

## **ATENEA Project**

### **Celullosic Bioethanol from Citrus Waste**

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#### ABSTRACT

Two million tonnes of citrus waste are produced in the Valencian Area every year. Additionally, the citrus juice industry generates 600.000 Tm of orange peels. The Valencian government are interested in the use of this citrus waste to produce bioethanol. The citric waste is mainly composed by peels, seeds and membranes that contain monosaccharides, celulloses, hemicelluloses and pectins, that will be transformed in bioethanol through a fermentation process. IMECAL, in collaboration with CIEMAT, FORD SPAIN and AVEN, are developing an industrial process to obtain bioethanol from this waste.



Feedstock



Limonene removal equipment



Pilot plant first level



Distillation columns



Plant Laboratories



Fermentors and FORD FFV vehicles



Experimental pilot plant

Fermentors

ENERALITAT VALENCIA

**PROYECTO ATENEA** PLANTA EXPERIMENTAL

# Producción de BIOETANOL a partir de RESIDUOS DE CÍTRICOS

Promotores: Ciemat











Colaboran

