

EYDAP HYDROPOWER PLANTS

HYDROPOWER PROJECT	Max. Energy produced (KW)	Est. Green Energy generated (GWh/yr)	Ratio of project cost to energy produced (€/KW)	Ave. Energy generated per month 2009 (KWh) Excl maintenance	Ave. monthly income 2009 (€) Excl. maintenance	Average Operational flow (m ³ /sec)	Elevation Difference	Total project cost (thous. €) Excl. VAT	AMT. OF FUNDING (Thous. €)	% funding to total project cost	FUNDING AGENCY	CONTRACTOR	CIVIL WORKS	TECHNICAL CHARACTERISTICS OF ENERGY EQUIPMENT
A. COMPLETED WORKS														
GIONA - PPC At the exit of Giona Tunnel In operation since 1988	8500	-	-	-	-	11,50	70,00	-	-	-	-	DEH (PPC)	Bldg. constr.by PPC: Hydr.station = 699 m2 Per. quarters= 63,0 m2 Transf. Bldg.=92,82 m2 SPACE FOR 1 TURBINE	1 Turbine - Francis vertical, 8,5 MW Synchronous Generator 9,4 MVA 3-phase Transformer 9,4 MVW, 161,25 KW/ 6,3 KV
Kirfi Viotia Province In operation since 2005	760	5,86	1,638	435.458	36.693	11,00	8,03	1.245	1.245	100,00%	C.R.E.S.	GOLIOPOULOS	Bldg. 140 m ² Inlet: steel pipe Φ3100 outlet: concrete channel	Turbine - Kaplan, 790 KW Asynchronous Generator 780 KW Transformer 900 KVA Oper. Voltage: 0,66/20 KV
Elikona Viotia Province In operation since 2005	650	5,03	1,638	339.758	28.796	11,00	6,84	1.065	1.065	100,00%	C.R.E.S.	GOLIOPOULOS	Building 140 m ² Inlet: Steel Pipe Φ2300 outlet: concrete channel	Turbine - Kaplan, 680 KW Asynchronous Generator 680 KW Transformer 800 KVA Oper. Voltage: 0,66/20 KV
Kithaironas Viotia Province In operation since 2007	1200	5,73	2,823	474.334	40.294	10,50	16,44	3.387	560	16,52%	AN.DIA0 (Lamia)	E-689 ERGASIS TECHNIKI (Papaioannou) Subcontractor: Natsikas	Bldg. 200 m ² Inlet: 2 Steel pipes Φ1800 Outlet: concrete channel	2 Turbines- Kaplan horizontal, 1230 KW 2 Generators 1200 KVA ea. Transformers 2000 KVA Oper. voltage: 0,60/20 KV Aux. Transformer: 100 KVA Oper. voltage: 0,40/20 KV
Mandra Attiki Province In operation since 2008	630	4,90	3,614	359.382	30.388	10,00	8,25	2.277	780	34,27%	ELANET (ATHENS)	E-680 CHALKIS E-680A NATSIKAS	Bldg.: 120 m ² Inlet: Steel Pipe Φ2300 Outlet: Concrete channel	Turbine - Kaplan horizontal 656 KW Asynchronous Generator 750 KVA Transformer 800 KVA Oper. voltage: 0,40/20 KV
Evinos Aitolokarnania Province In operation since 2009	820	4,00	1,544			1,00	70,00	1.266	367	28,97%	<i>DIAHIRISTIKI - PATRA (Funding maybe cancelled)</i>	E-798 Kiriakopoulos Othonos & partners	Bldg.: 120 m ² Inlet: Steel pipe Φ800, 35 m Outlet: Stilling pool, Evinos River	Turbine - Francis 875 KW Synchronous Generator 1000 KVA Transformer 1000 KVA Oper. Voltage: 0,40/20 KV
B. PROJECTS UNDER CONSTRUCTION														
Klidi Viotia Province	500	3,60	2,740	-	-	4,20	27,50	1.370	-	-	100% EYDAP	E-679 Chalkis	Bldg.: 200 m ² Inlet: Steel pipe Φ1800 Outlet: concrete channel	Turbine - Francis 630 KW Asynchronous Generator 650 KVA Transformer 800 KVA Oper. Voltage: 0,40/20 KV
C. PROJECTS IN DESIGN PHASE														
Helidonou Attiki Province	1230		1,894	-	-	5,5 2,75 per turbine	50,25	2.330	-	-	-	-	Bldg. Inlet:Steel Pipe Φ1700 Outlet: Helidonou-Galatsi aqueduct	The approved design involves 2 Turbines - Francis 1234 KW Synchronous Generator1460 KVA Transformer 2500 KVA Oper. Voltage: 0,40/20 KV Due to difficulties in supplemental land acquisition necessary for project construction EYDAP is re-examining the project with a technical solution using pumps operating in reverse that require less space.
Psytalia WWTP effluent outlet	350		2,286	-	-	8,00	5,00	800	-	-	-	-	The civil works have already been constructed with the 2nd Phase Psytalia Sewage Works	The final turbine characteristics are dependant on the Ministry's decision for the quantity of effluent that will be recycled for irrigation purposes.