

GEOHERMAL ENERGY UTILIZATION

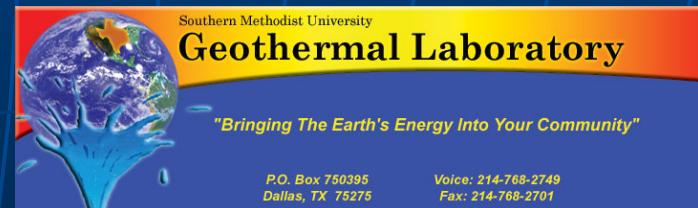
June 17 – 18, 2008 SMU Dallas, Texas

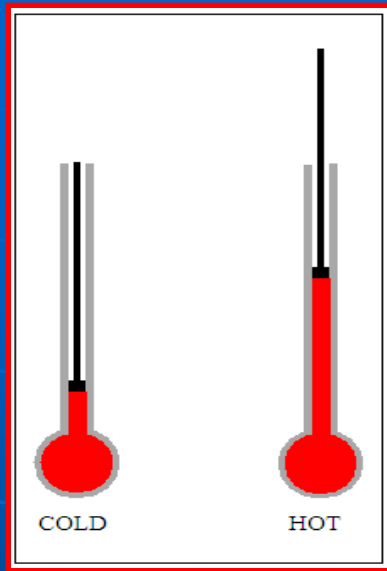
Brian Hageman, Inventor, CEO
Deluge, Inc.

The Natural Energy Engine™



Deluge, Inc.
www.delugeinc.com





Geothermal
Solar Thermal
Waste Heat
Fossil Fuels
Bio-Thermal

Expansion of LIQUIDS
Converts HEAT to Mechanical Power

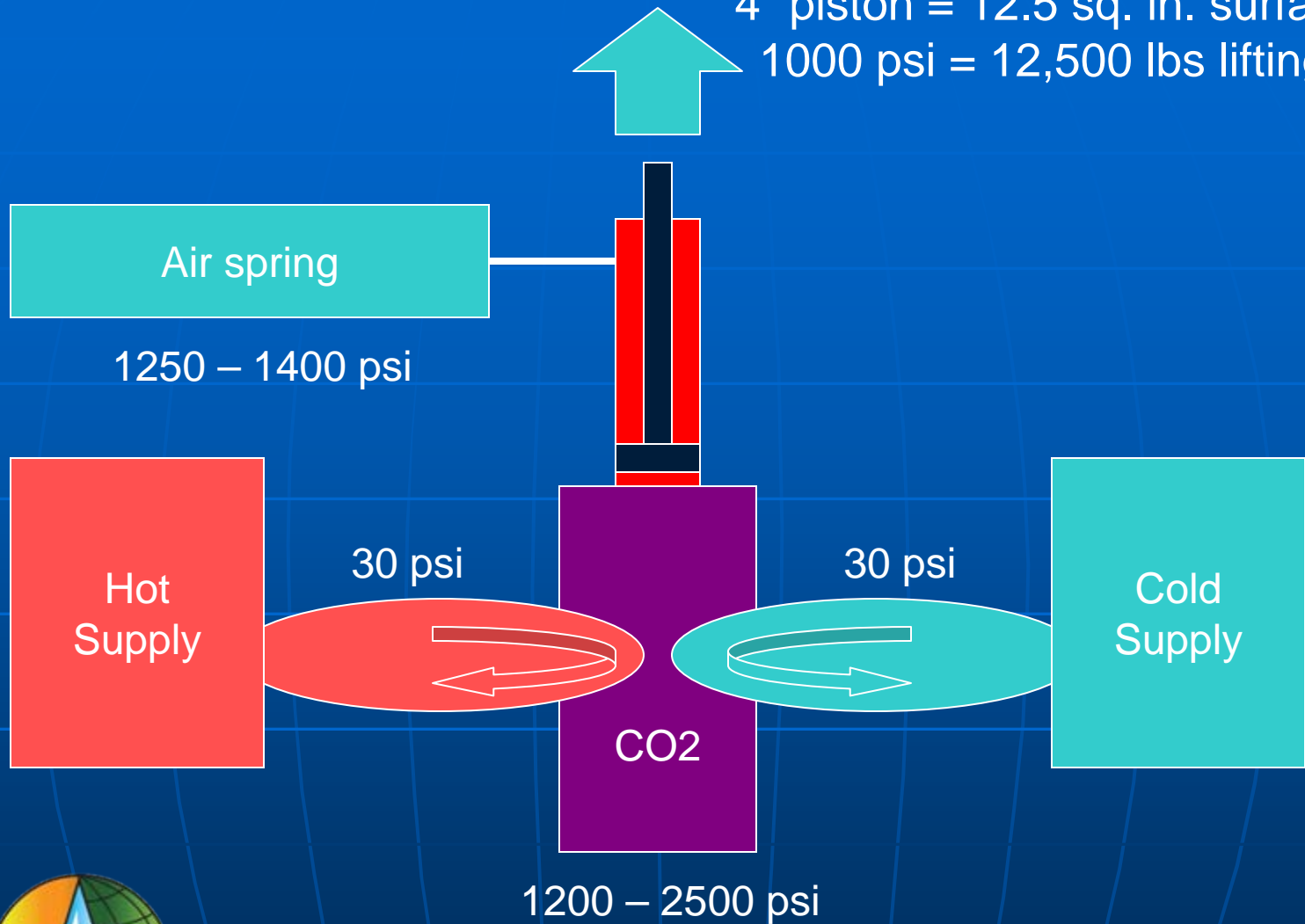
The Natural Energy Engine™



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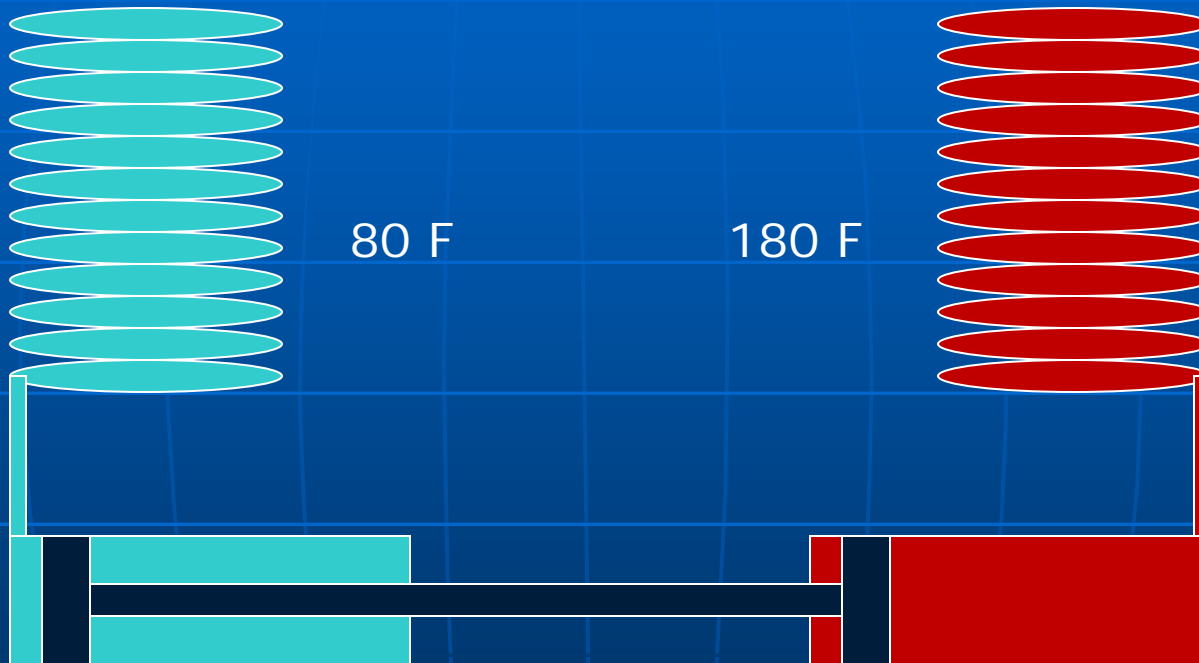
Crude Oil
Natural Gas
Water Desalting
Freon Compression
Electricity Generation
Biomedical
Robotics
Nano - Mega

4" piston = 12.5 sq. in. surface area
1000 psi = 12,500 lbs lifting force



Introduction and removal of BTU's in a working fluid

Two-Cylinder Engine

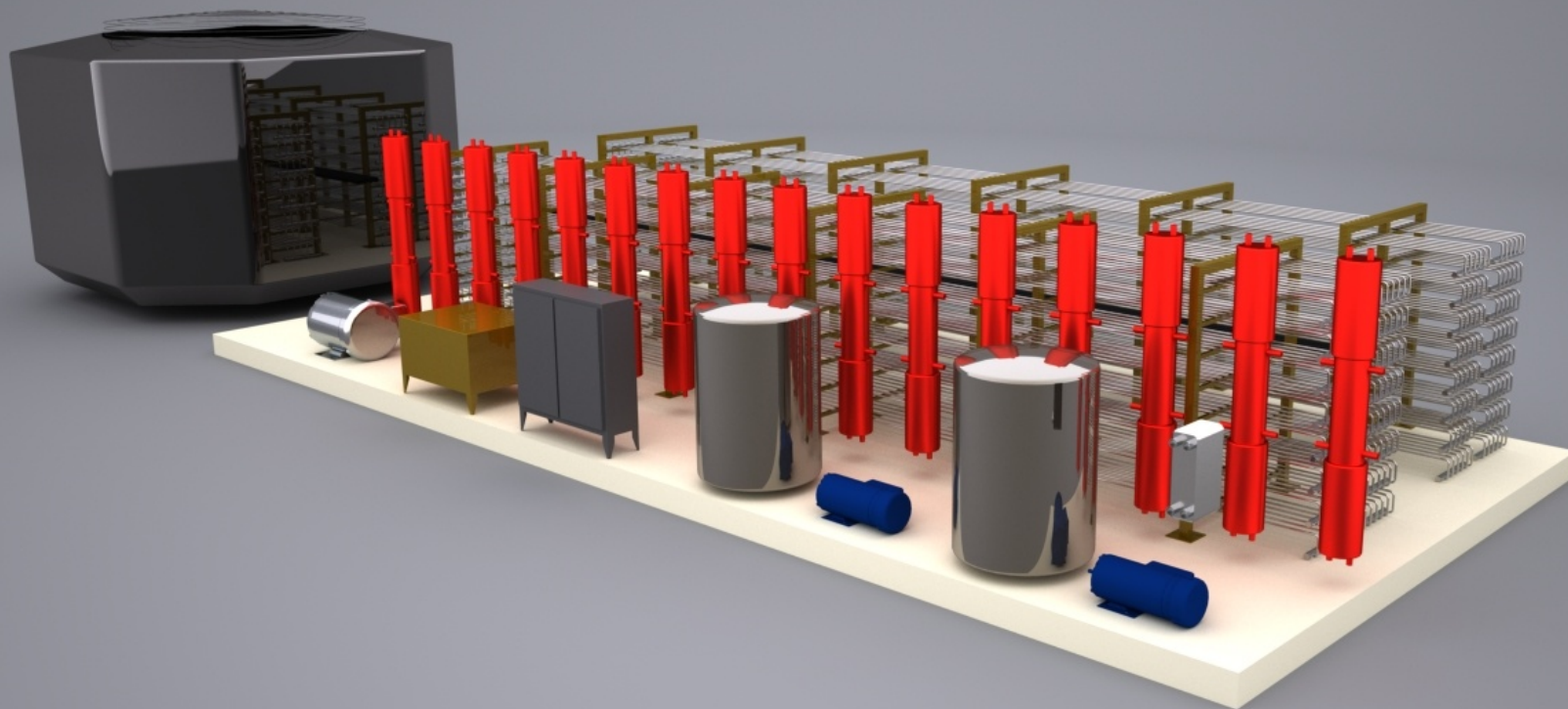




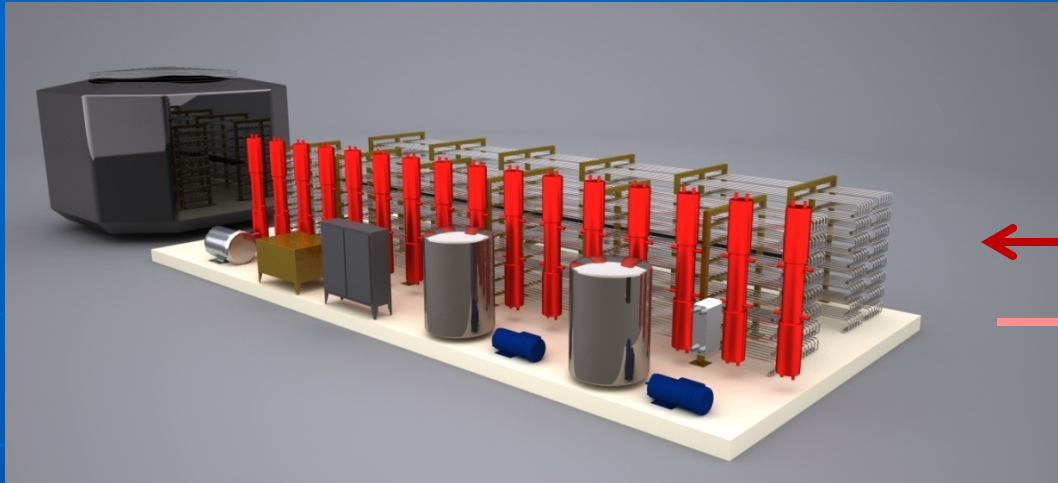
250 kW
480 volt
3-phase
1800 rpm

335 HP

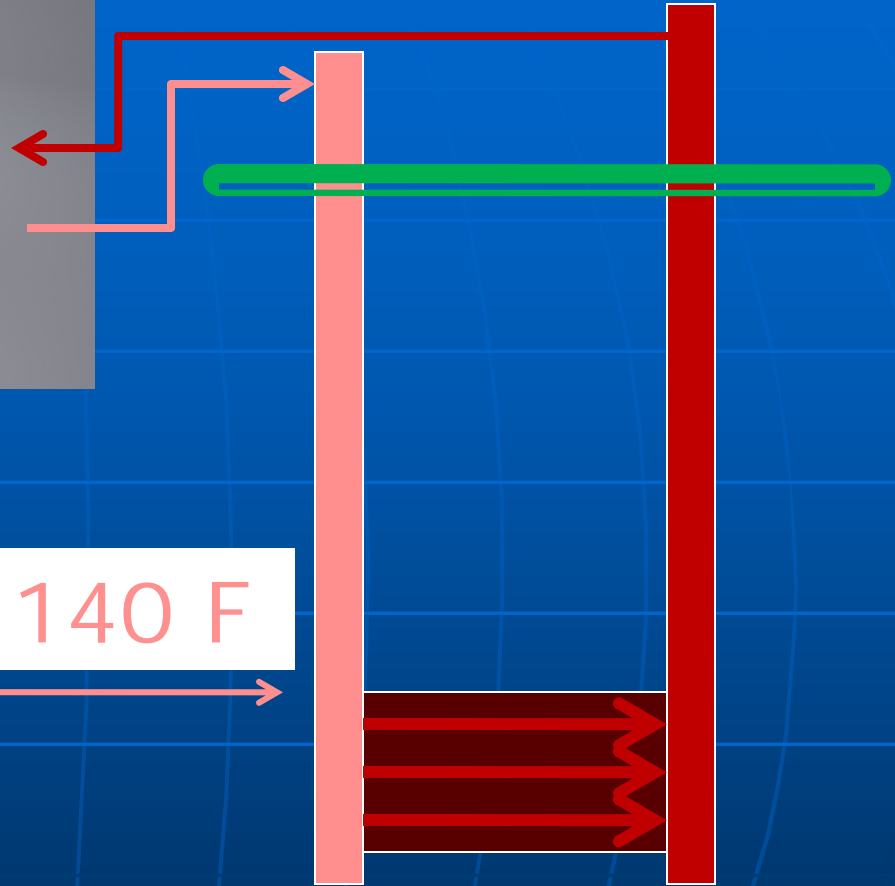




The Deluge 250 Kilowatt Electric Generator with Cooler



120 gpm 180 F



120 gpm 140 F



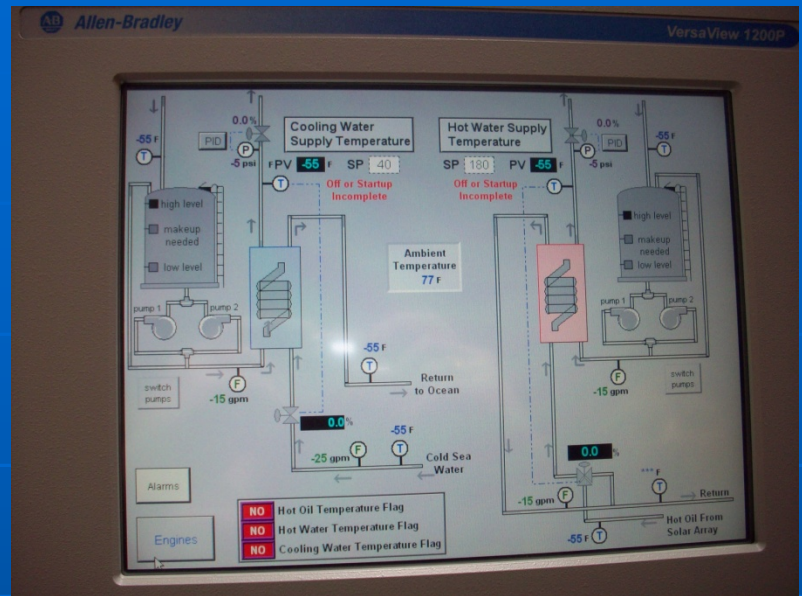
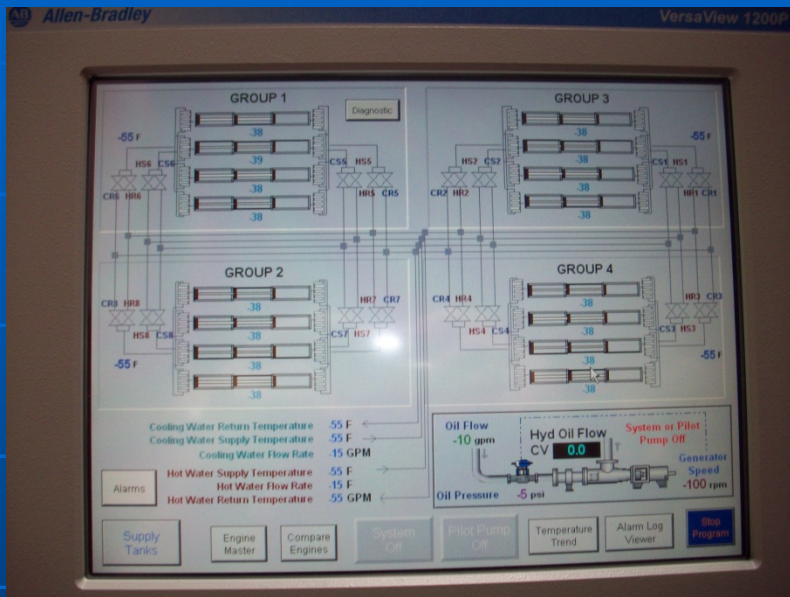
The Deluge 250 Kilowatt
Electric Generator with
Geothermal Heat Supply & Cooler

Patent Status Summary					
Country	Status	Expiration	Patent #	Application #	Legal ID
United States	Granted	8/21/2016	5899067	08/701,222	21728-00002
United States	Granted	8/21/2017	5916140	08/915,591	21728-00003
Albania	Granted	8/21/2017	920572	97,938,486	21728-00006-AL
Australia	Granted	8/21/2017	728819	40795/97	21728-00012
Austria	Granted	8/21/2017	E315718	97,938,486	21728-00006-AT
Belgium	Granted	8/21/2017	920572	97,938,486	21728-00006-BE
Bulgaria	Granted	8/21/2017	920572	97,938,486	21728-00006-EU
Canada	<i>Pending</i>	8/21/2017	<i>Pending</i>	2,263,727	21728-00007
China	Granted	8/21/2017	97199031.X	97199031.X	21728-00013-CN
Croatia	Granted	8/21/2017	920572	97,938,486	21728-00006-EU
Cyprus	Granted	8/21/2017	920572	97,938,486	21728-00006-EU
Czech Republic	Granted	8/21/2017	920572	97,938,486	21728-00006-EU
Denmark	Granted	8/21/2017	920572	97,938,486	21728-00006-DK
Estonia	Granted	8/21/2017	920572	97,938,486	21728-00006-EU
Finland	Granted	8/21/2017	920572	97,938,486	21728-00006-FI
France	Granted	8/21/2017	920572	97,938,486	21728-00006-EU
Germany	Granted	8/21/2017	920572	69,735,104	21728-00006-DE
Greece	Granted	8/21/2017	3057222	20,060,401,274	21728-00006-GR
Hungary	Granted	8/21/2017	920572	97938485.6	21728-00006-EU
India	<i>Pending</i>	8/21/2017	<i>Pending</i>	3678/DEL/98	3678/DEL/98
Ireland	Granted	8/21/2017	920572	97,938,486	21728-00006-IE
Israel	Granted	8/21/2017	128575	128,575	21728-00008
Italy	Granted	8/21/2017	920572	97,938,486	21728-00006-EU
Japan	<i>Pending</i>	8/21/2017	<i>Pending</i>	10-510952	21728-00010



Latvia	Granted	8/21/2017	920572	97,938,486	21728-00006-LV
Lithuania	Granted	8/21/2017	920572	97,938,486	21728-00006-LT
Luxembourg	Granted	8/21/2017	920572	97,938,486	21728-00006-LU
Macedonia	Granted	8/21/2017	920572	97,938,486	21728-00006-EU
Malta	Granted	8/21/2017	920572	97,938,486	21728-00006-EU
Mexico	Issued	8/21/2017	218076	991,690	1728-011
Monaco	Granted	8/21/2017	920572	97,938,486	21728-00006-MC
Netherlands	Granted	8/21/2017	920572	97,938,486	21728-00006-NL
New Zealand	Granted	8/21/2017	334266	334,266	21728-00009
Poland	Granted	8/21/2017	920572	97,938,486	21728-00006-EU
Portugal	Granted	8/21/2017	920572	97,938,486	21728-00006-PT
Romania	Granted	8/21/2017	920572	97,938,486	21728-00006-RO
Slovakia	Granted	8/21/2017	920572	97,938,486	21728-00006-EU
Slovenia	Granted	8/21/2017	920572	97,938,486	21728-00006-EU
Spain	Granted	8/21/2017	920572	97,938,486	21728-00006-ES
Sweden	Granted	8/21/2017	920572	97,938,486	21728-00006-SE
Switzerland / Liechtenstein	Granted	8/21/2017	920572	97,938,486	21728-00006-CH
Turkey	Granted	8/21/2017	920572	97,938,486	21728-00006-EU
United Kingdom	Granted	8/21/2017	920572	97,938,486	21728-00006-GB

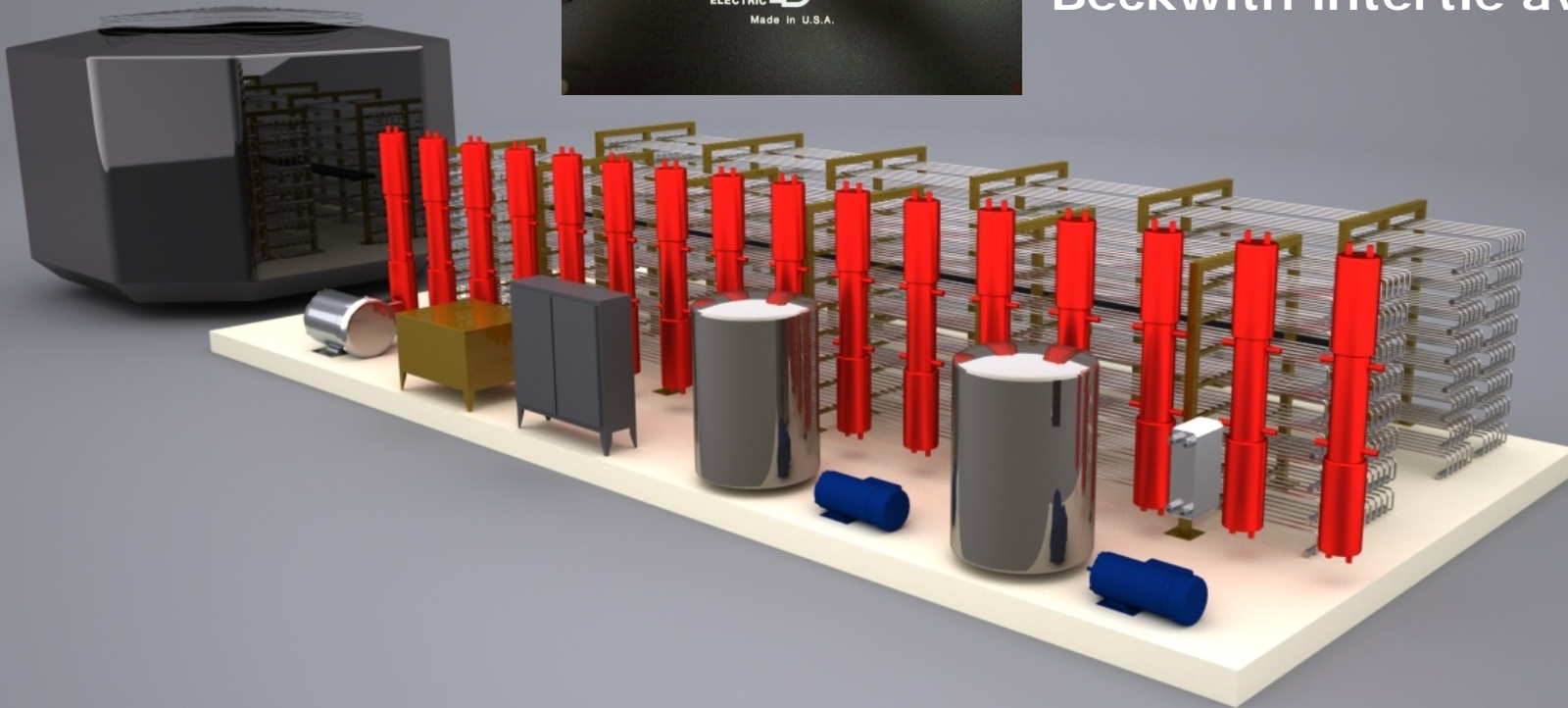




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Beckwith intertie available



The Deluge 250 Kilowatt
Electric Generator with Cooler

First 250 Kilowatt Installation



DELIVERY

90 DAYS FROM ORDER TO SHIPPING

Installation in 4 weeks

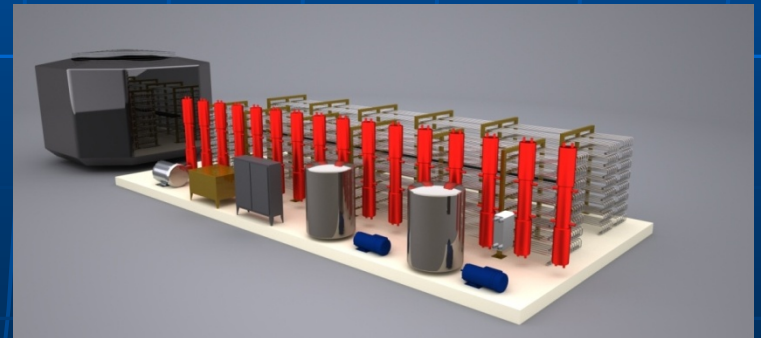
Testing
Training

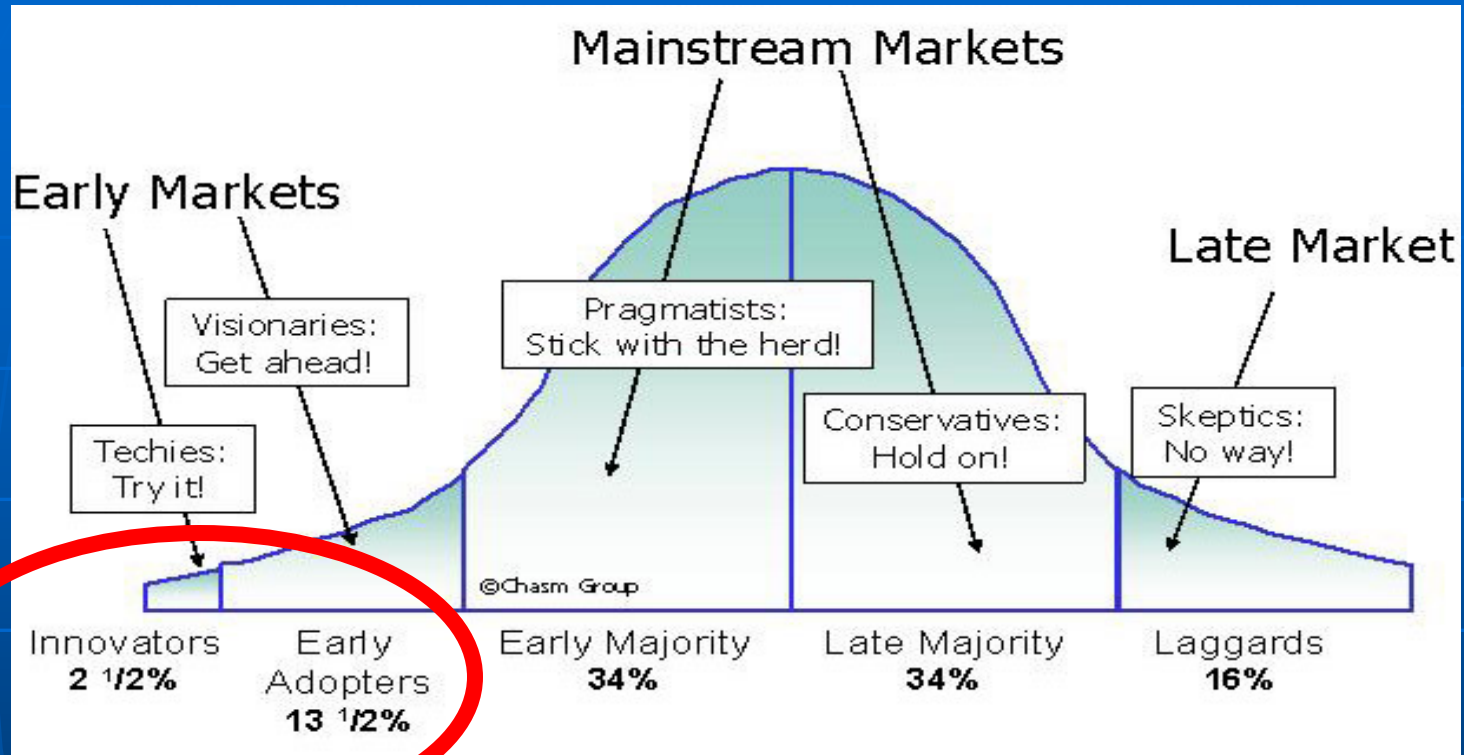
O&M Consulting



Generator Sizes

- 30 kW Idaho
- 50 kW
- 100 kW Colorado
- 250 kW Hawaii
- 500 kW
- 1 MW





TECHNOLOGY ADOPTION LIFE CYCLE

Thank You!

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Partners and Demonstration Sites

Commercial Projects

Geothermal

Solar Thermal

Waste Heat

Electric Generation

Water Injection or RO

Gas Compression

Artificial Lift