

## **Better Energy: Approach and actions in relation to our Chinese supply chain June 2022**

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Some key supply chains in the solar cell industry have been linked to ethical challenges in the form of forced labour. Most of the world's silicon production is in China. Silicon is used in solar modules, and the production of Chinese solar modules has been linked to forced labour and the suppression of Uighurs in the Xinjiang Province.

The subject field is well known to us, and we have competent people working very hard to do everything we can to make sure that no polysilicon from Xinjiang ends up in the products, we buy.

Polysilicon is used to produce semiconductors, which are part of microchips and are thus an essential component in everything from mobile phones, computers, flat screens, electric cars, to almost all electronics and of course the solar industry. It is an ongoing work to ensure transparency all the way back to mineral extraction and the earliest processing of raw materials. It is a task that we and others in the industry take seriously, but which is also extremely difficult when looking 3 or 4 links back from a company's primary suppliers - in our case from manufacturers of photovoltaic modules back to mining.

### **Regular reporting on our trade activities in China**

We regularly report on our trading activities in China. We work professionally and in a structured way with our supply chain and we are very open about how we select and trade with our Chinese partners. Furthermore, the people responsible in Better Energy have lived or worked in China and know how to navigate a country where laws and regulations often make it difficult for or directly hinders transparency.

We are very open about how we select and trade with our Chinese partners, and this document summarises our knowledge and actions about our supply chain in China.

### **Challenges in terms of transparency in Chinese supply chains the past two years**

- Start 2020: Covid in Europe – entry ban in China
- H2 2020: Broad focus on issues related to Xinjiang
- Start 2021: Credible reports of forced labor in Xinjiang
- Maj 2021: In Broad Daylight from Sheffield Hallam University problematises supply chains in the solar cell industry
- Start Q4 2021: Covid in China – entry ban in China

We have been focusing on this issue for a number of years, and we present both our knowledge and action plans in our ESG reports<sup>12</sup>. This document gathers a more comprehensive review of Better Energy's approach to our supply chain as of May 2022.

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<sup>1</sup> <https://www.betterenergy.com/media/1776/better-energy-esg-2021-printable.pdf>

<sup>2</sup> [https://www.betterenergy.com/media/1717/better-energy\\_esg-rapport\\_2020\\_download-print.pdf](https://www.betterenergy.com/media/1717/better-energy_esg-rapport_2020_download-print.pdf)

## The production chain of modules unfolded:

To produce a solar module, you need:

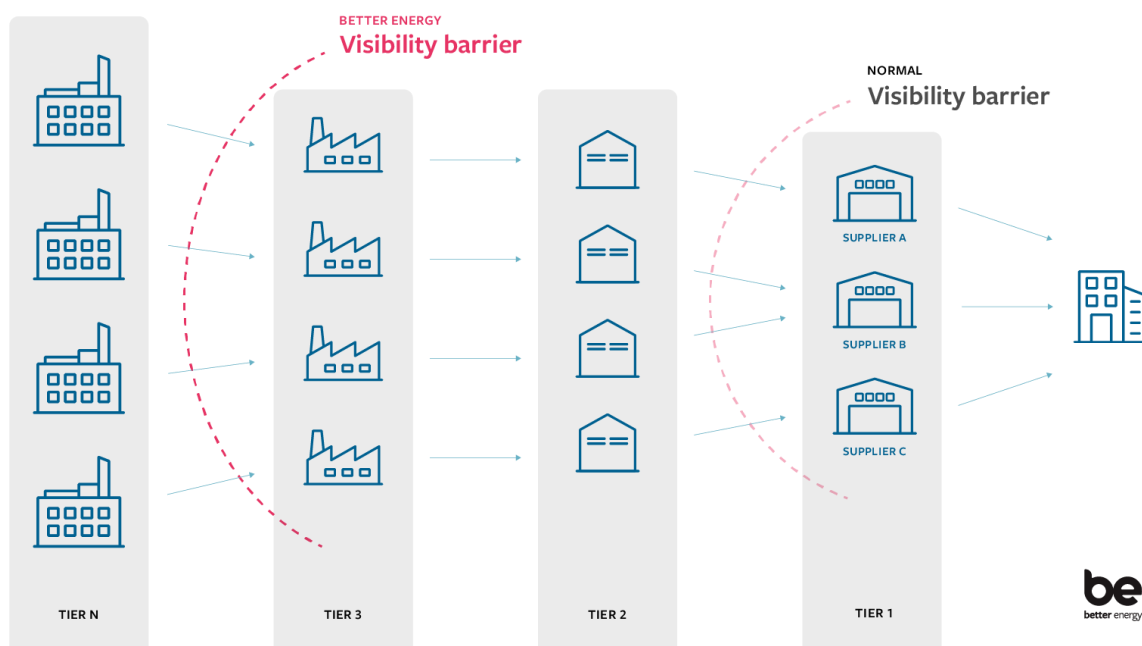


Sources: Solar Energy Industries Association, "In Broad Daylight: Uyghur Forced Labor and the Solar Supply Chain" by Laura Murphy and Nyrola Elmä, Getty Images, Shutterstock  
Graphic: Ian Berry, CNN

When talking about supply chains, subcontractors are often divided into Tiers:

- Tier 1 = Primary subcontractor with which Company A trades,
- Tier 2 = Secondary subcontractor with whom the primary supplier trades,
- Tier 3 = Tertiary subcontractor with whom the secondary supplier trades,
- Tier N = The chain continues until you end up all the way back at raw materials - in many cases metal or mineral extraction, i.e., mining.

The image below illustrates the context and where companies typically face challenges in terms of transparency; namely in Tier 2 - i.e., subcontractors, subcontractors:



That is not the case for Better Energy's supply chain, as we will explain in this document.

### **Better Energy's overall approach to our own supply chain in China:**

- Our specialty in Better Energy is to develop projects from field to solar park and produce large amounts of green subsidy-free electricity. We do not produce the solar modules ourselves, so our primary suppliers – or our tier 1 suppliers – are **manufacturers of solar modules**.
- We only buy modules from the **global top 5 module manufacturers (JA Solar, Jinko Solar, LONGi, Trina, Risen)**. We enter into long-term, binding framework agreements with the producers, so we have the opportunity to build relationships with them, have constructive dialogues and make demands to them. More about our specific work with our Chinese suppliers below.
- In parallel, we discuss possible collaborations with European module startups in order to **accelerate the development of a European supply chain** as an alternative to the current Chinese-dominated supplier market. However, this does not happen from one day to another.

Our suppliers of solar modules are ranked as Tier 1 manufacturers on Bloomberg New Energy Finance's Tier 1 list and receive ratings from AAA to BBB in PV ModuleTech Bankability Ratings. In other words, it is top 5 companies world-wide out of well over 100 photovoltaic module manufacturers in China.

They are worldwide and market-leading companies with Code of Conducts and comprehensive environmental management systems for production facilities and procurement.

They have state-of-the-art production lines and use world-class processing technology. We also only work with suppliers who have a strong experience of delivering to leading financial institutions and who we experience take workers' rights seriously.

We would like to emphasise that these facts neither exonerates nor protects from criticism our suppliers if it is documented that they have done something wrong. Several of them – almost all major manufacturers of photovoltaic modules – are mentioned for problematic connections in the report from Sheffield Hallam University, but to a large extent in relation to their Tier 4 or Tier N, i.e., all the way back to their subcontractors' subcontractors and the raw materials in the modules. It should be noted that these are very large companies, almost all of which have activities in the domestic market in China – a market about which the rest of the world has limited knowledge.

It is also important to keep in mind that the suppliers in question have many other subcontractors that are not mentioned in the report, and that a large proportion of polysilicon – approx. half in China – is produced elsewhere than Xinjiang. The report focuses on the problematic parts of the top suppliers' supply chains and ignores the parts that are unproblematic.

## How do we choose a primary partner (tier 1)?

With our primary suppliers (tier 1), we carefully examine our partners and the specific factories and departments from which we obtain modules. We always **physically visit the factories** before entering into agreements.

The factories of our Chinese suppliers, from which we obtain our solar modules, are not based in Xinjiang Province in the northwest, but elsewhere in China, primarily in the east.

In 2019, we were in China four times, and during Covid-19, due to entry restrictions, we had the company TÜVRheinland make the physical visits on our behalf through their department based in China. The physical visits also include quality control, which among other things ensures that it is the correct solar modules that end up in our containers and are shipped to Europe. We receive an inspection report for each module, which has an individual bar code. We can compare that inspection report with the bill-of-materials (parts list) for each individual module. That way we can say exactly where the module is produced.

We only work with **vertically integrated suppliers of photovoltaic modules**, which means that the components that are assembled into a photovoltaic module come from the manufacturer itself, or that they are possible to trace back to the so-called wafers. There are more than 100 module manufacturers globally with a production capacity of more than 1 GW each. Of these, there are only 5 manufacturers with a vertically integrated production from wafers to modules. These are the five we work with.

The advantages of vertically integrated suppliers are that production quality inspections can be made at our suppliers' factories. This in turn provides better traceability of the origin of components, i.e. where the components assembled for a photovoltaic module come from.

## How do we work with our tier 1 suppliers?

Because we only buy modules from vertically integrated manufacturers, we have, as mentioned, traceability within the supplier's organization from wafer (tier 3) to module (tier 1). Therefore, we have transparency in relation to our subcontractors' subcontractors, and in addition we do the following:

- Detailed scrutinisation of Bill-of-Materials covering third-party components (glass, aluminum frame, EVA, etc.),
- Scrutinisation of the source of polysilicon for wafer manufacturing,
- Open discussion with suppliers regarding Better Energy's ESG, as well as upcoming Future Fit requirements (our ESG framework tool).

What about tier 4 and tier N suppliers?

The problems of transparency arise to a great extent in the lower tens of the supply chain, and there are several reasons for this:

- (1) **Difficult access:** The further back in the supply chain, the more difficult it is for us as a company to gain access and knowledge that can be documented and verified.

(2) **Mix of raw materials:** Raw materials and raw materials are easier to mix - e.g., in connection with. transport in open trucks etc. than processed products.

(3) **Anti-sanction law in China:** Due to US sanctions in response China has introduced an anti-sanction law in 2021, where Chinese companies may not comment positively or negatively on Xinjiang or disclose information from subcontractors.

Point three is essential, as our **suppliers can be punished with fines or imprisonment if they violate this law**. This means that even if our suppliers can guarantee us that there are no raw materials from Xinjiang in the products we buy, then it is not legal for them. We cannot ask our suppliers to break Chinese law. Our work with our suppliers in China is very much about building trusting personal and long-term relationships, and through these engage in dialogues where we can demand that there is no polysilicon from Xinjiang in the solar modules we buy.

Thus, we cannot provide guarantees that can be documented. In our opinion, the best thing we can do in the current situation is to **choose the suppliers that are vertically integrated and that carry high-end, high-tech products that are certainly not the cheapest**. Why? Because a large part of their business is based on exports, and therefore they have the greatest incentive to do business on global terms. Based on our conversations with our suppliers, we believe we are **pulling in the right direction with our purchases**.

### **What do we do in a larger perspective?**

Although no connections have been made in our own supply chain, we support initiatives targeted at increased transparency from the industry organisations Solar Power Europe and Green Power Denmark.

Among other things, a major collaboration has been underway under the auspices of Solar Power Europe (with participation from Green Power Denmark) since the summer of 2021 with the aim of gaining more transparency because of accusations of forced labour among the Chinese suppliers of solar panels. The two associations are soon expected to launch a set of ethical guidelines for the entire industry, as well as a roadmap for a program to increase transparency in the early stages of supply chains and, if possible, trace the origins of solar cells all the way back to mining.

Together with the industry organisations Green Power Denmark and Solar Power Europe, we will continue to monitor the general situation as it develops to clarify the potential risk of procedures that fall far short of our expectations. Meanwhile, we hold our own suppliers accountable, but we do not ask them to issue warranties that they are not allowed to provide under Chinese law.

In parallel, we continue to develop our procurement processes so that we are constantly improving to ensure that our supply chains continue to comply with the UN Guiding Principles on Business and Human Rights.

### **Why do we not just buy modules outside of China?**

To put the challenge in perspective:

- 82% of polysilicon is produced in China,
- 97% of wafers are produced in China,
- 80% + of modules produced in China,
- There are not enough large-scale modules available in Europe,
- Component supply is still dependent on Chinese suppliers – in effect meaning that the basic issue is not solved,
- No economies of scale in the manufacture of modules,
- European module manufacturers focus on the housing / C&I niche market, where they are able to compete with Chinese suppliers with additional service offerings,
- Utility scale modules are not manufactured,
- Most European module suppliers only offer mainstream technology modules – not state-of-the-art with longer life expectancy,
- Chinese manufacturers are better at upscaling newly developed technology to industrial scale.

### **What are the prospects?**

Is there any hope for a European supply chain?

- Yes! There are startups that have developed highly efficient cells and modules that are on their way into the market.
- Initially, they focus on the profitable housing and C&I markets, but there are plans to enter the highly competitive market for utility scale modules.
- With high-efficiency modules, shorter delivery times and significantly lower logistics costs, European module manufacturers can achieve a market share by 2025.
- The downside: In the coming years, they will still be dependent on polysilicon and wafers from Chinese manufacturers.
- The European Commission has allocated resources to building a European supply chain, including a 3 GW production capacity in Italy.

### **What is the alternative to an accelerated green transition?**

Right now, in Europe, we import fossil fuels from authoritarian regimes every day of the year. A fact that has become very clear due to the war in Ukraine, but which has taken place for many years with imports of coal, oil and gas from Russia, Saudi Arabia, Qatar, etc. Fossil fuels, which, incidentally, often have been shown to have problematic supply chains when looking all the way back to the extraction and initial processing of raw materials.

This should certainly not be an excuse or sleeping pad for either the photovoltaic industry or other industries whose supply chains trace back to mining in non-democratic countries. However, it is a real topic of discussion. Namely, what are the consequences of slowing down the green energy transition? Slowing down will mean that we accept that we continue to extract, refine, transport, and burn fossil fuels in Europe, and that we then repeat it again and again and day after day. A practice that is neither good for the climate nor the free democratic world.