Spray-Foam in the Department of Defense
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This briefing contains the author’s views and does not represent official Department of Defense policy.
Before and After Tent and Plywood (SWA) Hut
There is no lower fruit…

Global cost curve for greenhouse gas abatement measures beyond ‘business as usual’; greenhouse gases measured in GtCO₂e¹

- Approximate abatement required beyond ‘business as usual,’” 2006

1 GtCO₂e = gigaton of carbon dioxide equivalent; “business as usual” based on emissions growth driven mainly by increasing demand for energy and transport around the world and by tropical deforestation.

2 tCO₂e = ton of carbon dioxide equivalent.

3 Measures costing more than €40 a ton were not the focus of this study.

4 Atmospheric concentration of all greenhouse gases recalculated into CO₂ equivalents; ppm = parts per million.

5 Marginal cost of avoiding emissions of 1 ton of CO₂ equivalents in each abatement demand scenario.

Source:
The McKinsey Quarterly, 05 2007
A Cost Curve for Greenhouse Gas Reduction
Enkvist, Naucler, Rosander
What We’ve Done

- 25 July 06 “free us from the tether of fuel” needs statement
- After energy audit in Djibouti and further mission analysis, we took a broader view → demand reduction (insulating tents) became top priority
- 20 Dec 06 First tent trial
- 17 Jan 07 First military tent completed. Data loggers showed up to 90% energy savings
  - Army Safety Confirmation, Toxicity Clearance and air exchange requirements (IAW ASHRAE) all approved before any tents foamed (incorporated into contracts)
  - User Manual written and distributed before any tents foamed
- May 07 Kuwait demo
- July 07 Iraq & Djibouti demo
- Oct 07 Afghan demo
- Dec 07 $95M Iraq solicitation released
- Jan 08 National Training Center (NTC), Fort Irwin, CA demo
- Late Apr 08 $95M Iraq contract awarded
- Nov 08 $29M Afghan contract awarded
- Spring 09 $22M NTC contract awarded
- $146M contracts (over 11M sqft, all 2lb closed cell foam) → this saves lives!
  - 14 July 09 Govt survey confirmed > 50% fuel savings and BEP of ~ 75 days in Iraq (size HVAC correctly, install efficient lighting to increase savings)
- Aug-Sep 09 detailed fire testing completed
- 3 Nov 09 Safety of Use Message (SOUM) distributed world-wide
Potential Way Ahead

- DoD may, I say again, may assign a National Stock Number (NSN) to spray foam and buy the raw materials like any commodity (fuel)
- Will involve firm, detailed requirements and would insure safety, QC and certifications are met → this is a good thing for the US foam industry
- Services are starting to get on-board...demand will likely increase in theater and back here at US training bases...
- ...Policies and Regulations should follow
- Spray-Foam in an operational/tactical scenario has gotten lots of visibility (to include in Congress) and should become institutionalized
- Even bigger than deployed units are DoD installations
- FACT: There are plenty of mandates (statutes and Executive Orders) that tell the Govt to make their buildings more energy-efficient
- FACT: DoD owns 2/3 of the floor space in the Govt
- Given the above two facts, draw your own conclusions…
- Other Govt Agencies (OGA) are learning about the benefits of spray foam
- Potential in disasters (Katrina, Haiti)
- International demand for demand reduction is growing...fast
- But...reality of doing business with the Govt is that the Govt is decentralized, and sometimes uncoordinated. Not a slam, just reality. Much of the potential way ahead will attempt to add efficiencies...some perhaps enterprise-wide...
What Can Industry Do?

• Write clear MSDS. Cured-foam disposal instructions are mandatory
• Get behind SPFA. Edison Electric Institute (EEI) is a great model
• Quit letting the status quo compare prices and call you “expensive” …they are still “winning” the price war
• Compare holistic construction costs for new buildings and roof repairs…and have succinct data available. Send it to me, if you have it…I’ll use your slides so you get the credit
• Too many caveats (status quo wins again): have consistent, documented, official answers (opinions don’t count) to FAQ (Void my roof warranty? Foam under eaves or attic floor? Need a spacer?). Let me role play…
• More foam-only case studies with real data → most case studies have a dozen initiatives and only compare bottom line…is spray-foam insulation the driver, or not? Send it to me…
• Do you have any Govt endorsements of your foam, especially with actual data? Send it to me…
• If your foam is competing, push all your documentation (lab tests, etc) the Govt’s way…and explain it…don’t make us ask the exact right questions
• You want to see requirements included? Send it to me, and justify. Do NOT send me product specific info…send me capabilities
• Work w/i the current authorities (ESPC, ECIP, PPA, etc) or with an ESCO…until we can get more streamlined authorities
• Check FedBizOpns
Questions?