel. Our energy savings are going a long way toward our travel expenses. Our house is too big for us but we can’t find a new home as energy efficient as ours so we’ll stay put.”

~ Homeowner



Apricus APSE-30:

Physical Specifications:

Dimensions:	78.9” x 86.4”
Aperture Area:	32.05 ft ²
Gross Area:	44.76 ft ²
Gross Dry Weight:	4.67 lb / sqft
Fluid Capacity:	24 fl oz
Max Pressure:	116 psi

Materials of Construction:

Evacuated Tubes:	Borosilicate 3.3. Glass
Absorber Coating:	Aluminum Nitrate
Heat Pipes:	High Purity Copper
Mounting Frame:	439 Stainless Steel
Manifold Casing:	5005-H16 Anodized Aluminum

Warranty:

Manifold & Frame:	15 years
Tubes & Heat Pipes:	10 years

“With the vast majority of existing homes in America still being so energy wasteful it is a shame that people don’t DO SOMETHING!”

~ Homeowner

Apricus is one of very few companies in the USA who have a certified drainback compatible collector design. To learn more about Apricus products, visit www.apricus.com.



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