

Low Iron Glass: -- Markets Reach \$4.7 Billion By 2021

LEXINGTON, Massachusetts (March 3, 2015) – WinterGreen Research announces that it has published a new study *Low Iron Solar Glass: Market Shares, Strategy, and Forecasts, Worldwide, 2015 to 2021*. The 2015 study has 642 pages, 356 tables and figures. Worldwide markets for Low Iron Glass are growing as Concentrating Solar Power (CSP) takes off as a way to generate electricity. Rapid adoption of CSP worldwide is occurring as systems provide 24 hour per day power efficiently.

Low iron glass decorative and architectural markets are poised to achieve significant growth based on an expectation of declining prices for the low iron glass due to economies of scale.

As soon as a new market has 100 paying reference accounts, it becomes a viable market. CSP solar systems have reached that market inflection point and will exceed it in 2015.

Growth potential of the CSP sector is strong, part of the solar growth that is poised to make solar energy represent 90% of the world's energy production within 25 years. Just as smart phones grew rapidly once the price points were affordable and the economies of scale large enough to drive down prices for the markets to achieve significant growth, so also solar markets will take off. CSP has a strong ability to reduce the cost of electricity produced. Compound annual growth rates are expected to be made meaningless by penetration analysis when the markets grow rapidly.

There are no hindrances to CSP growth except technology and the new nanotechnologies make solar processes possible. The materials are simple, silica, silica, and more silica. With solar energy available to support the CSP low iron glass and the CSP module manufacturing processes, the markets will grow at compound rates.

Costs of electricity from CSP plants at US \$ 0.15-0.24/kWh will decline to \$.03 and lower by 2017 as the effect of the 35 year life span of the plant is factored into cost analysis. Once the plant is built very little labor is necessary, there are no ongoing fuel costs. This is a compelling economic story.



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-Page 1-

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By 2021, expectations are that CSP capital costs will decline even further by between 30% and 50%. New technology will make plant operations even more efficient by that time.

According to Susan Eustis, the lead author of the team that created the study, “Concentrating Solar Power (CSP) depends on low iron glass because the low iron glass is clear and creates increased efficiency in the capture of solar power. Low iron glass is proving to be of value because it drives the market for CSP. CSP has been further proven in newly operational installations, including Ivanpah.”

Concentrating Solar Power (CSP) has moved from the trial stage to the early adopter stage. Low iron glass CSP represents 3% of the world glass production. Markets at \$510 million in 2014 are expected to reach \$4.7 billion by 2021. Growth is expected to achieve 15% of total low iron glass at glass production in 2021, i.e. the same level as all automotive glass.

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-Page 2-

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-Page 3-

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