



Hotel X
Adress
Adress
Att.: XXX

Date: xx xx xxxx

CO2 calculations regarding WaterStillar Works

We have made the below simple list of assumptions and calculations, and we think that you based upon this can see the green effect for solar powered drinking water. We have NOT included remarks about the water quality, convenience, waste and price issues in this paper.

Assumptions

- 3 year contract
- Average monthly production: 351 pcs 5 gallon tanks equal 6.669 litres/month and 222 litres/day
- WaterStillar® system with 5 units with electrical supplement heating for nighttime.
- Conversion factor oil/CO2: 2,7619
- Conversion factor oil based production of electrical power: 1 kwh = 900 gr/ CO2
- Average oil consumption for manufacturing/transport/waste pr litre of bottled water = 0,25 litre

Bottled water calculations

- 3 years production total ((365 x 3) x 222 litres): 243.090 litres
- Fossil fuel related to similar amount of bottled water is (243.090 x 0,25 litre): 60.772 litres
- Conversion to CO2 is (60.772 x 2,7619): **167.848 kg**

WaterStillar Works emissions

- During 7-9 hours of daylight the system will be running at 90C and produce between 80-110 litres.
- During nighttime (16 hours) the system will be set out to run at 75C-80C to meet the desired production rate, in this case app 100-125 litres.
- Maximum electricity consumption during nighttime in 16 hours will be max (16 hours x 2 kwh) 32 kwh – but will most likely be less since the system is thermostat controlled. We assume average is between 20 to 28 kWh – for this calculation we decide 25 kwh.
- The electrical consumption for the solar pumps is app 5-10 watts pr hour – or average app 200 watts pr day. This number is so small that it is covered by the assumed the heating energy.
- Each KWH produced by using oil in a relatively new plant emits app 900 gr of CO2. This means worst case that daily the WaterStillar production is causing (25kwh x 0,9 kg) 22,5 kgs of CO2
- Under the 3 year contract this means ((365 days x 22,5 kgs) x 3 years): **24.637 kg of CO2**

All in all under these assumptions

CO2 savings on a 3 year contract: 167.848 – 24637 = **143.211 kgs of CO2**

Changes in (very) local assumptions

- If we assume that the local electricity production pr kWh only emits 462 gr CO2 (like in Denmark, where these figures are documented) the figures changes
- If the local drinking water – due to shorter average travel distance – has a less oil-ratio, the figures changes

We hope the above is to your satisfaction and look forward to discuss installation of your own drinking water system.

Best regards