

Tab 1

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Room 2

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AI notes!

China's Clean Energy Leadership & Strategy

- **Solar industry origins:** 2008 stimulus package targeted solar as strategic vertical
 - Primary motivation: energy security, not environmental goals
 - Wanted independence from oil imports due to security concerns
- **Current approach:** Still reactive to Western tech developments
 - EV boom triggered by Tesla Shanghai factory
 - Nuclear fusion, deep sea mining, space tech following US leads
 - China excels as fast follower due to manufacturing ecosystem
- **Manufacturing advantage:** Can catch up quickly even as second mover
 - Complete supply chain ecosystem within close proximity
 - Fierce internal competition accelerates development

IP Protection & Technology Transfer Risks

- **Common leakage patterns:** Information spreads through equipment suppliers and other common vendors
 - For example, US companies share process parameters with equipment makers
 - Same suppliers sell to competitors, inadvertently share details
 - Not malicious hacking but ecosystem porosity
- **Protection strategies:**
 - Keep core IP completely separate from China operations
 - Assume all shared information will eventually circulate
 - Example of materials-level advantages (gas turbines example)
- **Chinese reverse engineering capability:** Can deduce processes from high-level concepts
 - Deep technical knowledge base allows reconstruction from basic descriptions

Manufacturing Scale-Up Comparison

- **Chinese startup performance:** 5 startups visited (1-5 years old)
 - All at commercial scale or building commercial lines

- Raised under \$50M total (vs hundreds of millions in West)
- Significantly faster timeline to market
- **Success factors:**
 - **Government support:** Land leases, factory shells, equity investments (rarely direct cash grants)
 - **Supply chain proximity:** high supplier density within vicinity
 - **Equipment availability:** Furnace example - China \$500K/6 months vs Europe \$2M/24 months
- **Novel vs existing tech:** Often novel core technology leveraging existing ecosystem
 - Solid state batteries benefit from existing battery industry infrastructure
 - Off-the-shelf components readily available for novel applications

International Collaboration Challenges

- **Technology transfer potential:** Chinese companies establishing overseas manufacturing
 - AESC (Japanese subsidiary of Chinese company) - operational US battery plant
 - CATL, BYD setting up European facilities
 - Knowledge transfer to engineers on production lines
- **Political barriers:** US resistance limiting collaboration opportunities
 - CATL-Ford JV faced political pushback
 - Gotion Michigan factory plans scrapped due to local resistance
- **European openness:** More receptive to Chinese manufacturing partnerships
 - Stellantis using excess capacity with Chinese partners
 - Chinese operational excellence honed through domestic competition

Tab 3

