

10. BEST HACKING LEAGUE

SOLAR MONEY

Prymalni dualiści

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+20% (CARG)



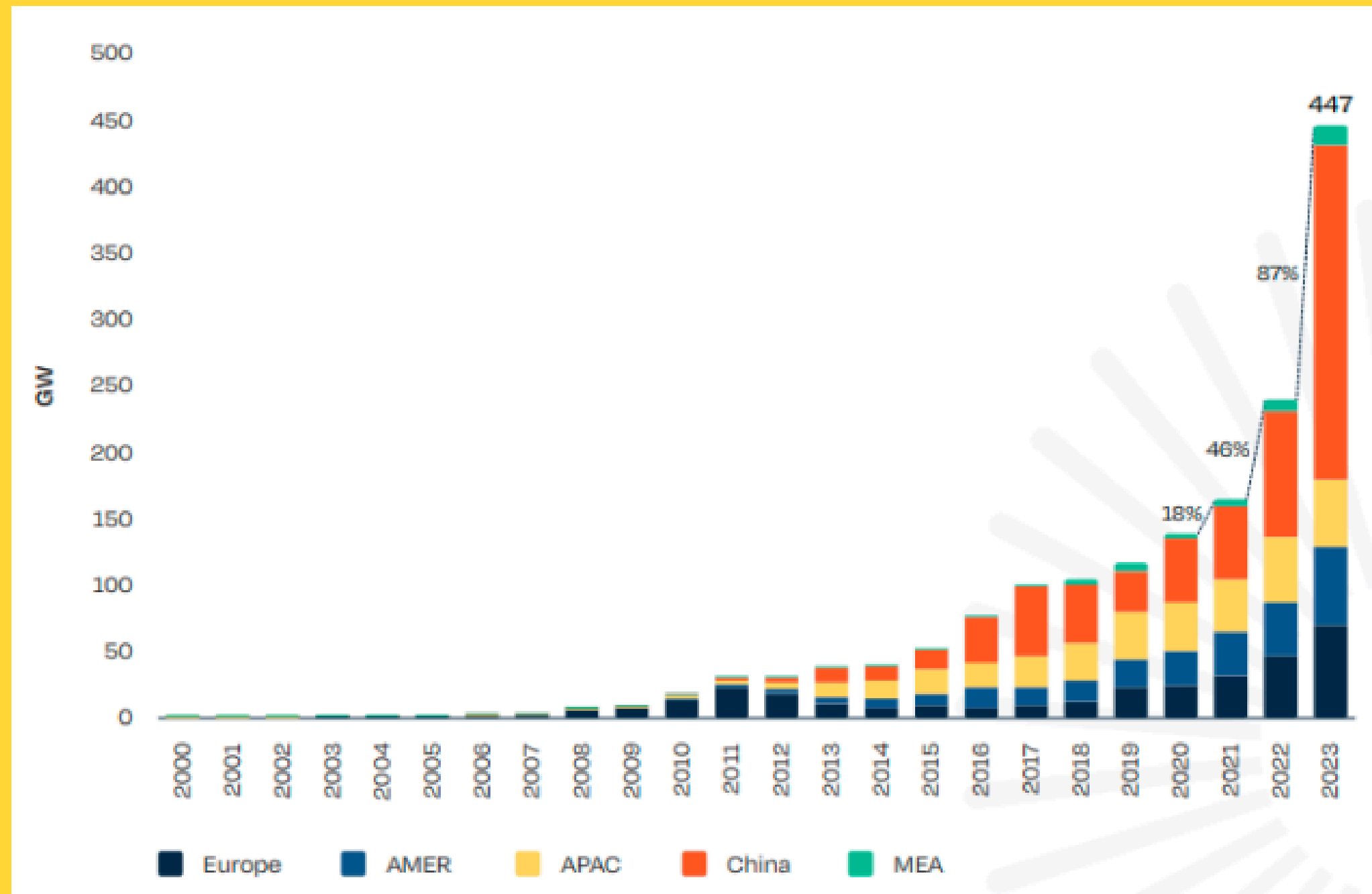
\$5.67BN

2024

\$25.04BN

2032

Interest in solar panels



OUR GOAL

01

Simplify solar investments!

Remove barriers to solar energy with easy-to-understand, personalized cost-benefit analyses.

02

Empower Energy Independence!

Help users make informed decisions about solar energy by providing transparent savings projections.

03

Go green!

Encourage green energy adoption by showcasing the financial and environmental benefits of solar installations.

SIMPLE

SOLUTION

To **YOUR PROBLEM**

OH, IT'S SO SIMPLE



$$\operatorname{argmax}_{x_j \in S} \left(f(x_j, y) - \frac{1}{|S|^2} \sum_{l \in S} g(x_j, x_l) \right)$$

METHODOLOGY

- (MRMR) Maximum Redundancy Minimum Relevance algorithm
- Auto-ML solutions
- Shapley formulas & plots analysis
- Statistical input: t-test and F-test, AIC and BIC criterion, residuals (modified, studentized) analysis
- **We apply critical thinking and expertise to develop our solutions, ensuring thoughtful design rather than blindly coding.**

$$\varphi_i(v) = \sum_{S \subseteq N \setminus \{i\}} \frac{|S|! (n - |S| - 1)!}{n!} (v(S \cup \{i\}) - v(S))$$

FASTER?

LET'S *GO*

FASTER

AND STILL

GOOD

Solar Money Calculator

Upload a file with measurements



Drag and drop file here

Limit 200MB per file • CSV

Browse files

Enter the price of 1KWh

1,53

-

+

Enter the number of panels

5

-

+

Select efficiency

18

1

100

Enter the area of one panel

1,70

-

+

Predict

Predicted yearly solar energy production:
1588.763 KWh

Predicted yearly savings: 2430.808 zł

REGULATIONS



OTHERS?

SUNWATTS,
SOLAR PANELS VENUE,
PVGIS

HOW ARE WE BETTER?

BIBLIOGRAPHY

- <https://www.businessresearchinsights.com/market-reports/solar-power-system-batteries-market-102105>
 - <https://www.evwind.es/2024/06/19/world-to-achieve-2-tw-of-total-photovoltaic-pv-this-year/99200>
 - https://www.researchgate.net/figure/Monthly-average-daily-solar-radiation-on-horizontal-plane-for-Gharda-ia-site_fig1_234022870
 - Zaigrajew, V., Baniecki, H., Tulczyjew, Ł., Wijata, A. M., Nalepa, J., Longépé, N., & Biecek, P. (n.d.). Red Teaming Models for Hyperspectral Image Analysis Using Explainable AI. Warsaw University of Technology, University of Warsaw, Silesian University of Technology, KP Labs, and European Space Agency
 - Lundberg, S. M., & Lee, S.-I. (n.d.). A Unified Approach to Interpreting Model Predictions. Paul G. Allen School of Computer Science and Department of Genome Sciences, University of Washington. Retrieved from <https://arxiv.org/abs/1705.07874>
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