

# IN THE NEWS

## Cleantech Entrepreneurs Face Challenging Issues In Building Facilities

*Escaping the many pitfalls requires extensive planning for the right site, design*

FOSTER CITY, CA, May 19 – Companies face numerous obstacles in building cleantech facilities—from permitting hurdles to equipment challenges—but extensive planning and using experienced talent can help entrepreneurs effectively implement their alternative energy goals.

That was the message this week that emerged from a conference of project managers, architects, engineers and contractors who have collectively built more than 20 cleantech facilities in Northern California.

“Cleantech involves new technology and the requirements for construction are evolving and just being understood by municipalities, designers and owners,” outlined Mark Bley, President of Dome Construction Corporation of San Francisco. “It’s easier said than done, but most problems can be anticipated if you can get all the players into a room very early in the process,” veteran contractor Melody Spradlin, leader of Dome’s South Bay operation in San Jose, told conferees at an event called “Creating Cleantech Facilities—The Right Way.”

The conference featured Steve Cox, principal of HPC Architecture, Jeff Tarter, Principal of Integrated Engineering Services, both of Santa Clara, and San Jose-based project consultant Phil Worland. The event was moderated by San Francisco Business Times cleantech reporter Lindsay Riddell, one of the country’s leading journalists in this field.



*Panelists at the “Creating Cleantech Facilities - The Right Way” breakfast in Foster City on May 17, 2011*

Advice the panelists have for cleantech entrepreneurs planning to create research and development and production facilities:



*Dome Construction recently completed a cleantech LED Pilot Plant facility renovation in Newark.*

- Search only for sites which fall into an appropriate zoning district. Which land zoning classification will govern the project? Use of site determines zoning. Ask: Will there be manufacturing and assembly? Research and development? Warehousing and heavy trucking on a regular basis? Is security important? Will there be large quantities of chemicals used or stored?
- Are there any existing neighboring tenant uses that might preclude your use? A nearby school might have a limiting effect on the quantity of chemicals you may keep on site.
- Will the building represent the culture and image desired by neighbors?
- Is the facility near potential employee pool or current employees?
- Establish a space utility program (i.e. how many offices, cubicles, conference rooms, labs, manufacturing area, etc. will be needed.)
- Will the building need to be upgraded to meet ADA, seismic, waste drains, water needs, and power requirements?
- What is the requirement for growth in one year, three, five?
- Search for a site and building with adequate utility capacity. Create an equipment matrix. List all the current and future equipment needed including lab, manufacturing, assembly and large office equipment such as copiers.
- List all the infrastructure and utility requirements for each piece of equipment: power (volts, amps, phase), air, gases, water, sewer, etc.
- Will large pieces of equipment be located on the roof or next to the building?

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- What is the seismic upgrade status of each building you consider? Uses with heavy chemical requirements may trigger certain earthquake or seismic upgrades. Are there other tenants in the building that may affect your ability to occupy the building?
- Know the image you would like to create with your new facility: desirable "look and feel." Will there be a lunch room, restrooms specialty rooms, gyms, new mother rooms, communications and library?
- Engage mechanical, electrical and plumbing, EP and cleanroom contractors early.
- Review the submittals, cut sheets and operating instructions for all of the equipment with relevant members of the team to ensure constructability and maintainability within the space.
- Dig deeply into the dependencies and sequencing of schedule to bring predictability to double handshake turnovers between components of the building.
- Keep the job site clean and instruct all workers on protocols. Work proceeds more efficiently in a clean jobsite, and you eliminate the risk of rework or damage to sensitive, expensive equipment.
- Start from the beginning of the job with an outline for the turnover package. Populate as you move through the job to ensure speedy hand-off to the operators of all required information upon start-up.

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