CHALLENGING THE MYTH “SOLAR THERMAL IS DEAD”

BE CAREFUL WHAT YOU ASSUME!
“Everybody Knows”

- Solar can do at best, 75% of your water heating
- With freeze protection, solar is complex
- Overheating is a big problem for solar
- Installing solar thermal is tricky
- It needs yearly maintenance
- Solar is just too expensive
Solar Design ...

- We want the most efficient collectors
- Sizing a system for winter will cause overheating in summer
- Parallel piping gathers the most BTUs
- Storage tank cannot be oversized due to stagnation problems
- Freeze protection dictates system design
Time to Bend a Few Rules

Use lots of low efficiency collectors >>>

<<<< Use “oversized” storage
Modern equipment changes things!

Plastic tank &
Polyethylene collectors
Simple system design and freeze-tolerant collectors by Gull Industries
What do you get by bending rules?

- Long lived, low maintenance system
- Elimination of stagnation or odor
- Reduced risk of freeze damage
- Greater solar contribution
- No risk of overheating
- Faster reheating
- Simpler system
- Lower cost ...........

and ........... Happiness!
Lowering the cost

Collector cost can be cut by about half, spending some time building your own. With this system, that saves about $1000.
Simple Installation

Six hours to install!

prefab controls
one bolt collector
quick connect
Performance so far:

- System installed at end of October 2014. Based on the number of days it didn’t provide sufficient hot water, it will supply ~ 95% of the yearly demand.
- Heat loss from tank is ~ 6-8 degrees daily, so system can coast for three days +/- with no sun and still give usable hot water.
- Freezing has no apparent affect on the system or use of hot water (your mileage will vary).
- Cost was about $4000, not $6000 - $10,000.
Performance in Winter

THE SHORTEST WEEK OF 2015

December 18th - 24th, 2015

- Water Inside Top of Tank
- Water in Solar Coils
- Outside Air on Roof
Performance Detail
Questions?

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