

## EMISSIONS

RED ELÉCTRICA prepares its emissions inventory based on the GHG Protocol methodology. Since 2011, it has been working on expanding the inventory and in improving the calculation processes. The goal for 2014 is to submit the inventory to a verification process by an accredited entity. The emissions inventory and performance indicators can be found at the end of this chapter.

## SF<sub>6</sub> EMISSIONS

THE MAIN direct emissions derived from Red Eléctrica's activities are those coming from sulphur hexafluoride (SF<sub>6</sub>); 98% of total direct emissions calculated in terms of CO<sub>2</sub>.

Red Eléctrica works in collaboration with the public administration and other entities (joining the research project of EPRI-Electric Power Research Institute) in the quest to find solutions for the control and reduction of emissions of this gas.

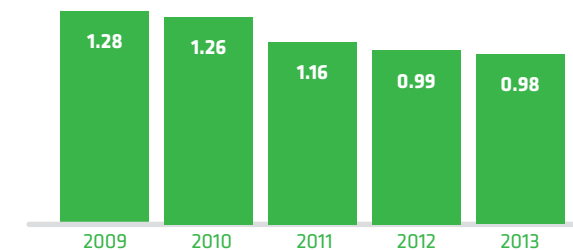
### SF<sub>6</sub> Reduction measures [-EN18-]

- >> Renovation of equipment for other with lower rate of leakage.
- >> Improvement in the procedures for the control and identification of leaks, inventory and management of SF<sub>6</sub> gas.
- >> Use of highly efficient management equipment and measurement equipment. Within the scope of the plan

designed for 2011-2014, in 2013, we continued to supply new management equipment with a higher capacity of extraction. Emissions savings of 1,000 tonnes of CO<sub>2</sub> equivalent per year is estimated.

- >> Education and training of all personnel involved in any way with the management or handling of the gas. During 2013, 265 technicians obtained their certification through the two Red Eléctrica centres that are officially recognised.

### AVERAGE EMISSION RATE SF<sub>6</sub> (% OF EMISSIONS OVER GAS INSTALLED)



### MANAGEMENT OF SF<sub>6</sub>

|  | 2011    | 2012    | 2013                   |
|--|---------|---------|------------------------|
| SF <sub>6</sub> installed (kg)                                   | 245,415 | 332,541 | 350,221 <sup>(1)</sup> |
| Emissions of equipment in service (kg) <sup>(2)</sup>            | 2,850   | 3,301   | 3,418                  |
| Average emission rate of equipment in service (%) <sup>(3)</sup> | 1.161   | 0.993   | 0.976                  |
| Emissions derived from accidents (kg)                            | 76.5    | 31.0    | 11.4                   |
| Total emissions (kg)   | 2,927   | 3,332   | 3,430                  |

<sup>(1)</sup> The growth in installed gas is due to the putting into service of new facilities and the replacement of old equipment for SF<sub>6</sub> insulated equipment.

<sup>(2)</sup> The savings derived from reduction measures implemented are not reflected in this inventory due to the fact that the calculation is based on the allocation of different emission factors depending on the age of the equipment installed (these factors are reflected in the Voluntary Agreement signed in 2008 by the parties involved).

<sup>(3)</sup> The decrease in the average rate of emission is due to the renewal of equipment for others with a lower rate of leakage.