

What is energy return on investment (EROI)?

Thus, new flexible and open-source optimization modeling tools are required to capture the increasing complexity of future energy systems. This study addresses this issue by considering a comprehensive indicator: the energy return on investment (EROI). It better encompasses the technical and social challenges of the energy transition than the cost.

What is the EROI optimum for the 2035 Belgian energy system?

The result of an EROI optimum for the 2035 Belgian energy system of 8.9 is close to the estimation of the 2018 societal worldwide EROI (Dupont et al. 2021 ). However, this comparison suffers from two limitations. First, in their model, the current global energy system was mainly based on fossil fuels in 2018.

How many renewable resources are there in Belgium?

The results indicate a lack of endogenous renewable resources in Belgium of 275.6 [TWh/y], amounting to 30-40% of the primary energy demand. Several recommendations are proposed to obtain additional potential such as importing renewable fuels and electricity or deploying geothermal energy.

Can EROI metric be used to study Belgian energy system?

A first attempt to study the Belgian energy system using the EROI metric was conducted by Limpens and Jeanmart ( 2018 ). The study focuses on the mix of energy storage technologies to allow a high penetration of intermittent renewable energies.

What is energy in Belgium?

Energy in Belgium describes energy and electricity production, consumption and import in Belgium. It is governed by the energy policy of Belgium, which is divided between several levels of government.

What is the future energy mix for Belgium?

The study Elia ( 2017) analyzes both short-term and long-term policy options on the future energy mix for Belgium on the path towards 2050. It proposes the "base case scenario," "decentral scenario," and "large-scale RES scenario."

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This novel model is applied to the Belgian energy system in 2035 for several greenhouse gas emissions

targets. However, moving away from fossil-based to carbon-neutral energy systems raises the issue of the uncertainty of low-carbon technologies and resource data.

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any energy system at the worldwide, country, or regional level. We use a real-world case study to illustrate the model: the 2035 Belgian energy system for several greenhouse gas emissions targets.

Having already been active in Spain and the Netherlands, Return is now officially entering the German and Belgian markets. Following their expansion into Germany and Belgium, the next step will be to extend their presence to the entirety of the European market.

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Return Carbon will be Carbon8's strategic business partner in Belgium and The Netherlands. Return Carbon will identify and secure projects in the two countries where Carbon8's carbon capture and use technology is suitable for deployment.

As a member country of the European Union Belgium also complies with its energy policy. Belgium is heavily reliant on ageing nuclear reactors and gas powered generators, although renewables (especially wind power) are generating an increasing percentage of ...

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Abstract The Energy Return On Investment (EROI) is a recognised indicator for assessing the relevance of an energy project in terms of net energy delivered to society. ... Universit&#233; ...

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