

SAVINGS OF 16 MILLION EUROS IN 2017 THANKS TO IDEAS OF ENDESA STAFF WORKING IN GENERATION BUSINESS

- *Eleven percent of personnel from 25 generation facilities took part in the fourth edition of the “Search and Find Improvements” (BYEM) Awards for production unit employees at Endesa’s coal, fuel-oil and combined cycle thermal plants.*
- *A total of 311 ideas were received, 84 of which have been rolled out at an average cost of 1 million euros.*
- *The BYEM Best Overall Proposal Award went to a project implemented in full this year at the As Pontes thermal plant (A Coruña) to enhance coal pulverising processes, leading to savings of 9 million euros per annum and a 4-euro reduction in cost per MW/h.*
- *At the award-giving ceremony, which was held at Endesa headquarters in Madrid this year, the company’s CEO, José Bogas, once again congratulated all the staff on the success of this programme, not only in terms of the high level of participation (with 11% of the 2,000 persons working in this business line), but also for the quality of the ideas.*

Madrid, 4th January 2017 – Ideas submitted by staff from Endesa’s generation business have led to savings of 16 million euros in 2017. This was the outcome of the “Search and Find Improvements” (BYEM) Awards for production unit employees at Endesa’s coal, fuel-oil and combined cycle thermal plants.

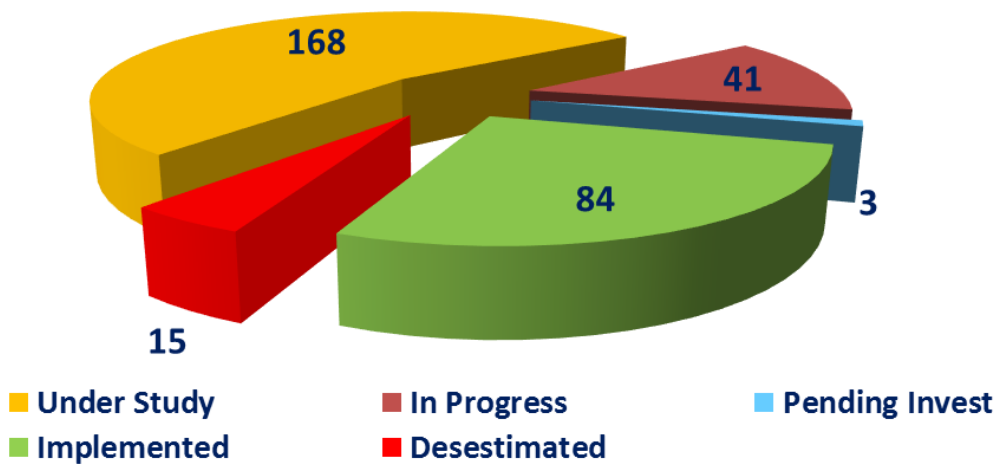
Eleven percent of personnel from Endesa’s 25 generation facilities took part in this fourth edition of the awards, and the new ideas proposed this year drove down costs by 7 million euros.

Overall, staff presented 311 ideas, leading to a total of 84 new projects being implemented. In addition to this, a further 41 are in progress, another 168 are being considered, and only 15 have been rejected.

Suggestions from the employees taking part in the latest edition of the awards will generate 16 million euros – between cost savings and higher revenues – per annum on a recurring basis at

their thermal plants. What is even more significant is that the 16 million euros achieved required an average outlay of around 1 million euros (primarily involving modifications to production process conditions, without the need for direct investments). Total savings attained through the improvements submitted and rolled out over the last three financial years total 37 million euros, costing approximately 5 million euros.

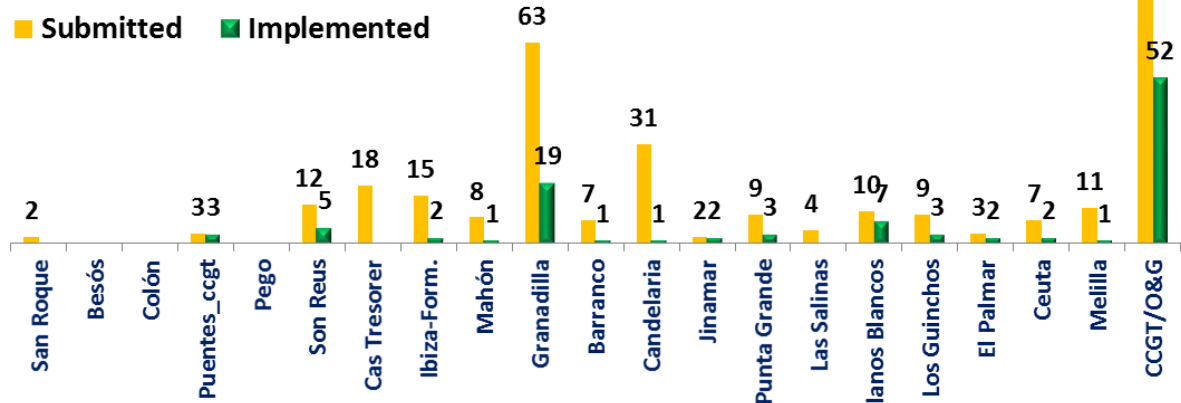
Proposals Status



Each edition of the BYEM Plan ends with a BYEM Awards ceremony at Endesa to acknowledge the best improvement proposals. During the event held this year at Endesa's head office in Madrid and attended by over two hundred people, Endesa's CEO, José Bogas, once again congratulated all staff for their success in this programme, recognising not only the high participation rate (11% of the 2,000 workers) – in line with previous editions, but also the quality of the ideas submitted.

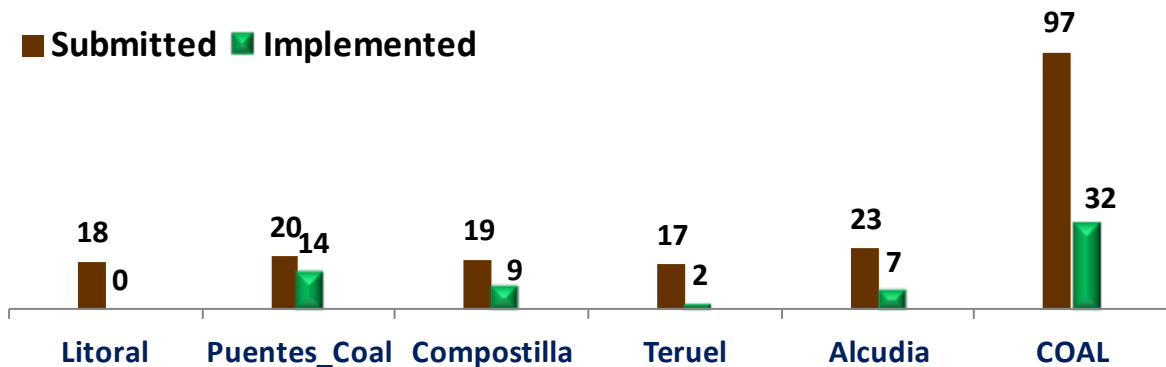
Generation centre proposals

CCGT/O&G Proposals (No.)



COAL Proposals (No.)

■ Submitted ■ Implemented



2017 BYEM AWARDS

This edition included two new categories to recognise the best ideas on sustainability and digitalisation, one of the company's main priorities as set out in its latest Strategic Plan.

The 2017 BYEM Best Overall Proposal Award went to the project at the As Pontes thermal plant (A Coruña) to *optimise pulverising and increase milling capacity in the coal mills* to be able to burn coal that has a lower calorific value but is cheaper. This type of coal is larger than that used to date, and so the pulverising capacity of the mills had to be increased. The improvement cost 250,000 euros, generating savings of 9 million euros per annum.

Another 11 improvement ideas were also recognised in several categories:

Award for the best **safety improvement** proposal.

- Coal-fired thermal plants: As Pontes (A Coruña): *Safety improvements in the handling and maintenance of coal mill pulveriser wheels.*
- Fuel-oil, gas and combined cycle thermal plants: Son Reus (Majorca). *Improvements in the fire protection systems of the auxiliary start-up boiler.*

Award for the best **environmental improvement** proposal.

- Coal-fired thermal plants: Carboneras (Almeria). *Evacuation of coal ash and bottom ash by ship.*
- Fuel-oil, gas combined cycle thermal plants: Barranco de Tirajana (Las Palmas de Gran Canarias). *Washing with seawater of SO₂ absorber components in scrubbing system.*



Award for the best **operating efficiency improvement** proposal.

- Coal-fired thermal plants: Andorra (Teruel). *Maximisation of local lignite.*
- Fuel-oil and gas combined cycle thermal plants: As Pontes (A Coruña). *Implementation of an energy saving system in cooling towers.*

Award for the **most innovative environmental, health & safety idea.**

- Compostilla coal-fired thermal plant (Leon). *New LOTO (lock-out/tag-out) physical block model for inspections of thermal group*

Award for the **most innovative operating efficiency idea.**

- Granadilla thermal plant (Santa Cruz de Tenerife). *Neuraldata: Prediction model using neural networks*

Award for the **most innovative proposal for new business models and new generation technologies.**

- Candelaria thermal plant (Santa Cruz de Tenerife). *Downloads at facilities using NFC technology.*

Award for the best **sustainability** proposal.

- Endesa Mining Team. *Environmental restoration plan for Endesa's mines (As Pontes, Andorra, Puertollano, Peñarroya)*

Award for the best **digitalisation** proposal.

- OPO Area - Monitoring & Diagnostic Room at Endesa. *HeRa Digital. Model for updating specific consumption curves to prepare bids of generation units operating on wholesale market*

All the winning ideas will participate in the international edition of the Enel Group's Gxcellence Awards programme, which will take place for the 2nd time this year and will be announced at the beginning of next year.