

**PUM** 

**Netherlands senior experts**

 **Entrepreneurs for entrepreneurs**

# How to save energy in a practical way

- Nico Kuiper
  - Energy saving and renewable consultant
  - Managing director of Dutrieux BV
  - 30 years of experience in energy saving
- Currently working as volunteer for PUM

- Largest Dutch volunteer based consultancy in the Netherlands
- 1.500 experts on different area's of expertise
- Financed by the Dutch government
- To help entrepreneurs to get forward
- Only one contribution: place to stay
- Maybe for you? Apply at PUM.nl or local representative

# Why save energy?

- On global scale: CO2 reduction and the climate.
- On island scale: a 'green' island is good for tourism
- For the entrepreneur:
  - A 'green' company is more and more appreciated!
  - Saving energy is saving money: energy is expensive!

- ‘Low hanging fruit’ : No investment at all
- Measures with a low investment and very fast pay back time
- Measures with a higher investment but a profitable pay-back time

- Cleaning condensors of cooling devices (fridge, airco)



- Large refrigerator: saves \$150- \$500/year
- Airconditioning saves: \$300 – \$1.000/year

- Switching of lights when not necessary
- Example: 10 tubelights, every day 4 ours less saves \$200/year
- Outdoor lighting (often switch in during the day)
- “hidden users” like unused ventilators, refridgerators, airconditioning and computers during the night etc etc



- Right temperature for airconditioning
- Every degree saves 7% energy
- Regularly maintenance
- Only on when necessary
- Replace the older units in time



- Replace older lights bulbs with modern lights



- Pay back time: one year;
- 10 times longer lifecycle

- Presence detection for switching lights
- Time clocks where-ever possible (check them regularly!)
- Watch your energy use!



- Solar energy!



- Important:
  - Kwh price is high to buy
  - But electricity delivery back to the grid is expensive
  - For a short pay back time: not more solar energy than you can use all day (baseload)
  - For peak use: from the grid
  - Pay back time in that case: 3,5 year

- Modern airconditioning (inverter technology) saves 40%
- Illumination: make a lightplan woth modern lighting and switch possibilities
- Insulation: keep the cold inside and the heat inside
- Hotels: keyless room entry or other systems (RFID card) etc

- This is only the a small part of what is possible
- In most cases: 15% energy saving IS easy, 40 % is possible
- Saving energy and renewable energy is part of the future
- So... Why not??
  
- Thank you and good luck for the future!

