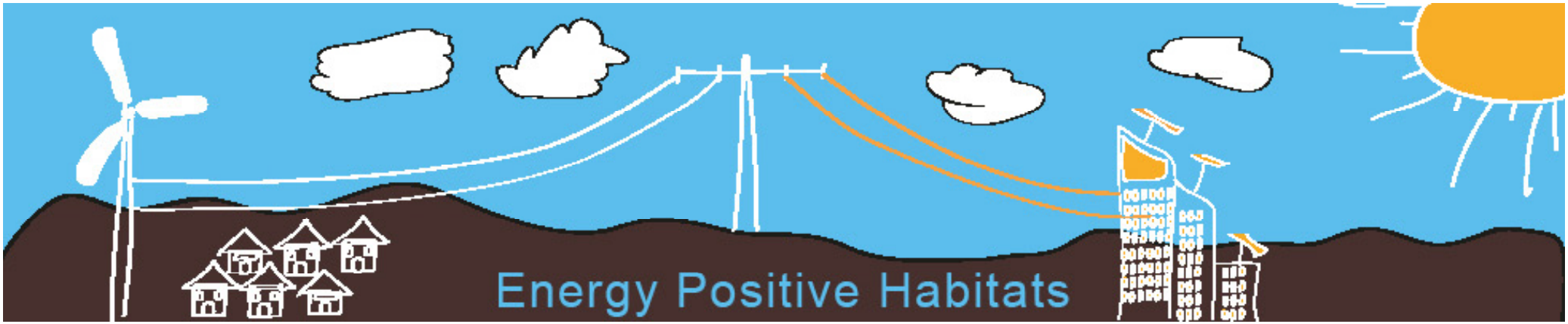
Auroville Green Practices

A Hands-on-Workshop
30 Aug to 1 Sept, 2012
Auroville (near Pondicherry)



‘Human Habitats today have become centers of energy consumption. By conserving energy with appropriate building design, reducing energy by efficient energy management and producing energy with decentralized systems that allows feeding surplus energy into the grid, we can create a shift towards energy positive habitats. Essential to this movement is the fact that humans have to change their life styles to consume less energy.‘

htpp://agp.aurovilleconsulting.com

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Wind-Solar Workshop Summary

Auroville

Jorge Ayarza

August 2012

Small System Resource Assessment

- The power in the Wind
  - ½ p A V^3
- Wind-Solar complement each other
  - Monsoon
  - Longer battery life
- Selecting correct placement of wind turbine
  - 10m above obstructions (bldgs, trees)
  - Rugosity (Vegetation) affects size of tower

Location, location, location

- Building integration possible..but
  - Avoid turbulence
  - Isolate turbine vibration from structure
- Low rpm turbines = silent operation
- Tilt-up towers are cheaper, but need more space for guy wires

Selecting Turbine

Diametre of turbine (m)	Rated power at 10 m/s (W)	Estimated monthly output at 3m/s average windspeed (kWh)	Estimated monthly output at 7m/s average winspeed (kWh)
1.2	200	5	41
1.8	350	12	92
2.4	500	22	164
3	800	34	256
3.6	1,000	49	369
4.2	1,000	67	502

Thanks!

- Contact Info:

MinVayu

Jorge Ayarza

jorge.ayarza@gmail.com

jorge@auroville.org.in