One of humanity’s foremost challenges is finding sustainable ways to satisfy our ever-growing global demand for energy.

In fact, the answer is shining down on us right now. The amount of sunlight hitting Earth at any given time exceeds the requirements to support humanity’s insatiable need for energy. Unfortunately, the cost of current solar technology is out of reach for most of the world’s population. But that could soon change.

My research team at the University of Alberta is developing thin, plastic-based solar cells that can be sprayed or rolled, like paint or wallpaper, onto a surface or even woven into fabric. Plastics are amenable to mass manufacture, so this process will help make solar energy more accessible to everyone.

It’s a technology that can provide developing countries with cheap, modular ways to supply electricity to outlying regions. This could help eliminate the disparity between rich and poor simply by providing people with enough energy to live.

My team is actively collaborating with researchers from around the world, as well as industry and government, with the hope of making this solar technology viable as early as 2015. It’s what’s next in our continued drive to provide a safe, secure and better standard of living for our children.

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Senior Research Officer, National Institute for Nanotechnology

Affordable Solar Energy: Coming Soon to Everyone.