# Wide Economic Impacts of Energy Storage: The Case of Argentina

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Renewable energy technologies offer a pathway to decarbonize power systems, yet their intermittent nature introduces important challenges for system operation. Energy storage can mitigate this issue by shifting supply across time, thereby stabilizing markets and enhancing system flexibility. This paper studies the economic and environmental impacts of deploying energy storage in Argentina using a two-step approach: an optimal electricity dispatch model to estimate electricity cost changes, and a recursive general equilibrium model to evaluate macroeconomic, sectoral, and distributional effects. I simulate storage capacities equal to 5% and 7% of total generation capacity under current conditions (2021) and under a projected 2030 system with higher demand and major expansions in renewable generation. Across scenarios, average electricity costs fall by 1.9â€“3.36%, with the largest gains in the 2030 system, where storage becomes more valuable as renewable penetration rises. These cost reductions generate broad economic benefits. GDP increases by 0.47â€“1.11 percentage points over a decade, unemployment falls by 0.07â€“0.19 p.p., and fiscal revenues rise by 0.43â€“1.13 p.p. Welfare improves for all households, especially among lower-income groups, reducing inequality. Emissions fall by 1.9â€“3.02 p.p. and the emissions intensity of the economy declines. Sectoral results show that electricity-intensive industries such as Construction, Non-Metallic Minerals, and Extraction are the main winners, while Fuels and Primary activities are the lossers. A comparison between annualized GDP gains and investment costs shows that the social benefits of storage exceed its capital expenditures in all scenarios. These findings highlight the strong case for public support to foster investment in energy storage and capture its full economic, environmental, and distributional benefits for Argentina.