PANAMA Possible Expansion of Electricity Service by Household

$ 15,000 cost of new pump versus $ 6,000 to refurbish

$ 9,000 savings on each of 108 pumps refurbished versus new = $ 972,000

$ 972,000 divided by $ 500 per household (estimated cost) to install electric service and meter = 1,944 new households for each 108 pumps refurbished

World Bank and Global Energy Observatory Data
% of Population with Electricity and MAN Diesel 18V48/60 Engines

http://data.worldbank.org/indicator/EG.ELC.ACCS.ZS

Overview per country

Country	1990	2012
Panama	81.1	90.9

9.1 % Without Electricity and 108 Pumps Replaced As Needed
(18 pumps per 6 engines replaced every 12 to 14 months if engine runs 24 hours per day 7 days a week)

http://globalenergyobservatory.org/index.php

Individual Units for Oil in Panama			
Plant Name	**Unit**	**Diesel Engine / Boiler Manufacturer**	**Diesel Engine / Boiler Model/Type**
Pedregal Pacora Power Plant Panama Design Capacity (MWe): 53.4 Coordinates: 9.1053,-79.2729	1	MAN	3x 18V48/60
Plant Name	**Unit**	**Diesel Engine / Boiler Manufacturer**	**Diesel Engine / Boiler Model/Type**
ACP Miraflores IC Power Plant Panama	1	MAN B&W	18V48/60
Design Capacity (MWe): 54	2	MAN B&W	18V48/60
Coordinates: 9.0003,-79.59066	3	MAN B&W	18V48/60