Community Assessment of Renewable Energy and Sustainability (CARES) Venture

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Sustainability Fair

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Berkeley Expert Systems Technology

Agenda

- About Me
- Introduction to CARES
- Mission of CARES
- Goal of CARES
- Core Features of CARES
- Grants and Bootstrapping
- Pinoleville Pomo Nation Case Study
- KSA Case Study
- How You Can Help
- Q/A?

About Me

- Home: Letohatchee, AL
- 3rd yr. doctoral student in Mechanical Engineering
- Research Focus: Sustainability, Product Design, Expert Systems
- Graduation: May 2011

Introduction to CARES

- CARES is an engineering and sustainability assessment organization based at UCB

- Participants include industry, academia, and government reps

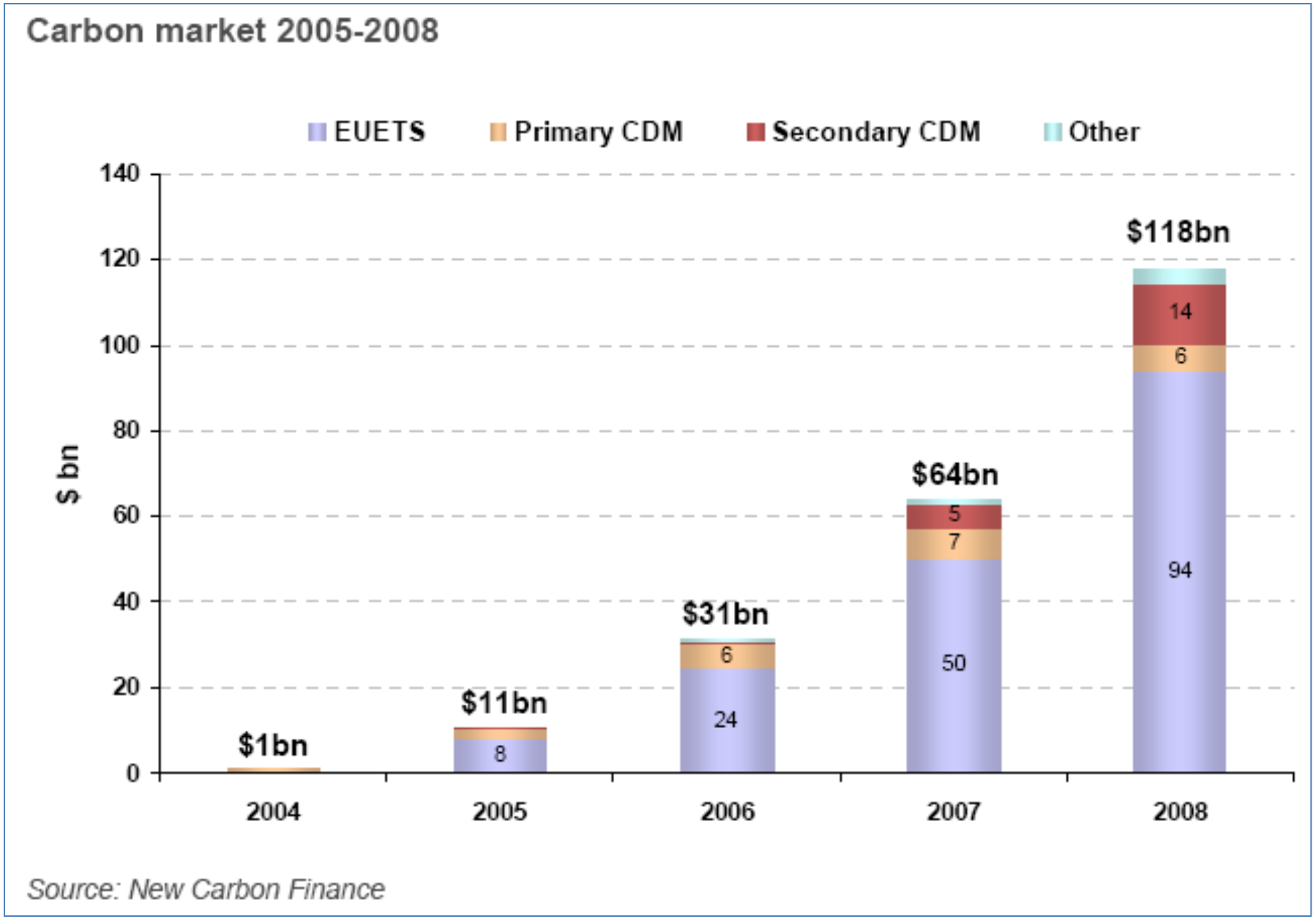
- Team members disciplines:
  - Architecture
  - Engineering
  - Business
  - Environmental Design and Planning

Mission of CARES

- Mission: enable consumers and stakeholders to make informed decisions about sustainability and renewable energy technologies
- Great concern about environmental impacts

latest data, models and solutions will
stainable solutions

-shopping“ portal for
finding, evaluating, and



$150 bn expected in 2009

Goal of CARES

- Goal: to establish and maintain a reliable, region specific online community in which users can:

Core Features of CARES

1. Sustainability database
2. Region-specific cases studies and suggestions
3. Interoperable sustainability assessment tools
4. Listings of solution vendors and manufacturers
5. Economic, energy, water, and green house gas emissions return on investment data
6. Community of users

Grants and Bootstrapping

- Grants:
  - National Collegiate Inventors and Innovators Alliance
  - Kingdom of Saudi Arabia
  - Pinoleville Pomo Nation of Ukiah, CA
- Projects used to build up knowledge base and reach new markets

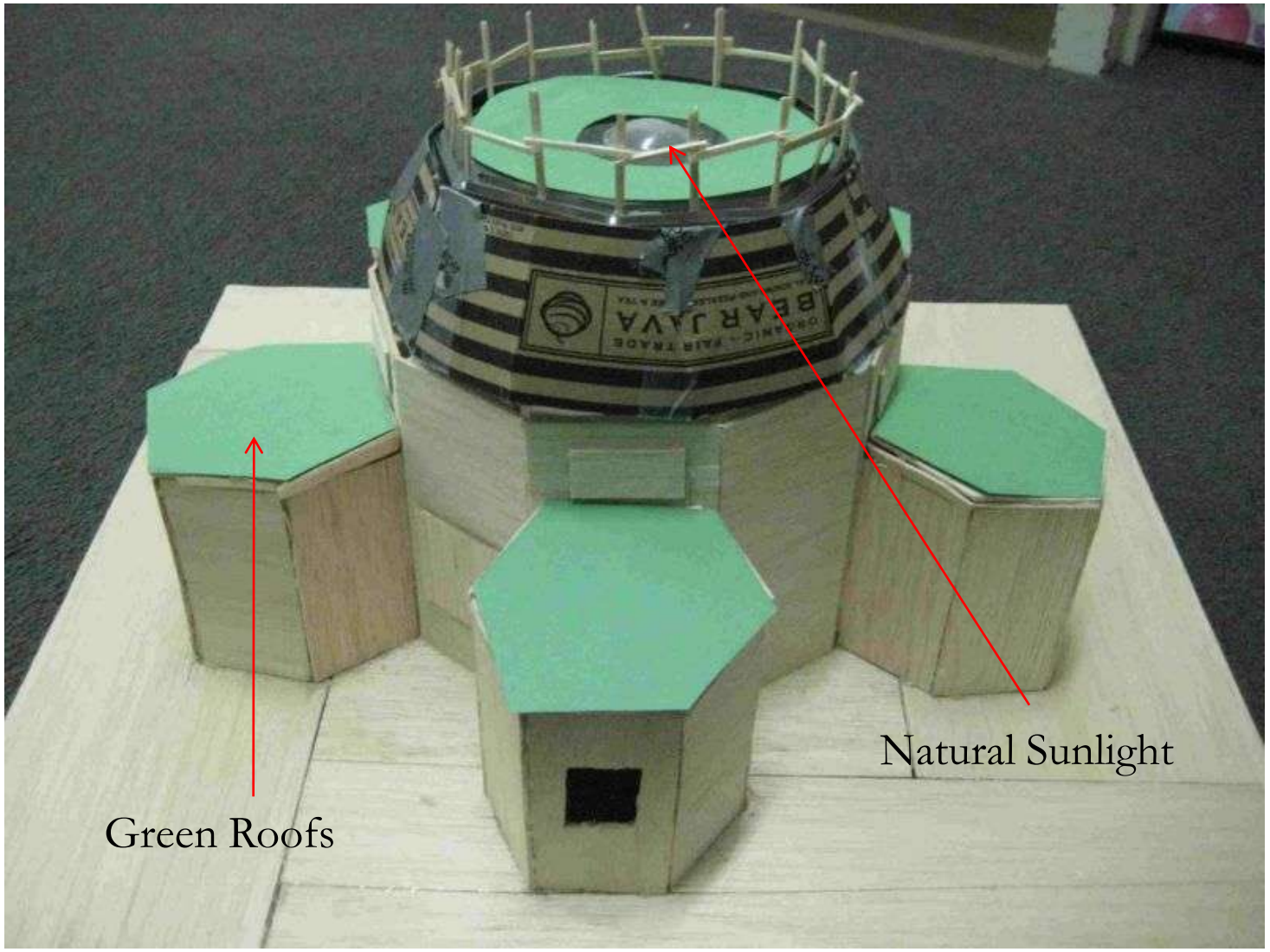
Pinoleville Pomo Nation Case Study

- The Pinoleville Pomo Nation is a Native American tribe located in Ukiah, CA

- Needs: housing, energy efficiency, cultural integration

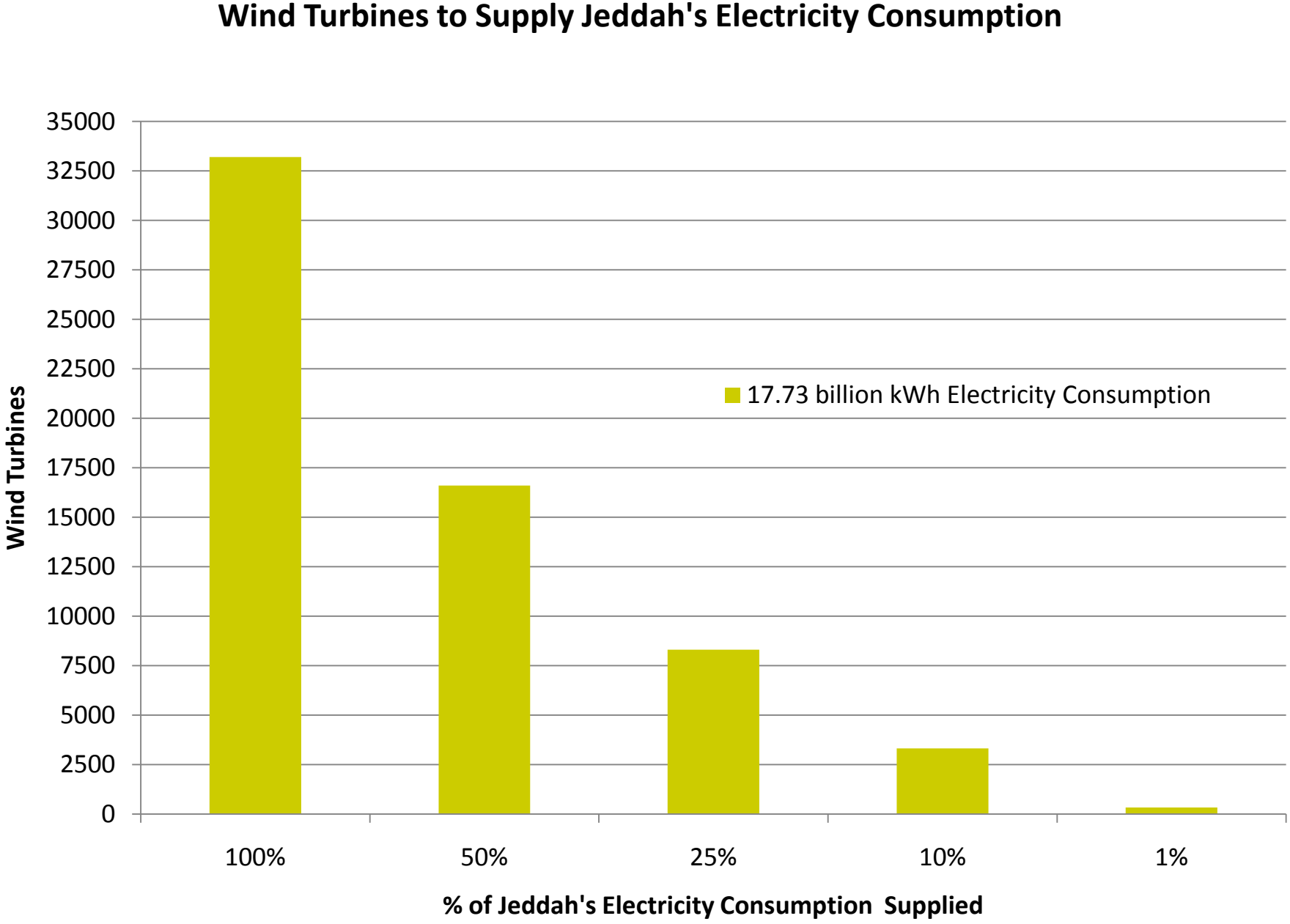
Pinoleville Pomo Nation Case Study

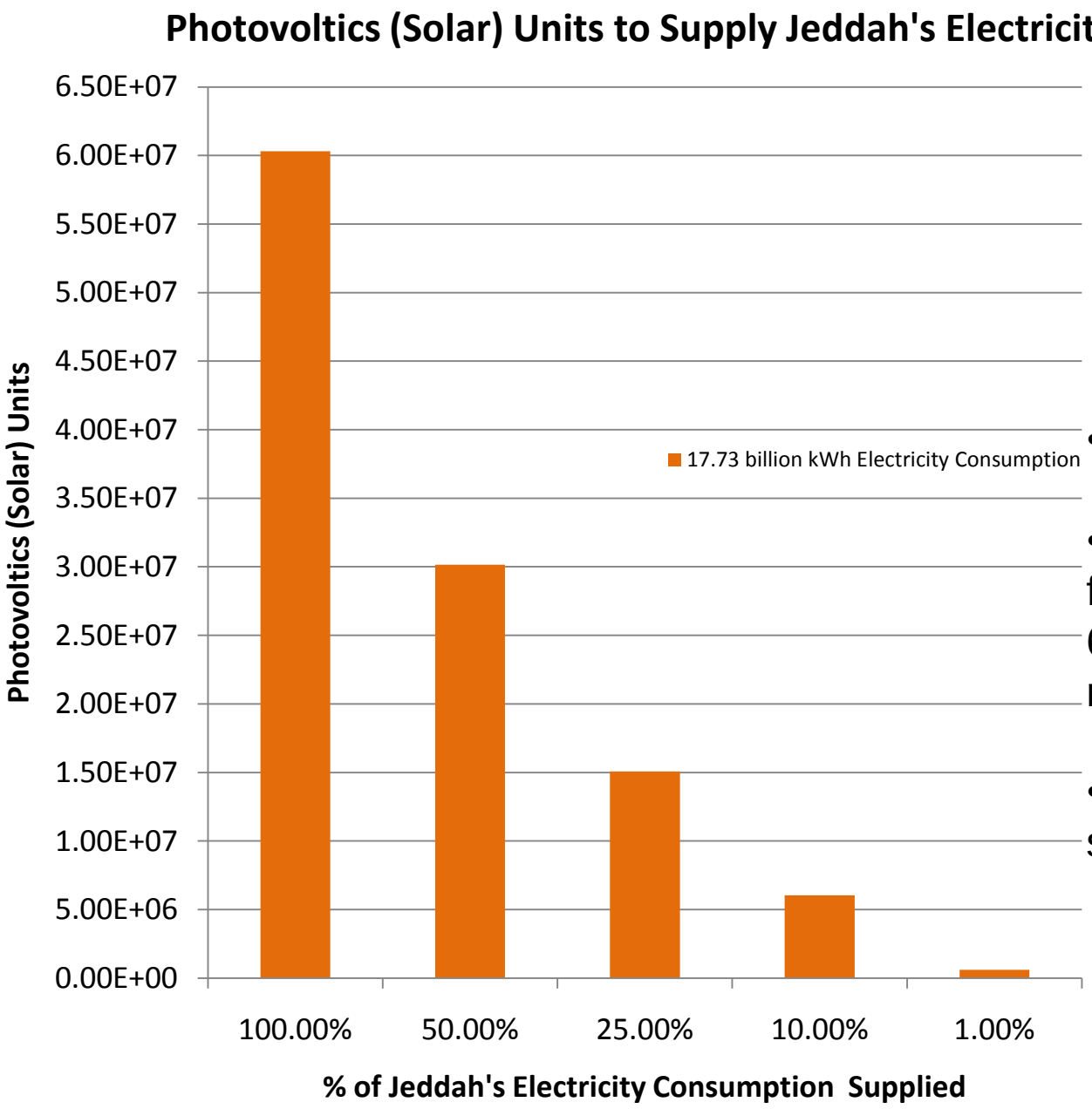
Initial Yurt Design



Kingdom of Saudi Arabia Case Study

- Goal: Develop sustainable communities in the KSA
- Working with KAUST and Dar Al Hekma
- Focus on electricity and water needs


Wind Turbines to Supply Jeddah's Electricity Consumption
35000
32500
30000
27500
25000
22500
20000
17500
15000
12500
10000
7500
5000
2500
0
Wind Turbines
17.73 billion kWh Electricity Consumption
100%
50%
25%
10%
1%
% of Jeddah's Electricity Consumption Supplied



- 121 acres for 1%
- 3,593,000.91 acres for 100% or 5 614.06392 square miles
- Jeddah is 1,158.3 sq mi

Final Thoughts

- Sustainability has to be personal
- Sustainability has to be viewed as a positive force
- End user is the expert on their needs
- Successful products/projects must have constant user interaction
- Co-designing → Best solutions → Willingness to Adopt

How You Can Get Involved

- Become a member of Advisory Board
- Information from Manufacturing and Service Provider Firms
- Partnership with NGOs
- Help create community of users
- Funding!!!!!! ☺

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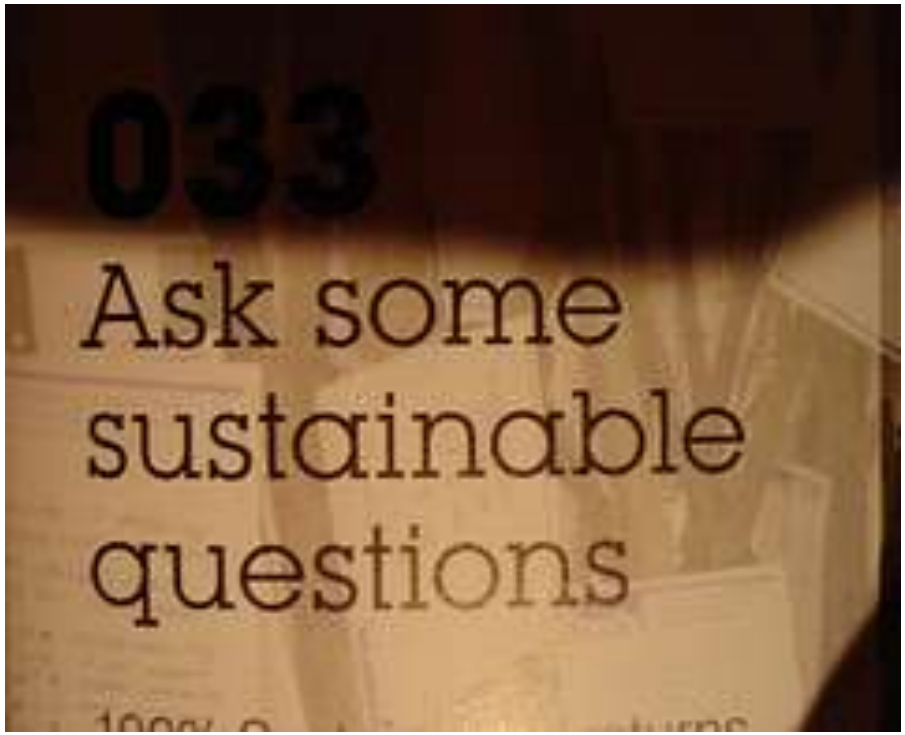
Q/A?



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