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Alcoa Eyes Solar Industry

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The New York Times has an article on Alcoa's interest in making reflective solar troughs for the solar thermal power industry (Aluminium Maker Eyes Solar Industry), leveraging their experience in aircraft wing box design and replacing the reflective glass in parabolic troughs with aluminium.

Alcoa claim their all-aluminum parabolic trough (currently being tested at the National Renewable Energy Laboratory in Colorado) will cut the price of a solar field "by 20 percent due to lower installation costs".

> Parabolic troughs focus sunlight on liquid-filled receivers suspended over the mirrors to create steam that drives an electricity-generating turbine. Parabolic trough technology has been in modern use in solar power plants since the early 1980s, but Alcoa executives said they saw an opportunity to refine the technology and get a foothold in the rapidly expanding renewable energy market.
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> "If you go out and look behind large parabolic troughs, you'll find an elaborate truss structure," said Rick Winter, a technology executive with Alcoa. "From our understanding of aerospace structures, we said if we can modify the wing box design used in aircraft and integrate a parabolic reflector, it would give us a light and stiff

> structure that would fundamentally affect the cost equation." ...
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> Aluminum manufacturing, however, is the nation's most energy-intensive industry, according to the Energy Department. Mr. Kerns said Alcoa had not performed a life-cycle analysis of the total energy costs and benefits of deploying such parabolic troughs, but noted that the company planned to use recycled materials to make the solar collectors. "We can take the energy intensity out, as much of the structural elements have the potential to use recycled aluminum," Mr. Kerns said. ...
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> The Alcoa executives said the company planned to have its solar trough in commercial production within two to three years.

Alcoa Australia's WA alumina refinery expansion remains stalled because of an inability to obtain cheap long term gas supplies as a result of LNG exports limiting supply into the local market (the Varanus Island incident a couple of years hasn't helped matters either). However Alcoa has managed to obtain long term supply contracts for its refinery in Victoria - but using brown coal fired power - the dirtiest power source of all.

If we consider these 3 news items together it would seem that perhaps they should have looked harder at some form of solar thermal power (perhaps combined with gas or geothermal energy) for their Australian operations, using technology they have developed themselves...

Cross posted from Peak Energy.