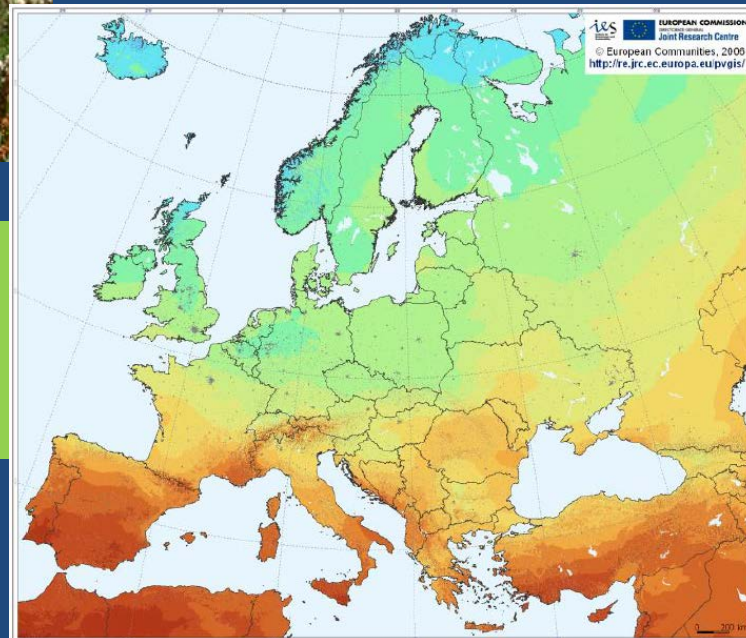


How determined are You about **Energy Saving?**

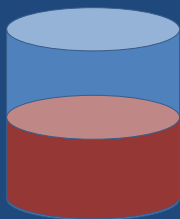


Until **2010**, more energy was needed to produce solar modules than electricity would be generated by them when installed.

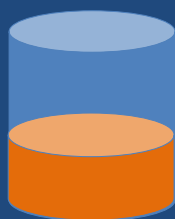
In **2015**, Crystalline PV Energy Payback Time (EPBT) has been reduced to about one (orange) to two (light green) years depending on irradiation and other factors.



After EPBT in its 28 years lifetime, a PV system meeting half of an average household's electrical use **avoids...**



...1/2 ton of sulfur dioxide



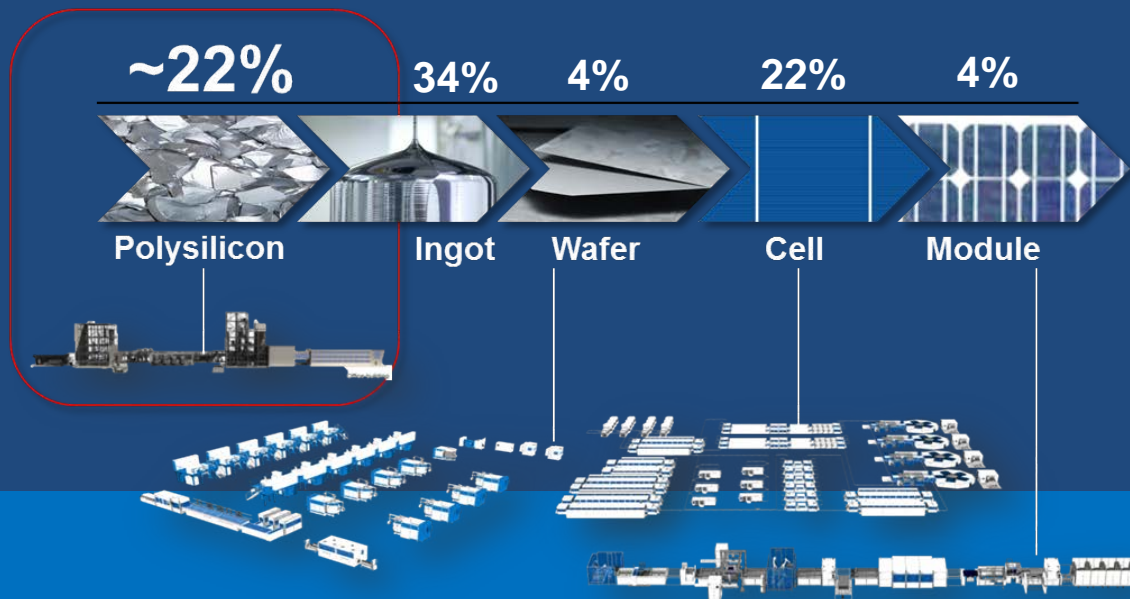
...1/3 ton of nitrogen-oxides

...carbon-dioxide emissions of 2 cars being operated over this period



How to further improve PV process

Energy Efficiency?



Polysilicon production is the second-most energy intensive production step in the crystalline PV value chain (after ingoting). BOS material potential is mostly exhausted with no room for future innovations. Only in the area of **solar cell efficiency** there is more potential for raising quality and decreasing energy intensity.

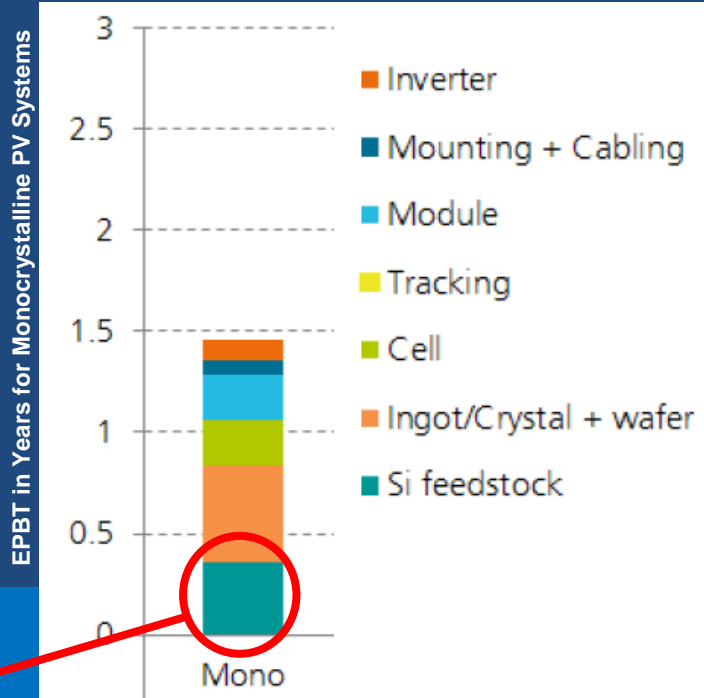
Solar Cell Efficiency ...



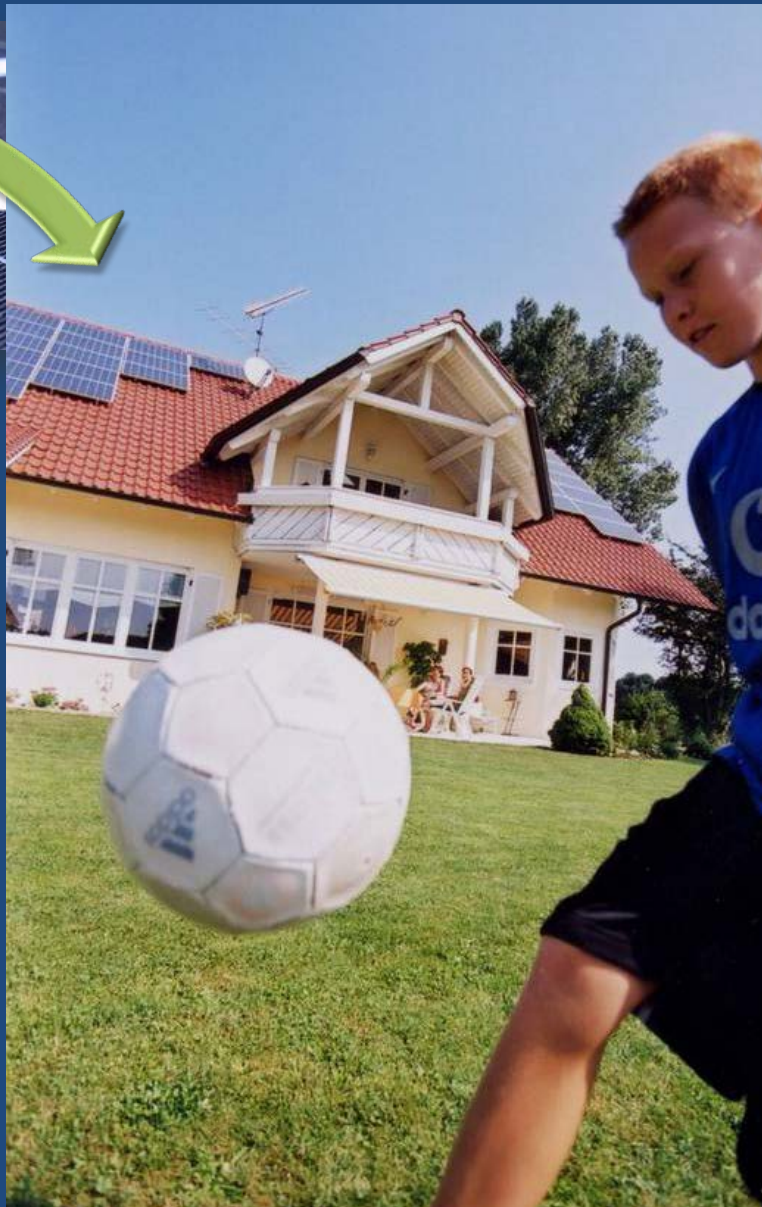
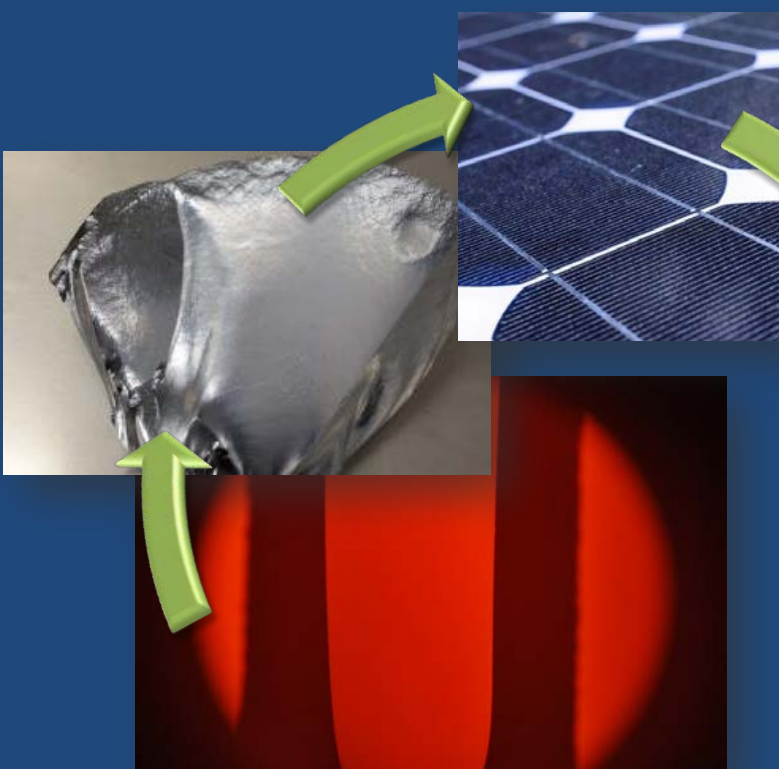
... starts with
Polysilicon Quality



Polysilicon accounts for up to ¼ of PV Energy Payback Time. Smart polysilicon purification technology can raise quality, reduce energy intensity and decrease the costs of polysilicon.



Large improvement potential!



Do You want to **Give a Kick** to your process energy efficiency? talk to us: +49 711 55321 7961 or mail to reinwand.es [at] schmid-silicon.com

References

<http://www.popsci.com/science/article/2013-04/solar-panels-now-make-more-electricity-they-use>

<http://www.ise.fraunhofer.de/de/downloads/pdf-files/aktuelles/photovoltaics-report.pdf>

<http://www.nrel.gov/docs/fy04osti/35489.pdf>

Photographs

<http://www.solarwirtschaft.de/nc/presse->

[mediathek/mediathek/bilder.html?tx_mmdamfilelist_pi1%5Bpointer%5D=2](http://www.solarwirtschaft.de/nc/presse-mediathek/mediathek/bilder.html?tx_mmdamfilelist_pi1%5Bpointer%5D=2)

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