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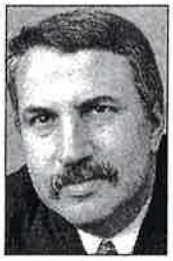
Jack Donovan

A green dream in Texas

Americans are starting to lead themselves when it comes to energy independence.



THOMAS FRIEDMAN

When it comes to energy and the American people, George W. Bush and Dick Cheney are guilty of the soft bigotry of low expectations.

No one has lower expectations for the American people than a vice president who thinks "conservation" is simply a personal virtue, not a national security imperative, and a president who can barely choke out the word.

But Americans are starting to lead themselves. The most impressive project I've seen is by Texas Instruments, which is building a "green" chip factory here in Richardson, near Dallas. TI is keeping 1,000 high-tech jobs in Texas by building its newest facility — to make wafers used in semiconductors — in a cost-saving, hyper-efficient green manner.

TI always wanted to keep its newest wafer factory near Dallas so it would be near its design center and ideas could flow back and forth. But China, Taiwan and Singapore were all tempting alternatives, offering low wages, subsidies and tax breaks. So the TI leadership laid down a challenge: TI could locate its new wafer factory in Richardson, if the TI design team and community leaders could find a way to build it for $180 million less than its last Dallas factory, erected in the late 1990s. That would make its cost-per-wafer competitive with any overseas plant's.

Although the TI engineers initially thought it impossible, they pulled it off. Previous chip factories had three floors because of the complicated cooling and manufacturing process involved in making wafers. The TI design team came up with a way to build the Richardson factory with just two floors — a huge savings in mass and energy. TI also contacted Amory Lovins, the green designer who heads the Rocky Mountain Institute, and asked him to help it design other parts of the plant in a way that would lower its resource consumption, which, over the life of a plant, can exceed construction outlays.

Together, TI engineers and Lovins' team designed big water pipes with fewer elbows, which reduced friction loss and let them use smaller pumps that save energy. Various passive solar innovations were built in, including roofs that use a white reflective coating to reduce heat. These, together with innovations in how air is circulated, cooled and recovered naturally, reduced total heat so much that TI was able to get rid of one huge industrial air-conditioner. Almost all of the waste from the building construction is being recycled. The urinals are all waterless.

"Green building is not necessarily about producing your own power with windmills and solar panels. It's about addressing the consumption side with really creative design and engineering to eliminate waste and reduce energy usage — it's the next industrial revolution," said Paul Westbrook, who oversees sustainable design for TI and helped turn TI leaders on to green building by taking them to his solar-powered home. "Green building added some cost, but overall we built a green building for 30 percent less per square foot than our previous conventional facility." This is expected to cut utility costs by 20 percent and water usage by 35 percent.

To entice TI to build again in the Dallas area, the University of Texas, the state Legislature and private sources put up $300 million for a 10-year effort to improve science and engineering studies at the University of Texas in Dallas, so TI will have plenty of educated workers.

"We are proud to prove on a global basis that you can (be) green and energy-sensitive and reduce costs and increase profits," said Shauna Sowell, TI's vice president for worldwide facilities. America can keep good manufacturing jobs, she added, "but we cannot do it the same way we've been doing it. We have to do it differently. I think you do first have to set an impossible goal. Amazing things happen when people claim responsibility for creating the impossible."

They sure do. In 1961, when President John F. Kennedy called for putting a man on the moon, he didn't know how — but his vision was so compelling, his expectations of the American people so high, that they drove the moon shot well after he died. The Bush-Cheney team should be inspiring our generation's moon shot: energy independence. But so far all they've challenged Americans to do is accept a tax cut.

So hats off to the leaders of TI. Thanks to their vision, Dallas — not China — has the newest TI wafer plant, a new investment in education and a great example of how a green factory can be efficient and profitable and can create good American jobs in the 21st century.

Energy guzzling is for defeatists. Real Americans — and real Texans — build green.

Thomas Friedman writes for The New York Times News Service.

EXHIBIT B | Additional Notes

1. All the analysis should be founded on an analysis of Demand trajectories (as dependent on a range of Demand Side Management ~~pro~~ strategies).
   - Gainesville has great capacity to reduce Demand — to date untapped and untried.
   - We should not build to meet an unnecessary estimate of Demand.
   - The County's Numark Report notes GRU's Demand estimates are badly exaggerated.

2. My goal for the study is to get a good analysis of different alternatives.
   - If we need to delay a week or two, or a month, do so.
   - Better a good analysis passed to the next Commission than a bad decision.

3. The ICF presentation process (& the presentation itself) was poor
   - Emailing of Options & Assumptions was very late.
   - These documents were very poorly written, both grammatically & conceptually — they were not up to our requested standard of intelligibility or usefulness.
   - Judah Rose claimed the 4 options were set by contract — the document made clear the presentation was preliminary.
   - ICF is noticeable by its absence — $350,000?
   - Our process for interacting with ICF is inadequate — witness the failure to schedule a City Comm meeting to provide direction on Options.

ICF PROPOSED OPTIONS AND ANALYSIS – JACK'S CONCERNS

- Today's process does not allow CC to give real direction or exercise its own discretion.

- The Options do not include alternative renewable energy generation sources.

- The language of the Options document does not adequately explain terminology or methods. Eg, RIM test, Total Resource Cost test, Base demand. Eg, "An analysis of the impact of the cost-effectiveness test chosen upon GRU revenue and general fund transfers will be included."

- No explanation is offered for why the proposed four options were selected and why other possibilities were not included.

- Nothing hints of possible innovative or breakthrough thinking – nor does there seem to be recognition that innovative thinking may soon be a necessity.

- The options do not seem to include evaluation of local bio-fuel possibilities.

- The place of the examination of Major Uncertainties in the analysis is not explained. Will it be full-fledged and find its way into the analysis? For example, the range of demand trajectories should be wide and well explained as to cause and effect -- this would seem to be foundational in any analysis.

- Demand and the range of demand scenarios would seem to be the starting point. I would like to see that strongly emphasized in the analysis plan. (It has been stated, in the Newmark report, that GRU's regression analysis significantly overstates demand.)

- Impact on "ratepayers" (ie, customers) should be in terms of household bills, not rates.

- A comprehensive list of ways to insure success of conservation/efficiency measures for all classes of customers should be an output of the report.

- In a way, the report should be true to the best spontaneous thinking that your team could generate cumulatively off the top of your heads. Do not be trapped in the models – down and dirty, intuitional thinking should have some say along with the careful logical models.

- The fact that the Public Service Committee in 2003 said that GRU has sufficient generating capacity beyond the next ten years needs to be addressed.

- In the State of Florida there are proposals to expand capacity by over 2500 mgw (850/Taylor, 850/FPL, 700/JEA, 200/Orlando). In this light, the analysis must examine whether GRU's plan to sell excess capacity is not unrealistic and risky, especially in an increasingly regulation-depressed and demand-managed market.

- The pollution impact and health impact due to operating the plants full-force to optimize efficiency and maximize profitability of sales needs to be carefully analyzed.

- The importance of having a "balanced" fuel mix (and what that will mean in the future) needs analysis. With the GRU plan, we will have between 85% and 95% coal in our mix. Will that be balanced as of 2015 or 2025?

- The policy implications of cross-subsidizing energy bills should be looked at.

- What are some exemplary utilities and governmental bodies who are pointing the way to meeting goals like ours, for healthy lives, economic prosperity, and a well-maintained natural environment?