

## TOP TEN

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Category: **Crossmodality**

Country: **Portugal**

Research Area 1: **Climate Change, Mitigation and Resilience**

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# Airport pavement energy harvesting

The ability to connect remote regions and the trip duration make flying an efficient transport mode for long-distance travels. However, this mode of transport, and the whole industry based on it, civil aviation, accounts for 2% of all man-made carbon emissions. The emerging need for sustainability the civil aviation sector has responded to the global challenge of sustainable development with targets to reduce CO<sub>2</sub> emissions by using a 4-pillar strategy to assess aviation's environmental impact and, subsequently, to meet the CO<sub>2</sub> emission targets. Airports are also part of the civil aviation sector and, besides contributing only with 5% to the sector's CO<sub>2</sub> emissions, adopted a set of measures to reduce greenhouse gas emissions. Aware of the recorded climate change, airports have been channeling their efforts searching for renewable energy to create conditions for energy independence, and so, resilience. This is therefore a good opportunity for the entry of new sources of energy production, namely energy harvesting. The main objective of this research is the development of an innovative device that enables the transformation of the kinetic energy directed to the airport pavement into electrical energy. To achieve the uninterrupted power supply needs, and for an airport resilience aid, the energy storage is also addressed so that the electric power can supply essential equipment uninterruptedly for airport's operations.



## Key Characteristics

Airport • Resilience