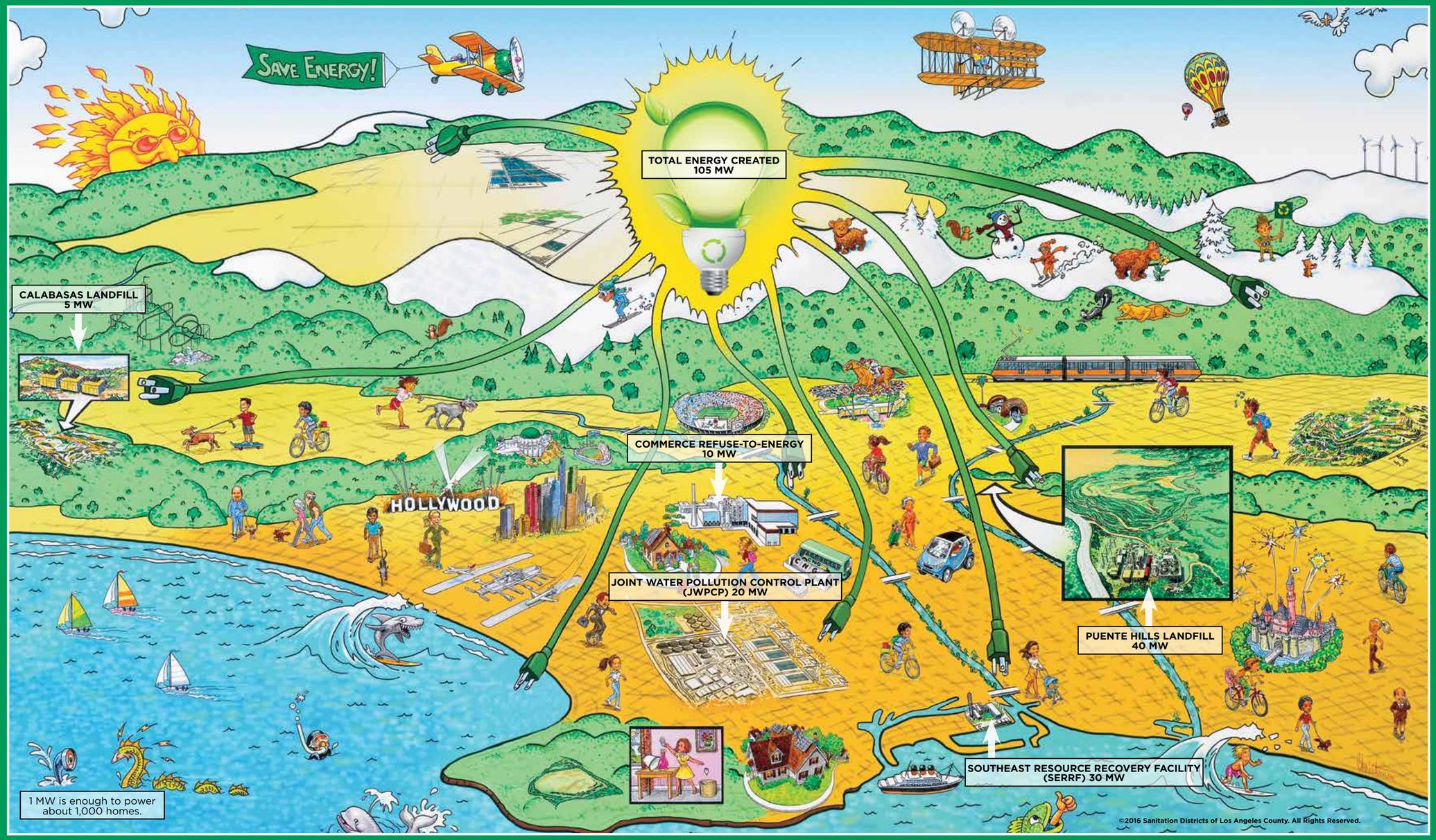
GREEN ENERGY FROM WASTE, IT'S NATURALLY A GREAT IDEA!

The Sanitation Districts of Los Angeles County provide wastewater and solid waste management for more than 5 million people in Los Angeles County. In the process of managing wastewater and trash, the Sanitation Districts recover resources to create green energy.

More than 105 megawatts (MW) of electricity, enough for about 105,000 homes, are produced by five of the Sanitation Districts' facilities. This not only makes the Sanitation Districts one of the top producers of green energy from waste in the country, it also reduces the net energy consumption for the entire agency to almost zero.

Green energy is an environmentally friendly form of energy that produces less air pollution and avoids environmental impacts as compared to other sources of energy production.

For more information, contact the **Sanitation Districts at (562) 908-4288, ext. 2300** or visit us at *www.lacsd.org.*



GREEN ENERGY FROM WASTEWATER

When wastewater leaves your home, it travels to a treatment plant. During the treatment process, bacteria break down the wastewater solids and create a methane-rich biogas.

The Joint Water Pollution Control Plant (JWPCP) in Carson is permitted to treat up to 400 million gallons of wastewater every day and is one of the largest wastewater treatment plants in the country. It uses the biogas created during treatment to generate 20 MW of electricity. The electricity is used to power the JWPCP, making it virtually energy self-sufficient and saving approximately $8 million per year. The plant sells any electricity it does not use to the local power company.

GREEN ENERGY FROM SOLID WASTE

The Sanitation Districts' landfills and refuse-to-energy facilities create renewable energy from your trash! When trash is placed in a landfill, it breaks down to create a methane-rich biogas. The gas is collected in pipes, pulled out of the landfill using vacuum, and used as a fuel to produce electricity. Since methane is a greenhouse gas, converting it into electricity keeps it from warming our planet.

The closed Puente Hills Landfill, near Whittier, was one of the largest landfills in the country and still uses landfill gas as a fuel for a boiler to generate 40 MW of electricity.

The electricity is used to power a nearby wastewater treatment plant. The remainder is sold to the local power company.

The Calabasas Landfill uses the biogas in combustion turbines to produce 5 MW, which is delivered through the grid for use at all Districts wastewater facilities. This plant established new, lower air-emission standards.

In refuse-to-energy facilities, trash is burned in a sophisticated process to generate heat that is then converted into electricity. The Commerce Refuse-to-Energy Facility (above) and Southeast Resource Recovery Facility use this process to generate 40 MW of electricity. State-of-the-art air pollution control devices make these facilities some of the cleanest, in terms of air emissions, of their type in the world.

WHAT YOU CAN DO

- Switch the lights off when not in use
- Use energy-efficient light bulbs
- Carpool or use public transportation
- Ride your bike or walk to the places you need to go
- Encourage solar energy use – the sun provides free energy
- Use energy-efficient appliances - look for energy-efficient logos
- Consider a hybrid, electric or natural gas car when replacing or purchasing a new vehicle

SANITATION DISTRICTS OF LOS ANGELES COUNTY

Converting Waste Into Resources

By creating green energy from wastewater and trash, the Sanitation Districts reduce the need to use non-renewable energy sources such as coal and oil, reduce greenhouse gas emissions, and produce a cleaner source of electricity. Green energy from waste is naturally a great idea! The Sanitation Districts are continuously researching ways to recover even more green energy. Do your part by using energy more efficiently!

Energy Resource Management

ENERGIZING SOUTHERN CALIFORNIA THROUGH RECOVERY FACILITIES

The Sanitation Districts are leaders in the production of green energy and the recycling of water and materials. The following are some of our accomplishments.

Approximately 105 megawatts (MW) of electricity are generated by Sanitation Districts' wastewater and solid waste operations. In total, the Sanitation Districts produce power equivalent to the needs of about 105,000 Southern California homes. Some of the electricity is used in powering Sanitation Districts' operations; the rest is used to reduce the amount of power produced by utilities, thereby reducing greenhouse gas emissions.

ENERGY PROGRAMS IN WASTEWATER

The Joint Water Pollution Control Plant (JWPCP) uses biogas to generate 20 MW of electricity, making the facility virtually energy self-sufficient and saving approximately $8 million per year in avoided electrical costs. Excess electricity is sold to the local power grid.

ENERGY EFFICIENCY IN WASTEWATER

The Sanitation Districts have been leaders in energy efficiency at wastewater treatment plants for decades. Technologies such as fine bubble diffusion, variable speed drives, high-efficiency motors, and automated control systems have allowed the Sanitation Districts to save our rate payers millions of dollars in electrical costs.

ENERGY PROGRAMS IN SOLID WASTE

Landfill biogas, produced during the decomposition of organic material managed in landfills, is used to generate electricity. At the Puente Hills Landfill alone, enough electricity is generated to power about 40,000 Southern California homes. Most of this power is sold to the local power grid, with the remainder used at the nearby San Jose Creek Water Reclamation Plant.

Commerce Refuse-to-Energy and South East Resource Recovery Facilities utilize controlled combustion to convert refuse to electricity – enough to power approximately 40,000 Southern California homes. Sophisticated air pollution control devices make these facilities some of the cleanest of their type in the world.

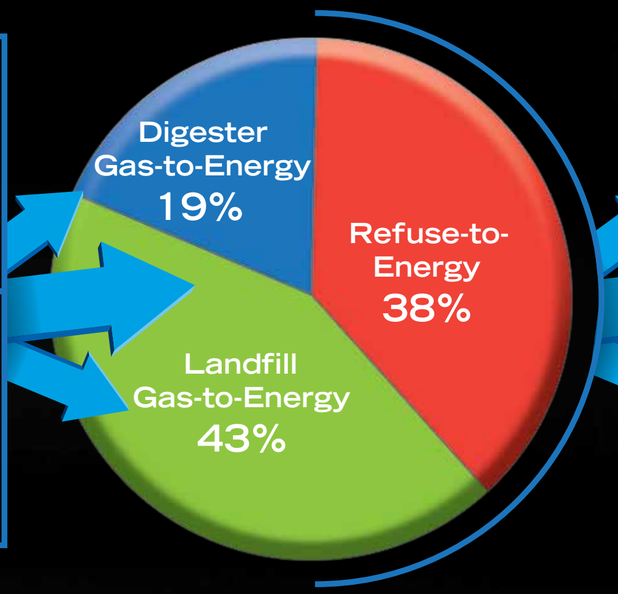
BRINGING TOGETHER SOLID WASTE AND WASTEWATER RESOURCES THROUGH FOOD WASTE DIGESTION

In 2015, the Puente Hills Materials Recovery Facility started a pilot food waste recycling program that is bridging the gap between wastewater and solid waste management. Food waste is "cleaned up" and sent to the JWPCP wastewater facility for digestion. As California moves towards its goal of 75 percent recycling by 2020 and with new requirements for commercial recycling, food waste recycling is seen as the next step in getting to higher recycling targets.

Wastewater Management

Solid Waste Management

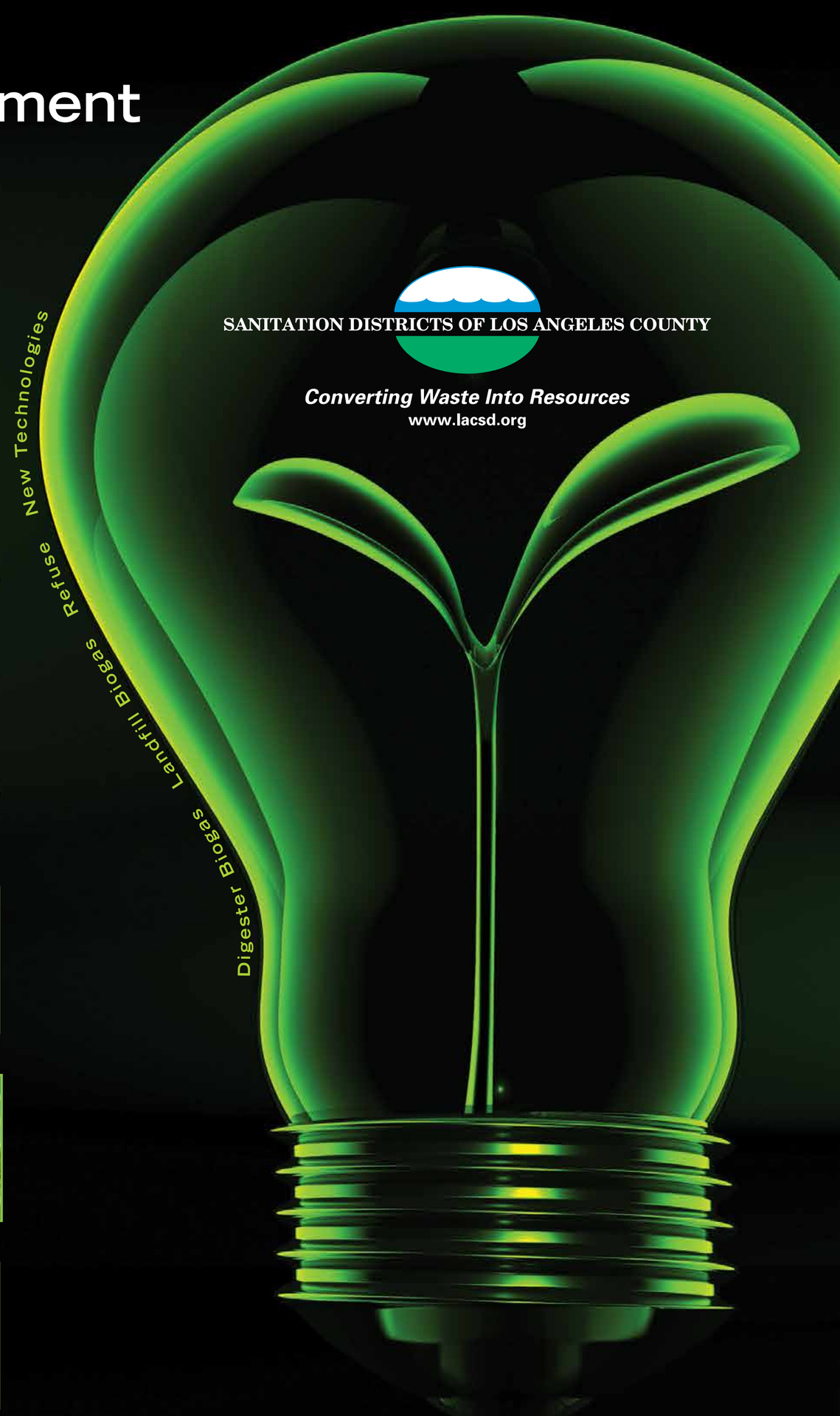
Refuse-to-Energy



JWPCP

Other Districts' Facilities

Power Sales



SANITATION DISTRICTS OF LOS ANGELES COUNTY

Converting Waste Into Resources

www.lacsd.org