

Overview of Recent Microturbine Applications

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- Independent oil company headquartered in Ventura, CA
- Operations in seven fields in Los Angeles and Ventura Counties
- Overhead vapors --
 - are marginally economic to store and sell
 - have a high Btu content (~1600 Btu/scf)
 - will be used as fuel for onsite energy generation



- BSI operates 32 oil and gas wells in East LA – City of Commerce
- Natural gas and crude oil separated and sold
- Overhead vapor used as fuel for one 70 kW microturbine
- Compressed to 80 psig and injected to microturbine
- Saves ~\$3,100/month on power bill



- BSI operates >100 oil and gas wells in the City of La Habra Heights
- Facilities being upgraded to produce spec natural gas for sale
- Overhead vapors will be used to generate about 350 kW
- Waste heat recovery unit will supply heat to DEA unit



- BSI operates >40 oil and gas wells at three sites in Southwest Los Angeles
- Installing a new low temperature separator to meet CARB MN80 specs for natural gas
- Overhead vapors will be used to generate about 350 kW
- Savings estimated at ~\$250,000 per year



- BSI operates 4 producing wells and one injector in Pacoima
- Returning idle wells to production and performing well recompletion
- Relocating and reconfiguring glycol reboiler
- Installing one 70 kW microturbine



Lancaster Wastewater Treatment Plant



- Los Angeles County Sanitation Districts – onsite cogeneration project
- One 250 kW microturbine with fuel conditioner and hot water recovery
- Digester gas (~60% methane)
- Equipment mounted on two skids
- Turnkey project by Ingersoll-Rand

- Fresno, CA -- leading processor of figs for worldwide markets
- Installing covered lagoon digester to reduce wastewater treatment bill
- One 70 kW microturbine with fuel conditioner and hot water recovery
- Engineering and support by Ingersoll-Rand
- Installation by Valley Fig Growers
- Funding from California Energy Commission and Self-Gen program



- Complete package supplied by IR
- Compressor, dryer, gas purification
- Factory assembled
- Removes water, siloxanes, other impurities
- Simple installation
- IR warranty and service



Fuel Mixing Test Facility in Portsmouth, NH



- Gas mixing and metering facility that allows testing of microturbines on a variety of gas compositions
- Landfill gas (350-500 Btu)
- Digester gas (~600 Btu)
- Oil field gases (up to 2500 Btu)