Wind-Diesel 101
A short course for the 2008 International Wind-Diesel Workshop
April 23rd 2008

A short course covering the basics of Wind - Diesel power systems, including an overview of wind, diesel technology and then combined power systems and some examples of current power systems. This introductory level course provides a basic level of understanding that will enable individuals to take an active role in the International Wind / Diesel Workshop.

Presented by
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1:00 Introduction to wind and wind technologies
- Wind characteristics
- Operation of Wind Turbines
- Wind Resource Basics
- Small wind turbines

2:15 Basics of dispactchable energy technology and plant control
- Principles of Diesel Power
- Remote Diesel Plants
- Modern Diesel Controls

2:45 Break

3:00 Wind diesel power systems
- Basic design of wind/diesel power systems
- Power system renewable penetration
- Role of storage
- Common components and their purpose (power converter, dump load, synchronous condenser, dispatchable loads, batteries, fly wheels, system control)
- Power Quality
- Use of “extra” energy

4:15 Assessing the retrofit potential of isolated diesel plants
- System checklist
- Resource assessment
- Loads assessment
- System modeling (Different models, different types)

4:45 Questions/discussion