## **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

THE WORLD BAI	NK Home Abo	ut Data Research Learnin	g News Pro
d Access to electric	:ity (% of × Search data e.g. (		
This page in: English	Español Français العربية 中文		
Access to el	ectricity (% of popu	lation)	
World Bank, Sustainab	ole Energy for All ( SE4ALL ) database	e from World Bank, Global Electrific	ation database.
Overview per country	у		
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
Fedregal Pacora Fower Plant Fanama	1	MAN	3x 18V4B/60
Design Capacity (MWe): 53.4			
Coordinates: 9.1053,-79.2729			
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		MAN B&W	18V48/60
Coordinates: 9.0003,-79.59066	3	MAN B&W	18V48/60