

Globally Competitive and Energy Intensive: an Introduction to Hemlock Semiconductor

Aaron Howald, Chief Financial Officer

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Hemlock Semiconductor Overview

- Operations began in 1961... 50+ years serving customers in the electronics industry.
- Two large manufacturing sites – Hemlock, MI and Clarksville, TN
- Majority owned by Dow Corning Corporation, a global leader in silicones and silicon-based products
- In total, Hemlock Semiconductor has invested \$4.5 billion since 2005 to increase polysilicon capacity to meet growing global demand. **Over \$2.5 billion of this investment occurred at the Hemlock, Michigan facility.**



Hemlock, MI



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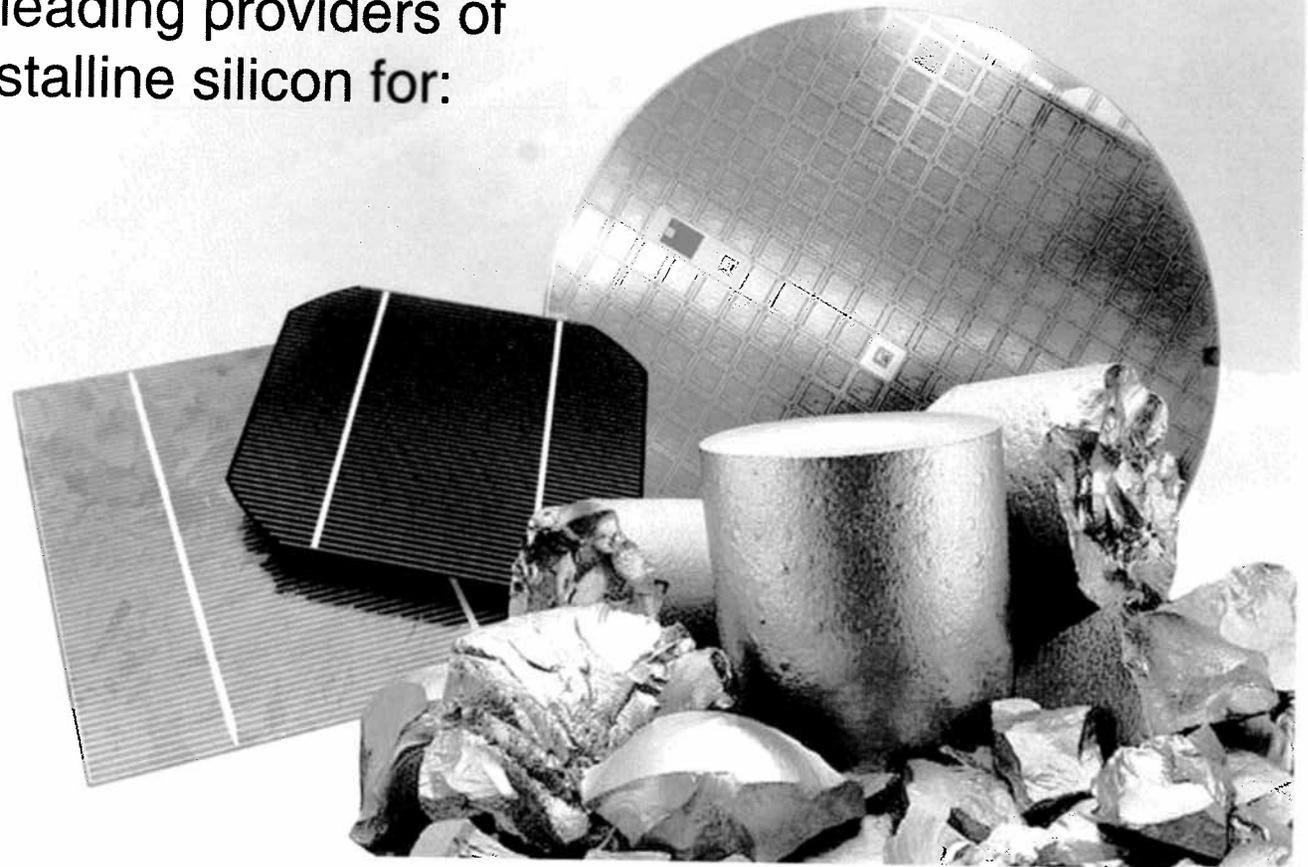
Clarksville, TN

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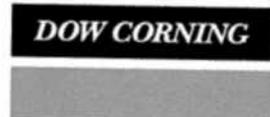
Hemlock Semiconductor Products

One of the world's leading providers of hyper-pure polycrystalline silicon for:

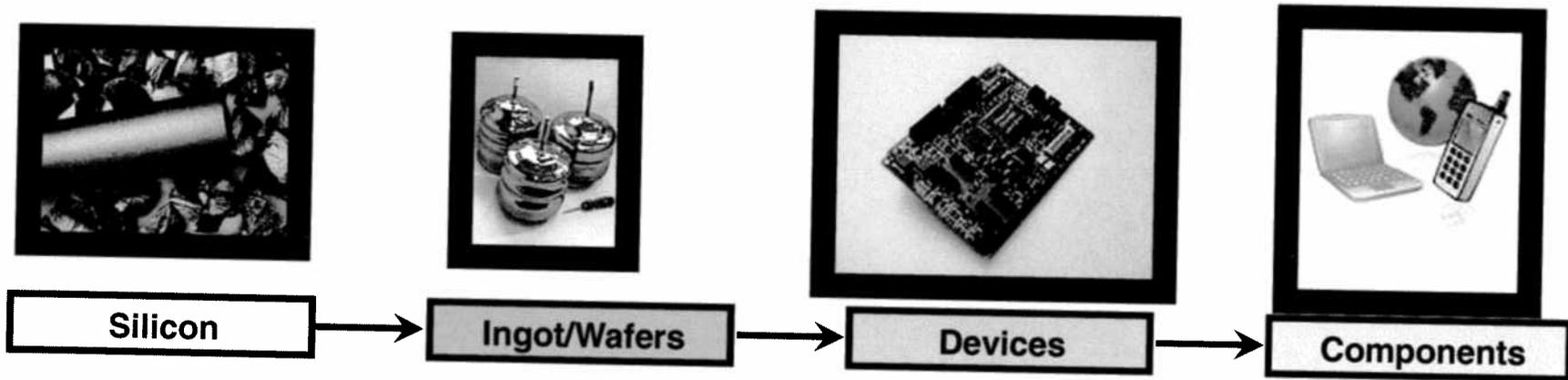
- Semiconductors
- Solar energy



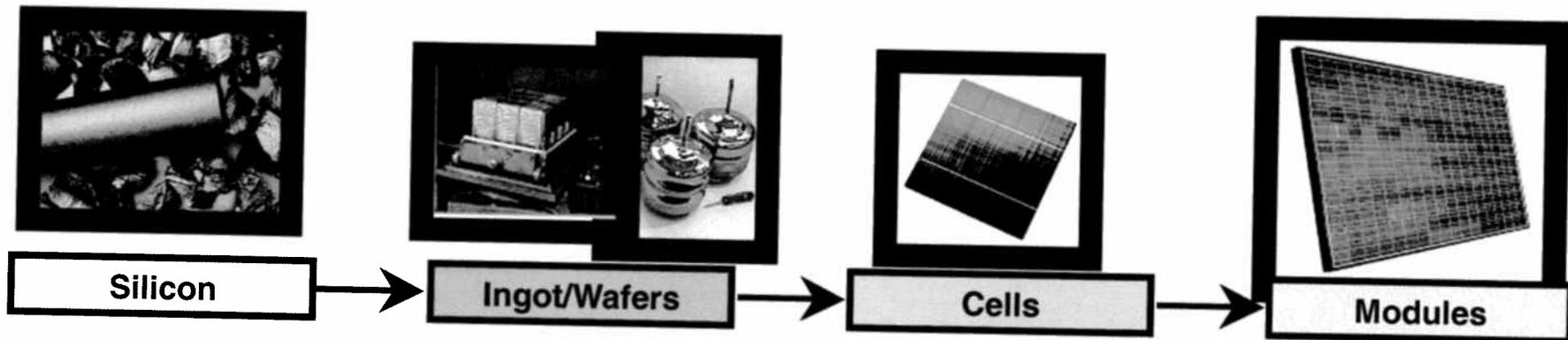
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The Electronics Supply Chain



The Solar Energy Supply Chain

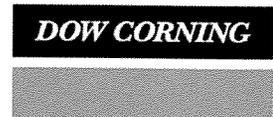


What HSC Means for Michigan...

- Manufacturing polysilicon means jobs – **more than 1,700 jobs**, in fact – at Hemlock Semiconductor's Michigan site.



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- HSC ties Michigan to a global, **high-tech** value chain. An ultra-pure version of polysilicon is the base material for silicon wafers used in electronic devices. **Nearly one in three electronic devices in the world contain polysilicon from Hemlock Semiconductor.**



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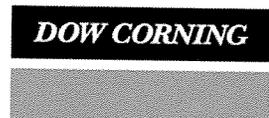


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- It is a tremendous export story for Michigan to be home to a global leader in polysilicon manufacturing. **HSC exports approximately 90% of the polysilicon it manufactures right here in Hemlock, Michigan.**



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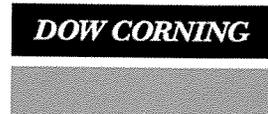


Energy Costs: Critical to Hemlock Semiconductor's Competitiveness

- Polysilicon production is very energy intensive.
- At full production Hemlock Semiconductor uses 420 MWs of power, making it the **largest single site user of electricity in Michigan** and Consumers Energy's largest customer.
- **Electricity costs are the largest and most significant factor impacting Hemlock Semiconductor's overall operating costs.**
 - More than labor ...
 - More than raw materials ...



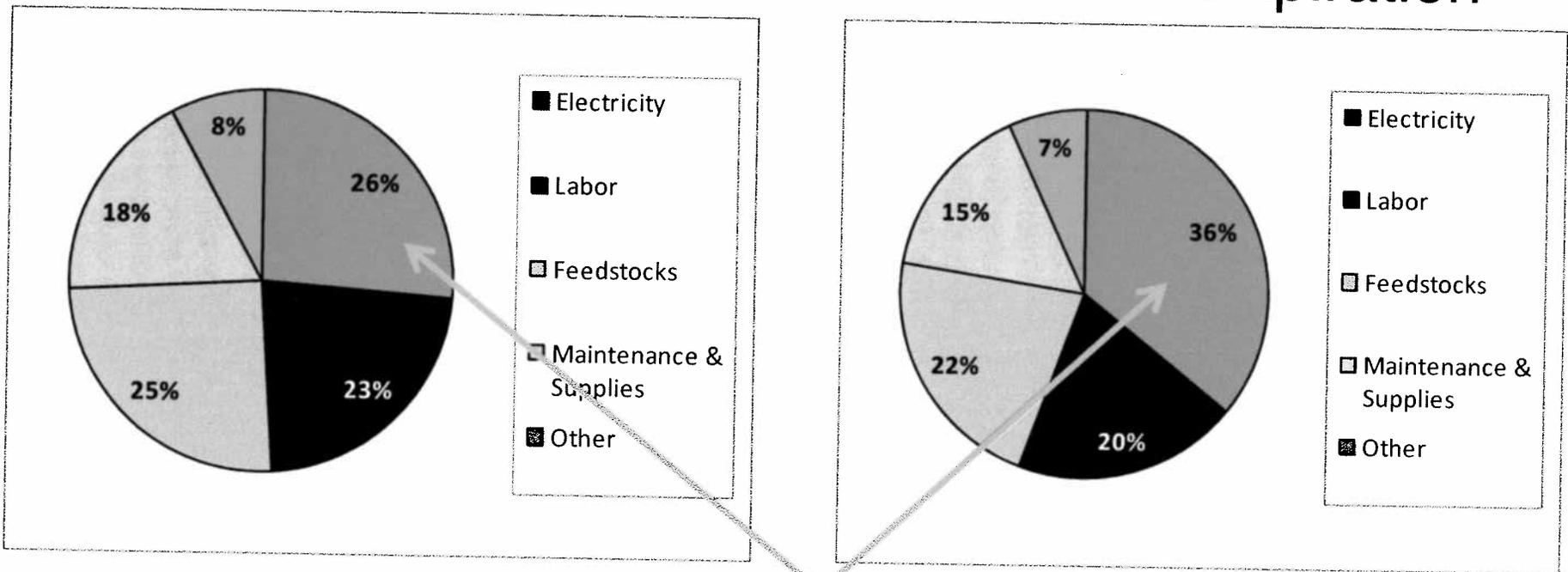
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Production Costs - Impact of E-1 Expiration

Current

After E-1 Expiration



Approx. \$70 million increase

Energy Intensive and Trade Exposed

- As a global supplier to the electronics and solar industries, Hemlock Semiconductor must remain globally competitive.
- The ability of global leaders in energy intensive industries to compete is determined by local energy costs.
- Competitive energy rates are foundational to Hemlock Semiconductor maintaining its position as an advanced manufacturer exporting globally from its Michigan base of operations.



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What is the E-1 Rate?

- The existing E-1 rate was established to create a competitive electricity rate for HSC. This rate made it possible for HSC to invest an additional \$2.5 billion in Michigan manufacturing over the last decade. Currently, HSC pays the full, standard tariff rate GPD on its first 90MW of demand and the discounted, E-1 rate for everything above 90MW.
- The E-1 rate is set to expire on November 31, 2015. At this point, the only available option to HSC is Consumers Energy's standard industrial tariff rate (GPD) which is 32% higher than the total site E-1/GPD rate and approximately 35% higher than market rates.



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What does HB 5013 do?

- The bill simply gives Consumers Energy the authority to establish a new rate that is the same as or similar to the existing blended rate.
- Essentially, **HB 5013 keeps the status quo**: a large, advanced manufacturer based in Hemlock Michigan remains globally competitive and continues to export a high-tech, Michigan-made product all over the world and the rest of the rate payers should see no change to their rates.
- HB 5013 is intended to be a temporary bridge to give time for the larger energy debate to take place without undercutting Hemlock Semiconductor's ability to compete globally from its Michigan base of operations.



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The Urgency

- Hemlock Semiconductor is ready to be a constructive partner – along with the legislature, the utilities, and other large industrial users – to find a long-term solution that makes Michigan a competitive place to manufacture.
- We know that debate is coming and it will take time and effort to craft the right energy policy for Michigan.
- But, in the meantime, with E-1 set to expire in November 2015, Hemlock Semiconductor needs to make decisions now about its future well-beyond 2015.
- HB 5013 gives Hemlock Semiconductor a bridge – the certainty it needs to maintain its globally-competitive base of operations in Michigan.



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The Bottom Line...

- Hemlock Semiconductor is the largest single-point user of electricity in the state.... And, for us, energy costs are the number one cost of doing business.
- We compete in a global market and we are a global leader in our industry – exporting 90% of what we make to foreign markets.
- Unlike any other company that you might hear from, whether we have a competitive energy rate is the factor that will determine our ability to compete. It is the nature of the business we are in and the global market in which we compete.
- These facts make Hemlock Semiconductor's story unique.
- There are 1,700 jobs in Hemlock, Michigan that are dependent on maintaining a competitive energy rate for Hemlock Semiconductor.
- We are ready to work with you to find a long-term solution for all of Michigan's energy-intensive manufacturers when that time comes.
- For now, we need a bridge.



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