

Regional irradiation index as a measure of renewable energy feasibility for industry

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Credit: Youris.com

Where's the best place to set up a factory in Europe? Athens, of course—as unexpected as it may seem, the Greek capital ranks first in a special list of 40 regions across the EU for conditions ideal for the

integration of renewable energy, notably solar, in manufacturing activities.

That's the finding of a study by the German consultancy group Dr. Jakob Energy Research, which specializes in [renewable energy](#) and climate engineering. CEO Uli Jakob says, "We developed a concept called [Manufacturing Reference Scenarios](#). The idea is to provide an initial assessment of production sites in terms of how much their [energy consumption](#) can be optimised via local factors. To do this, we adopt a benchmarking approach that considers parameters like environmental effects, referring to the [energy](#) mix and CO₂ emissions, or the specificities of different sectors when it comes to producing a given quantity (textile, iron or any other product). It goes without saying that different materials use different amounts of energy."

"Aside from this, we also investigated the concept of the renewability of industrial locations, meaning the global advantage or disadvantage a company might have from investing in a given production site with regard to the renewable sources available," he says.

And Athens scores very high on so-called radiation analysis. "In our exercise, we examined 40 locations in Europe, and extracted data on their irradiation across different periods of the year and compared them with the costs of thermal energy. In principle, where you have good irradiation and high costs for energy, you have more favourable conditions for investing in the integration of solar energy in industry."

Quite interestingly, the study points to Stockholm as another case for a shift to solar, though its irradiation index is lower than those recorded in southern cities such as Lisbon, Madrid or Marseille. "That's because the costs of energy in Sweden, and also in other northern regions we have considered like Gothenburg, Oslo and Helsinki, are very high. In the case of Stockholm, the irradiation potential is higher, and thus, the

overall conditions are more promising than in the other cities," explains Jakob.

"To get to concrete conclusions on the feasibility and return on investment of a shift to a renewable source, you also need to consider other specific elements like the characteristics and costs of the installations you have in mind. We wanted to provide factory owners with the appropriate methodological tools to evaluate the investments needed to improve the energy efficiency and costs of their production. We know very well that decisions on where to build a factory are the result of fairly complex processes, and in that complexity, an objective appraisal of what a location can offer in terms of renewables, has some added value," he concludes.

And it's not only factory managers who benefit, according to Alexis Galinos, CEO of the Athens Development & Destination Management Agency. "This looks like a very interesting tool to inspire regional policies, too," says Galinos, whose attention was caught by the top position of Athens in the solar renewability ranking. "Knowing that our territory has potential in this sense should, of course, help us raise its attractiveness for industrial investment."

Provided by Youris.com

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