Senior design meeting minutes 11/10/2015

Forum has been set up on the drupal site

Do we want to use google docs or drop box or have a drupal site?

Decision: drupal is the main source of collecting information. Forum for talking. Make threads.

Talking about the project

* Look at off the shelf parts
* The most important goal is the efficiency. Energy efficiency>cost
  + Find all the options. Off shelf vs what we can make.
* Another group is sizing how much energy consumption it will go through
* The house is at Cabrillo and you have to go there to lay it down but we can get replicas
  + House size is 8x20
  + They will give us an energy budget around ~NEXT WEEK but final around end of quarter
    - Around 1400 kW
* Scalability of this project- can we make each part modular and we can add increments like 2 units
* We are giving them a final package with specs of what this will cover and the regime that it covers.
* PV array 230W(3)
  + Concentrators
    - We don’t want coolants
    - Solar thermal panels to help boil water also
    - No trackers(the panels should get 85% efficiency between winter and sumer with not moving with fixed angle)
    - What is the output of the PV array?(need answer still) 38V for one PV array
* How to keep the DC bus constant
  + Capacitor bank or battery system to help that(VAR support)
* Spec out the top level architecture
* Do we use AC from pge as primary or PV and batteries
* What are the losses at the dcdc
* Need sensors to monitor the system power like the dc bus
  + Use hall effect sensors
* Monitor frequency of the grid of AC
* What kind of power flow sensing
  + Use current transformers and potential transformers to measure this
* Battery
  + Design a scalable battery charging system that can be sold modular
* Next step
  + Get into sub groups
  + Talk about the design and find flaws
  + Talk about DC voltage and what each part contributes to it
* Can we expect to have this project completable?
  + Can we play with the hardware and get it implemented
* 129a
  + Deliverables
    - Can be the house runs on DC but not AC