

GEOHERMAL POWER PLANTS IN UNITED STATES (NO. GEYSERS AREAS)

<u>PLANT</u>	<u>YEAR</u>	<u>TYPE</u>	<u>MW</u>	<u>STATUS</u>
<u>CALIFORNIA</u>				
East Mesa:				
Magma Power	1979	Binary	12.5	Operational
GRI (Unit 2)	1989	2-Flash	25.0	Advanced planning
GRI (Unit 3)	1989	2-Flash	25.0	Advanced planning
Ormat Turbines				
Ormesa I	1986	Binary	24.0	Operational
Ormesa II	1989	Binary	24.0	Advanced planning
Coso:				
Cal. Energy Unit 1	1987	2-Flash	25.0	Under construction
Cal. Energy Unit 2	1988	2-Flash	50.0	Advanced planning
Cal. Energy Unit 3	1989	2-Flash	75.0	Preliminary planning
Long Valley:				
Mammoth-Pacific				
Unit 1	1984	Binary	7.0	Operational
Mammoth-Pacific				
Unit 2	1989	Binary	12.0	Advanced Planning
Mammoth-Pacific				
Unit 3	1990	Binary	12.0	Preliminary planning
PLES Unit 1	1989	Binary	10.0	Advanced planning
Bonneville Pacific	1989	Binary	10.0	Advanced planning
Salton Sea:				
Earth Energy/Unocal	1982	1-Flash	15.0	Operational & upgraded
Desert Power/Unocal	1989	2-Flash	49.0	Under construction
Earth Energy/Unocal	1991	2-Flash	15.0	Preliminary planning
Heber:				
Heber Binary Demo-				
stration	1985	Binary	45.0	Operational/Partial
(SDG&E/IID/Cal.Dept.				
Water Res./Calif.)				
Heber Dual Flash	1985	2-Flash	47.0	Operational
(Dravo Energy/ Centennial Energy/ Chevron/Union Oil)				
Chevron/Unocal/ Dravo/Centennial				
	1990	2-Flash	40.0	Advanced planning
Chevron/Unocal/ Dravo/Centennial				
	1991	2-Flash	40.0	Preliminary planning
Chevron/Unocal/ Dravo/Centennial				
	1992	2-Flash	40.0	Preliminary planning
Niland:				
Magma/Mission				
Energy	1989	2-Flash	34.0	Under construction
Magma/Mission				
Energy	1990	2-Flash	68.0	Advanced planning
Magma/BN Geothermal				
(Vulcan I)	1986	2-Flash	34.5	Operational

HAWAII

Puna No. 1	1981	1-Flash	3.0 Operational
Puna Geothermal (Thermal Power/ Amfac)	1989	Flash	25.0 Advanced planning

NEVADA

Steamboat Springs:			
Geo. Dev. Assoc.	1986	Binary	5.5 Under construction
Chevron/Caithness	1987	Binary	12.5 Advanced planning
Desert Peak:			
Chevron	1985	2-Flash	9.0 Operational
Chevron	1990	2-Flash	20.0 Under discussion
Beowawe:			
Chevron/SCE	1985	2-Flash	17.0 Operational
Chevron/SCE	1989	2-Flash	20.0 Under discussion
Soda Lake:			
Chevron	1987	Binary	3.0 Advanced planning
Brady Hot Springs:			
Munson Geothermal 1	1986	Binary	2.8 Under construction
Munson Geothermal 2	1987	Binary	5.5 Under construction
Dixie Valley:			
Oxbow Geothermal	1988	Flash	50.0 Under construction

OREGON

Hammersly Canyon:			
Unit 1-3	1983	Binary	2.7 Operational
Unit 4-5	1986	Binary	1.2 Under construction
Cascades:			
Numerous developers	1990	n.a.	75.0 Preliminary planning

UTAH

Milford/Roosevelt:			
Unit 1 (Utah P&L)	1984	1-Flash	20.0 Operational
Unit 2	1989	Total	14.5 Under discussion
		Flow/ 1-Flash	
Cove Fort:			
Sulphurdale 1	1985	Binary	2.7 Operational
2	1986	Binary	2.0 Under construction

GEOHERMAL POWER PLANTS AT THE GEYSERS, USA 1/

<u>PLANT 2/</u>	<u>YEAR</u>	<u>MW</u>	<u>STATUS</u>
PG&E Geysers:			
Unit 1	1960	11	Operational
Unit 2	1963	13	Operational
Unit 3	1967	27	Operational
Unit 4	1968	27	Operational
Unit 5-6	1971	106	Operational
Unit 7-8	1972	106	Operational
Unit 9-10	1973	106	Operational
Unit 11	1976	106	Operational
Unit 12	1979	106	Operational
Unit 13	1980	133	Operational
Unit 14	1980	109	Operational
Unit 15	1979	59	Operational
Unit 16	1985	114	Operational
Unit 17	1982	114	Operational
Unit 18	1983	114	Operational
Unit 19	1990's	55	Preliminary planning
Unit 20	1985	114	Operational
Unit 21	1990	140	Advanced planning
NCPA 1	1983	2x55	Operational
SMUD GEO 1	1983	72	Operational
DWR Bottle Rock	1984	55	Operational
Santa Fe Geothermal	1984	80	Operational
NCPA 2	1986	2x55	Operational
CCPA:			
Cold Water Canyon 1 & 2	1988	2x65	Under construction
Cold Water Canyon 3	1988	20	Preliminary planning
Bear Creek	1988	20	Advanced planning

1/ Table, with modifications which update industry plans, is from: Ronald DiFippo, EPRI Journal, June 1984 "Worldwide Geothermal Power Development".

2/ All units are dry-steam type. The projects scheduled for development in the mid-1980's and beyond are located primarily in areas contiguous to The Geysers geothermal field. As a result these projects are perceived to be of much higher risk than those already developed in the central portion of The Geysers resource.