

URL: <https://stvp.stanford.edu/blog/videos/challenges-in-manufacturing-solar-energy>

Larry Bawden addresses the challenges in producing Solar Energy on a commercial scale. He highlights the capital intensive requirements in this field. He also notes the importance of precise nano-engineering in the manufacturing process.



Transcript

Yes, it's capital intensive.. I don't have the answer to this question, but all the companies that have been funded are putting their own plans in.. They're scaling their own manufacturing processes up.. To put a 50 megawatt plan in, it's about 25 to 50 million.. It depends on which technology you're trying to bring up.. So it's very expensive.. That's just the equipment to put on the floor.. It's not the labor.. It's not the material.. It's not the building..

It's just the equipment to build it.. It's a science of putting very precise layers down with no flaws very much like a semiconductor.. Absolutely perfect layer and very thin microns.. We're dealing in nanometers which is 90 % thinner.. You would think it would be harder.. It's not.. We actually are using a process, electroplating versus vacuum.. So we're going simpler and easier.. I know that sounds strange but our substrate material, the way we have it setup is more conducive for easier manufacturability and more precise.. So we are going to put our own line in initially..

We are looking at scaling contract manufacturing after the line.. It's a way for us to control the processes when we first bring it in, and to know what the secret sauce is so we can teach others to bring it up under licensing.. Yes, it's capital intensive.. Everyone has done it the way you described it..