Energy efficiency measures applied to site and tunnel facilities

Espíno tunnel

This set of measures is focussed on energy efficiency and reducing site dependency on generators and other types of diesel consumption.

1. Use of solar panels to supply power to the cabin and the weigh bridge. 320W/day is generated by the panels, supplemented by an accumulation battery, obtaining tension at 23V and 24V. The facility also includes a light sensor, which automatically turns off the interior lighting when light-sufficiency is detected.

2. Fitting of LED luminaires along a 7,900m tunnel. Despite consuming only 24W, which is three times less than fluorescent bulbs, these luminaires ensure at least the same level of light intensity inside the tunnel. The system allows for connection in series, enabling even simpler execution of works. Their high resistance to impacts minimizes the need to replace them due to breakage.

3. Extension of electricity supply networks to inhabited areas: 2 generators and 2 diesel-motor lighting towers were eliminated, whilst maintaining the power supply to the facilities area and mouth huts, as well as platform lighting.

4. Installation of dimmers and photo-sensors in exterior lit areas.

5. Site office heated by pellet stove, replacing the previously-used gasoil boiler.

Environmental benefits:

✓ 175 tonne reduction in our carbon footprint
✓ Low maintenance and running costs.
✓ Site cost-reduction of over 100,000 €

Substituting groups mains supply saves 47,602 € in 31 months (125 tons of CO2)

Over one year, costs are reduced by 33,000 € and consumption by 70,000 kWh/year

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