

It is commonly thought that energy-saving can be obtained by lifts installed in major commercial buildings only.

A substantial contribution in energy saving can derive from the lifts operating in residential buildings too. The lift is a machine, and like all the machines in the world requires energy for its functioning.

It is included among those plants for which it is possible - and a must - to study ways of energy saving.

Energy availability has always been a need and a problem for human beings, whose evolution has been made possible through the discovery of new energy sources.

Today energy is still available but it has become growingly precious as the modern society totally depends

A bit of green

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upon it. The progressive ageing of the population and the longer life expectancy are problems connected with the energy consumption of buildings (and hence lifts).

Building accessibility is one of the issues for the future, if not already for the present time.

The lift is a key element for building accessibility and one cannot forget that escalators and moving walks are in the same way vital for people's mobility, considering also the impact of increasing age.

Let us say that the existing lifts are suffering from natural ageing and losing their reliability.

Poor performance has an effect on energy consumption, as installations subject to frequent breaks require continuous maintenance and the transfer of operators in charge of repairing triggers the increase of fuel consumption.

The renovation of lifts means immediate energy saving, as the new components are more efficient than the old ones and the general modernisation thus increases the energy efficiency of the installations. During the last years of the 20th century, lift technology has undergone a revolution with the introduction of MRL installations thus launching a low-consumption motor.

The lifts can make the difference in terms of reduction of energy consumption of buildings, currently one of the largest energy consumers in the world.

Energy-efficiency lift systems have already been introduced onto market more than ten years ago, allowing a 30% reduction in the energy consumption of lifts, with a further 20% reduction target by 2010. The energy reduction opportunities offered by new-concept lifts cannot totally solve the question of the energy consumption as the problem of existing lifts is still real.

Let us examine the opportunities provided by the new technology.

Obviously, the first one is to replace the obsolete lift with a state-of-the-art installation conceived for low-energy consumption.

The most glaring example is the replacement of the hydraulic lift with a low-energy consumption traction lift (saving to be estimated on the basis of thousands kWh per year and single lift).

This is an important opportunity but not the only one, as technology keeps pace and offers more.

It is possible to recover energy in the braking phases of the motor by means of regenerative systems.

The lift management can provide the option to disconnect the energy consuming appliances whenever these are not required.

Likewise the car lighting when the car is stationary at the landing with the doors closed, the ventilation and conditioning systems.

The dimming of the light displays at floors can be reduced.

All lighting and displays can be realised with LED systems, allowing a very low consumption and a much longer life, compared to the halogen or incandescent appliances.

For energy saving, it is possible to adopt solutions not requiring a counterweight and allowing the transportation of a higher number of people in the same lift shaft.

It is possible to think about a reduction of lighting intensity of the floors where the lift car is not present. It is also possible to power car lighting with solar panel supply.

Group lifts can be operated by adopting passengers pre-selection systems for each car, by reducing the number of stops and consequently the total number of trips.

The green lift is then a real opportunity that can contribute to energy saving. ■

Translated by Antonella Borrelli