Statement of Problem:

- Lack of knowledge of IIT’s green initiatives already in place
- Poor report card grade
  - Letter “D” on the college sustainability report card
  - Exploring if grade accurately reflect IIT’s campus
- Existing problems with campus facilities which prevent us from being known as a “green” and innovative campus
Organization of the Teams & Goals

Marketing and Branding Group

Solar Workstation Group

Facilities and Steam Pipes Group
Marketing and Branding Group:

Goals:

Raising awareness of ways to make IIT more energy efficient and “green”. Promote image of IIT as a sustainable university. Overseeing Administration and general group assignments.

Members: Melissa Toops, Catherine Budzinski, Vinu Mohan and Gabriel Fontes de Faria
Progress Towards Goals

• Logo Competition in progress
  – Gets students and staff involved in identifying how they see IIT as “green”
  – Creates a visual connection for IIT to move forward as a sustainable campus
Progress Towards Goals

• Logo design uses identified:
  – Working with admissions department to produce canvas shopping bags featuring our logo created in the design competition
  – Will be sent to the parents of IIT students
  – Provides an opportunity to advertise IIT’s stance in sustainability all over the world
Progress Towards Goals

• Green Speaker Event
  – Lecture given to IIT students, Facility, and Staff
  – Promote IIT’s support of sustainability on and off campus
  – Potential Green Speakers identified
  – Currently in the process of contacting the potential speakers
Progress Towards Goals

• Donated “We’re into Sustainability” Bags acquired
  – Donated by Admissions department
  – Will be distributed to IIT students and staff
  – Will help promote IIT’s interests in becoming a sustainable campus through the promotion of using of reusable bags
Obstacles Encountered and Solutions

• Budget cuts
  – redistributed funds
  – considered donated materials vs. purchased materials
Anticipated Obstacles

• Green speaker event
  – Date confirmation
  – Event attendance

• Solutions to advertising IIT on Main Building in a sustainable way
  – What kinds of alternatives to using non-renewable resources are available

• Realistic solution to the smoke stack beautification
  – Is Ivy the best choice
  – Is it possible structurally
Solar Workstation Group:

Design and build a solar powered workstation to be placed on IIT’s main campus.

Members: Milanko Milesic (Leader), Nor Tanapura, Sacha Roubeni and John Kapecki.
goals
- functional year-round by using it as a light sculpture at night and during winter
- sustainability should show in design through use of light, recyclable materials
- mobile and modular design, where each workstation is made for one person’s use, but can be connected to others to form a bigger unit
- marketability to other educational institutions
- all components part of a unified design
modular design
DESIGN PROCESS

form + material
REALIZATION

form + material

organize all components around a bent laminated wood frame to create one assembly to minimize cost associated with having separate assemblies for each component.

Most of the materials will have to be obtained from scraps to reduce overall cost.

The upside - sustainable design!
LOOKING AHEAD

anticipated obstacles
- finding all materials for free or low cost to stay within budget
- construction of the workstation in a short time period will be a challenge

design issues
- In incorporating the solar cells and materials we can get, which may not be what we originally wanted, we will need to make some adjustments to the design to make it more flexible and social – possibly making the components rotate individually so that users can face each other and interact.
Facilities and Steam Pipes Group:

Work closely with campus Facilities Department to reduce wasted resources. Design and build art installations to embellish or conceal steam pipes on campus.

Members: Michael Chamales (Leader), Hyeran Um, Shawn Block and Justin Ma.
Progress Towards Goals

• Created a plan and rendering for permeable concrete
  – Installation in high traffic area will draw attention to project
  – Contacted company for pricing
• Researched alternatives to single pane glass
• Found suitable system to fix sprinkler issues
  – Supplier has been contacted
  – IIT’s sprinkler maintenance personnel have been contacted with regard to implementation
Progress Towards Goals

• Specifications and design criteria for above ground steam pipes acquired
  – Ideas for blending steam pipes with landscape
  – Rendering of possible solution
• Initial green wall installation design complete
Greenwalls

- Conserve energy by shading west wall of E1
- Lets ambient light in
- Promotes environmental awareness and clean air
- Beautify campus
- Free standing; no need to trim around windows
- Possible use of some PV panels on side to power lighting inside after dark
Green Canopy at the day time
Green Canopy at the night time
Window Replacement

• Many windows in campus buildings are single pane
• Increase building efficiency through insulation and save money; heating and cooling
• Use thermal dual or triple pane glass
• Argon or krypton filled
• Use of aerogel glass in translucent applications such as Keating Hall
  – R value is 8 per in.
  – High transmission of diffused light
  – Reduction in noise transmission
  – UV protection
  – 5X more insulating than standard insulated glass
Window Glass Possibilities

2 Heat Mirror Films
3 krypton filled airspaces
warm edge insulated spacer bar
gas retention tape
Rain sensors for irrigation system

- Rain / Freeze sensor wirelessly alerts timer to shut off during rainfall or during cold temperatures
- Use one sensor per timer (7 timers on Campus)
- Potable water demand is reduced
- Solar powered, that requires no electricity or batteries to operate
- Adjustable settings for rainfall trigger from 1/8-inch to 1 inch
Permeable Pavement

- Permeable pavement significantly reduces surface runoff volume
- Excellent storm water control
- Facilitates drainage in trouble areas
- Promotes sustainability on campus
- Paving of dirt path near E1
- Paving west of Vandercook
Permeable Pavement
Obstacles Encountered and Solutions

• Budget cuts
  – Redistributed funds
  – Eliminated things from original plan
• Ability to contact IIT maintenance personnel and supplier
  – Eventually did contact them
  – Supplier eventually returned call
• Info about steam pipes
  – Info acquired
  – New design made
Anticipated Obstacles

• Getting funds to implement modified sprinkler system
• Meeting specific design criteria for steam pipes
• Getting funds to install permeable sidewalk
Questions or Comments?