



# Community Assessment of Renewable Energy and Sustainability



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## Introduction

- CARES engineering and sustainability assessment organization based at UCB
- Participants include industry, academia, and government representatives
- Team members disciplines: Architecture // Engineering // Business // Environmental Design and Planning

## Background

- Reducing the environmental impacts is key to reducing to effects of catastrophic climate change
- Information concerning the environmental impact of products is decentralized and unclear.
- Adoption rate some of renewable energy technology is glacial
- Carbon cap and trade policy is expected
- Global carbon trading projected to rise to \$150 bn in 2009

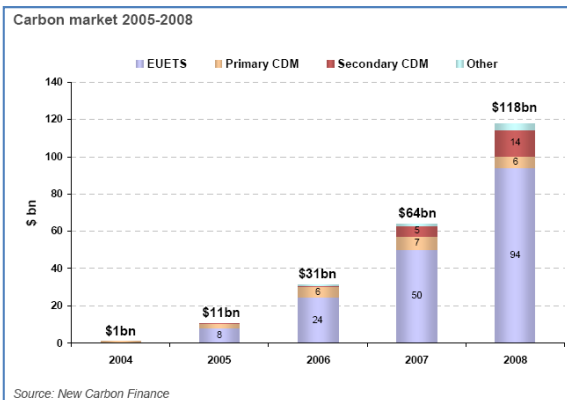


Fig. 1: Global Carbon Market '05 – '08

## Goal of CARES

- To enable consumers to make informed decisions about sustainability and renewable energy technologies by:
  1. assessing current level of sustainability,
  2. receiving advice on appropriate solutions
  3. connecting with vendors to help implement solutions
  4. measuring the improvement in their level of sustainability

## Assessment Phase

- Access environmental database to utilize:
  - I. Background information on sustainability best practices and renewable energy technology
  - II. Current carbon and sustainability calculators and assessment models
  - III. Data structures to co-develop interoperable open source sustainability tools
  - IV. Metrics to evaluate and rate carbon calculators and assessment models



Fig. 2: Environmental impacts: GHGe and Solid Waste

## Advisement Phase

- Selection of appropriate sustainability solutions by using:
  - I. Economic and energy return on investment data for renewable energy technologies
  - II. Peer advice from community of users interested in living sustainably
  - III. Region-specific renewable energy feasibility evaluations

## Implementation Phase

- Implementation of appropriate sustainability solutions by utilizing:
  - I. Database of renewable energy technology solution vendors and manufacturers
  - II. Metrics to evaluate and rate solution vendors and manufacturers
  - III. Implementation cost estimates
  - IV. Region-specific implementation cases studies

## Sustainable Living Phase

- Adoption and utilization of appropriate sustainability solutions
  - I. PPN secured federal funding to build culturally inspired, sustainable buildings
  - II. Dar Al Hekma has begun measuring and reducing air pollution on campus



Fig. 4: PPN yurt style home



Fig. 5: Dar Al Hekma and UCB

## Future Plans

- Release version 2 of sustainability website and database
- Release version 1 of CARES's sustainability assessments tool
- Begin construction in Summer 2009 of PPN Yurt style home
- Work with Dar Al Hekma and KAUST to conduct user needs assessments
- From more information: <http://www.planetcare.org>