

Socio economic analysis: national gigafactories

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This study quantifies the socioeconomic impact generated by the construction of a gigafactory to produce stationary storage systems on the Italian economy. The assessment is carried out through an input-output (IO) model based on the most recent supply and use matrices published by Istat. IO models are based on matrices that describe economic flows between sectors of an economy, households, the government, and foreign countries and allow the quantification of the effects of an exogenous shock on the main economic variables through the resolution of systems linear equations.

Part of the data used to build the model have been provided by a leading company in the stationary storage production sector.

The initial investment, which involves a two-year construction phase of the plant, generates an impact equal to 0.02% of Italian GDP in 2019 in each of the two years. Such an impact doubles in the years in which the plant operates at full capacity.

The multiplier analysis shows that, when fully operational, the gigafactory's operation has a greater impact on the gas and electricity supply, on the wholesale trade and on the metallurgical activity sectors.

The impacts on employment are not particularly significant, due to the high capital intensity of the sector assessed.

The production of storage systems implies that large quantities of raw materials and chemical products need to be imported: if these were produced in Italy, the impact on GDP would be 13% higher than in the baseline scenario.