Job Optimization Calculator

GOALS: Save fuel, save water, increase water efficiency, reduce time and CO2 emmisions

Pump	Number	Unit
Maximum pressure	1,000	bar
Maximum flow	130	ltr/min
Maximum kW	241	kW
Maximum hp	323	hp
Fuel consumption engine	250	gr/kWh
CO2 Emissions	3.23	kg/ltr fuel
Maximum fuel consumption	72.08	l/hour
Maximum availabe cleaning power (Power Factor)	130	

Cleaning Parameters	Number	Unit
Minimum treshold pressure	200	bar
3-5 x treshold pressure is optimal pressure	4	
Optimal cleaning pressure	800	bar
Optimal Power Factor	**104**	

Job Results	Inefficient		Optimized		*Perfect!*	
Pressure at pump	1,000	bar	1,000	bar	800	bar
Pressure at surface (Jet Impact)	378	bar	684	bar	800	bar
Pressure loss	622	bar	316	bar	0	bar
Water input (before pressure loss)	130		130		130	
Water output	121	l/min	127	l/min	130	l/min
Deployed horse power (hp)	323	hp	323	hp	259	hp
Power Factor Deployed	130.00		130.00		104.00	
Power Factor Utilized	45.74		86.87		104.00	
Power Factor Lost	84.26		43.13		0.00	
Efficiency Score	**4**		**8**		**10**	
Operating time	10.00		7.00			

Usage Per Hour	Inefficient		Optimized		*Perfect!*	
Water usage	7260.00	l/hr	7620.00	l/hr	7800.00	l/hr
Fuel usage	72.20	l/hr	72.20	l/hr	57.76	/l/hr
CO2 emissions	233.20	kg/hr	233.20	kg/hr	186.56	kg/hr

Usage Per Job	Inefficient		Optimized		Savings	
Water usage	72600.00	l	53340.00	l	19260.00	l
Fuel usage	722.00	l	505.40	l	216.60	l
CO2 emissions	2332.05	kg	1632.43	kg	699.61	kg

Savings Per Number of Jobs		Jobs Completed:
Supply water purchase cost	€ 1,540,800.00	100
Waste water disposal and processing cost	€ 9,630,000.00	
Fuel cost	€ 29,240.83	
Total cost savings	€ 11,200,040.83	
CO2 emissions	69,961.39 kg	
Equivalent of trees planted	3,331.49	

LEGEND:
Input fields
Calculation fields

Weight fuel			
1	liter	835	gram
1	kW	1.3410229	hp
0.2994012	litres/kWh	0.2232633	litres/hp.h

Cost	Price/uit
Supply water purchase	€ 0.80
Waste water disposal and processing	€ 5.00
Fuel	€ 1.35