

The Vision

In order to gain a sense of the legacy that a Toronto Solar Century Initiative could create, we might imagine an observation from the future.

It is the year 2025 and Toronto like most cities has adopted the Biospheric Restoration Accord that places ecological integrity as the core objective of economic activity. Although the ferocious storms disastrous flooding and famines continue unabated the virtual elimination of fossil fuel burning in the world is beginning to show calming trends.

Toronto commenced the Sustainable Toronto Project at the beginning of the millennium joining several cities around the world in a commitment to displace all fossil fuel and nuclear import through efficiency and renewable energy supply. Today we reap the benefits of sweet air and joyful sounds-- and to think we used to pay for fuel that threatened our survival. Now it costs so little to maintain our solar utility that energy charges are collected primarily to curb excess and to fund social and ecosystem well-fare and restoration.

We began the Great Transformation by mobilizing the economy around optimized investment in energy efficiency for both new and retrofitted buildings. With trigeneration district energy buildout fueled by municipal and agricultural methane production, much of our energy needs are met while supplying the fertilizer needs for our local, self-sufficient agriculture. Windmills punctuate the skyline and festoon surrounding farmland. Now, if you look down on the City from the Sun's perspective, you'll see the iridescence of photovoltaic Windows, roofs, shades, canopies, and walls piercing the urban forest. With 5% of the area of the City exploited, we generate 2 GW of peak power, enough to supply 25% of our annual needs.

Although we reduced electrical demand by over 50% for buildings and utilities, usage for transportation increased. Public transit, rail travel and shipping, and the hydrogen fuel production for the few vehicles still in use now constitute the major electrical load. Mind you, most of us prefer walking and cycling along the parkways that were once asphalt motorways.

There is much healing yet to be done and many painful regrets for the loss of lives and extinctions; yet we have discovered a sense of belonging as we reconnect with the community of creatures that is our earth.

What can be discerned at this point about the promising future for PVs is that:

1. Projected costs indicate a stabilized lower cost of generation as nuclear and fossil is phased out
2. PVs follow demand better than competing alternatives