

TEL's Eco Products

Using LCA techniques, TEL is efficiently reducing the environmental impact of its equipment. Building equipment to energy-saving specifications also controls running costs.

Example of Product Energy Saving Measures

TEL studies the environmental effects of all its products based on LCA principles. The following account is an example of saving energy in the development of a cleaning system.



Old product (UW8000)

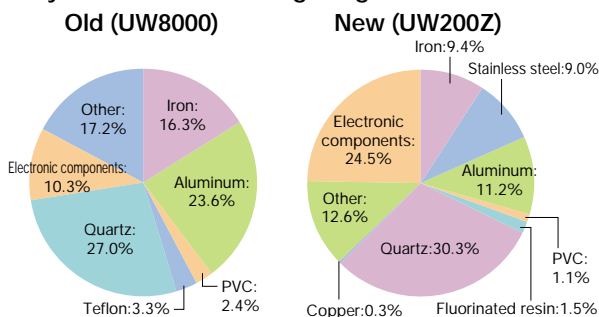


New product (UW200Z)

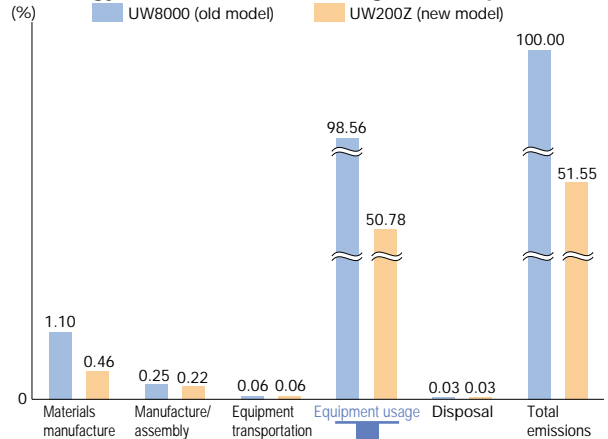
Efficiently reducing the environmental impact of equipment usage requires analysis of equipment characteristics. LCA-based evaluation of cleaning systems indicates that a great deal of energy is used for ultra pure water, power and ventilation of the system during use. TEL has studied specifications for reducing these quantities at the equipment development stage. When the new UW200Z is compared to the older product, UW8000, by converting environmental impacts into CO₂ emissions, we find that the total environmental impact is cut in half and that, in fact, environmental impact was reduced at every stage of the product's life. Guiding the development of this new system was a policy to cut by half the amount of ultra pure water characteristically used by cleaning systems. This led to an effective reduction in environmental impact.

Moreover, regarding the choice of materials used in the system, TEL opted to use SUS stainless steel, which takes little energy to produce, in place of aluminum, which requires a great deal. As a result, the energy now used is only 42% of that previously consumed.

Proportion of CO₂ Emissions Accounted for by Each Material During usage

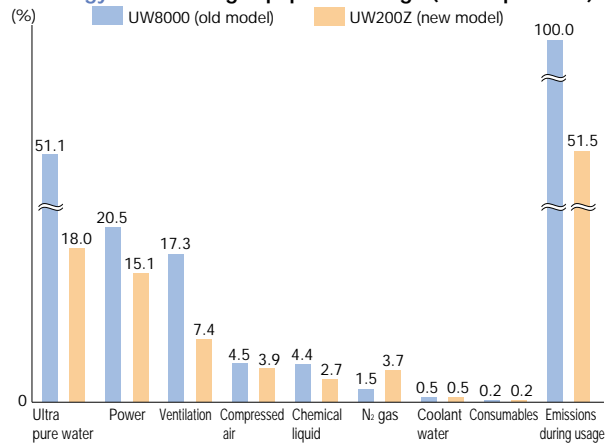


Energy Used at Each Life Stage (CO₂ Equivalent)*



*Where total emissions from UW8000 are taken as the standard.

Energy Used during Equipment Usage (CO₂ Equivalent)*



*Where total emissions from UW8000 are taken as the standard.

TOPICS

Example of Oxidation/Diffusion System Environmental Impact Reduction

TEL is also using LCA techniques to mitigate environmental impact in areas other than cleaning systems. Oxidation/diffusion systems, which are used to produce semiconductors, consume considerable energy during thermal processing at hot temperatures. In addition, the equipment must be cooled. For this reason, equipment is built that enables coolant water to absorb heat from the heater, rather than allowing the heat to radiate into the surrounding room.

Because semiconductor production takes place in clean rooms that must be kept immaculate and at a constant temperature, displacing extra heat into the room's interior leads to energy waste when air conditioning is used. TEL is undertaking energy-saving measures suited to this production environment.