

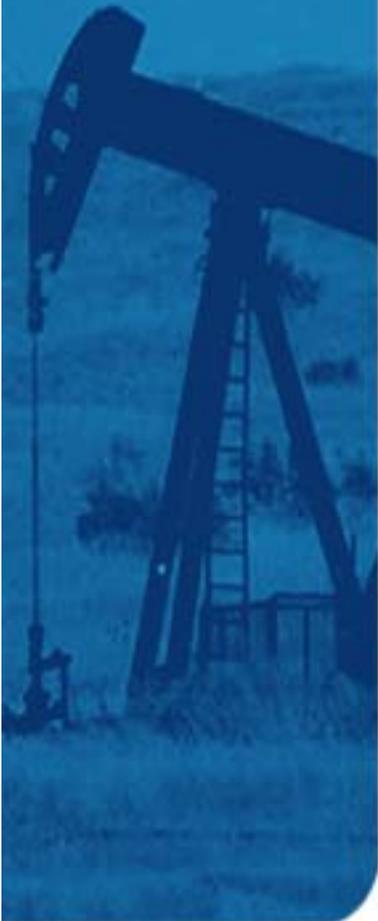


O&G Co-Produced Power Generation Getting Technology Traction with U.S. Independents Through Consortium Field Testing of Portable Field Units

Geothermal in the Oilfield Symposium

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Technology Traction

Traction – technology is proven (economically viable) with growth dependent on marketing, business development and general energy/economic conditions

PULL works best – What are the drivers?

(Create \$\$\$ -- independents will be interested)

PUSH – can be helped by government mandates, but in the end, not very effective



Show Me

Missouri – the “Show Me” State



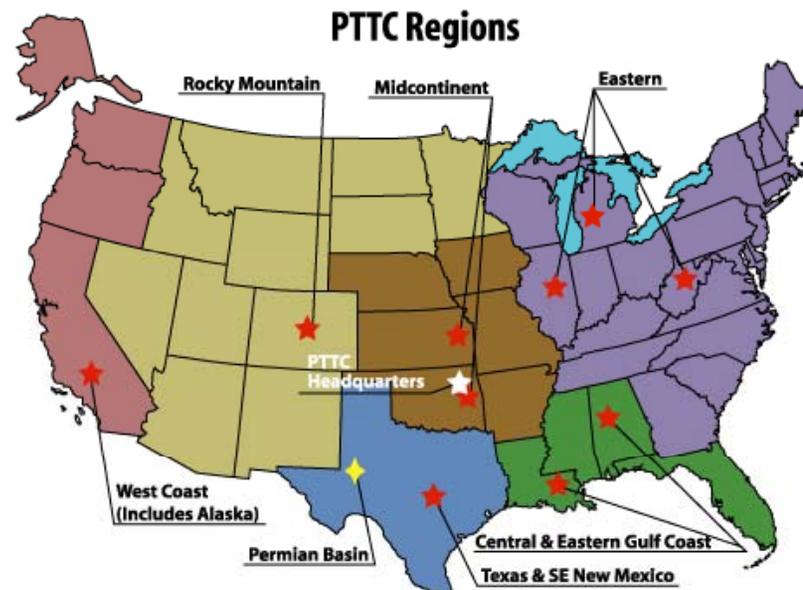
U.S. Independents – the “Show Me” Stakeholder

- >> Sound technically
- >> Proven beyond the lab (in the field)
- >> It works in “my field”
- >> Early results from ARRA Projects?



From Whence PTTC Speaks

A National/Regional Tech Transfer Network



A Forum for Tech Transfer and Best Practices

17,400 Newsletter Subscribers, 9,000 email recipients

Our Audience is \$\$\$ Driven

(Solve a problem, realize an opportunity)



Current Perceptions of Independents

O&G Co-Produced Power Generation

Technically viable (current field test @ RMOTC helping confirm)

Unknowns that remain

>> Required well/field/power usage conditions,

Water temperature and volume?

>> Are there different technologies?

>> Who are the equipment/technology providers?

>> Proof the technology is economic in different geographic areas, different seasons, etc.



LTCG Strategic Action Plan

- 6 Key Characteristics, including demonstration and validation of Critical Advanced Technologies
- 3 Areas of Activity, including Advancing Technologies
- Under Advancing Technologies, 8 High Priority Actions, including Industrial Demonstration Program, with Mobile demonstration program as a subset
- PTTC Proposes a quick action to address this high priority



Field Testing Consortium Approach

Lower Cost and Quicker

- Get one good answer rather than several partial answers (buy-in from all stakeholders)
- Unbiased – let the \$\$\$ speak for themselves

The Stakeholders

- | | |
|-------------------|-----------------------------|
| >> O&G producers | >> Equipment/tech providers |
| >> DOE Geothermal | >> SMU Geothermal |
| >> RMOTC | >> PTTC – tech transfer |



Field Testing Consortium Goals

Accelerate technology demo & evaluation

- Refine understanding of answers needed
- Quick results w small (but scaled) portable units (done right, don't need full size)
- Stakeholder agreement – project will get needed answers quickly (1 -2 years?)

Buy-in from all stakeholders

- Vendor – will be a valid test of their equipment
- Producer – “manageable” in the field
- SMU Geothermal/DOE Geothermal – will prove technology in highest potential geographic areas



The Active Consortium Partners

- SMU Geothermal – Identify geographic areas for testing (prove performance in areas with different levels of potential – 3 areas?)
- Vendors/Tech Providers – develop/provide small, portable unit (as cost share) (3 vendors?)
- RMOTC – unbiased field test design & interpretation
- Producers – PTTC to help find willing test partners (different producer in different areas)



A Challenge for Us All

- Should a Consortium something like what has been described happen?
- Do I see value in being part of it?
- How do “we” (it will be those of us in this room) make it happen? An unsolicited proposal openly encouraged by DOE?

Who wants to take the lead role?



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