

# Moving Energy

One of the biggest problems for all of us is to keep the lights on at home and work by moving power from where we make it to where we use it. This is a big problem because the road we use to move power is very old and works bad. A lot of the power gets lost along the way and that is not good for anyone. When that happens, we have to make even more power to make up for the power lost and that puts more bad stuff into the air we breathe, the water we drink and the land we use to grow food and play on. Our job is to make new stuff to build better “roads” for carrying more power than we have now. If it works, we will be able to save the land, the air and the water, while keeping the lights on.

The roads that carry power and were built by our parents and their parents are made of normal everyday stuff pulled from the ground. This every day stuff is full of “walls and falls” that block power and make it go the wrong way. We are working on a new human-made road that will not have the walls and falls and will let the power move to any place we want it without losing any along the way.

But there's a problem with this new road. You can only move so much power on the road. If you try to put too much power on the road, you have to spend a lot of energy to move it. It is like pushing heavy rocks along the road. This problem is so big that we are still using the old roads built by our parents and their parents. So we are still losing a lot of energy and putting bad stuff into our air, water, and land.



We found we can raise the amount of power carried by the new roads by punching a lot of little tiny spaces in it. This sounds crazy but it really works! These tiny spaces clear the way for power to move without losing energy. This is good and makes the human-made road work much, much better. Even better, we found that all these little spaces make the new road work even better if they are put down in a perfect way. This perfect way was not known before, so this is a big deal. Now we can make human-made roads that can carry much more power than before without any of it getting lost. This makes the human-made power road much easier to make and to use than before. The new road will help fix our problems with keeping the lights on and the air, land, and water clean.

