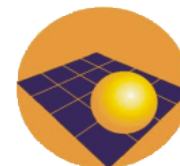
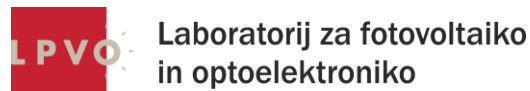




10. SLOVENSKA FOTOVOLTAIČNA KONFERENCA



SLO-PV 2024





10. SLOVENSKA FOTOVOLTAIČNA KONFERENCA

UL FE, 19. 6. 2024

Otvoritveni govor SLO-PV 2024

Minister BOJAN KUMER

Ministrstvo za okolje, podnebje in energijo

9. SLOVENSKA FOTOVOLTAIČNA KONFERENCA
[SLO-PV 2023](#)
8. SLOVENSKA FOTOVOLTAIČNA KONFERENCA
[SLO-PV 2022](#)
7. SLOVENSKA FOTOVOLTAIČNA KONFERENCA
[SLO-PV 2018](#)
6. SLOVENSKA FOTOVOLTAIČNA KONFERENCA
[SLO-PV 2016](#)
5. SLOVENSKA FOTOVOLTAIČNA KONFERENCA
[SLO-PV 2014](#)
4. SLOVENSKA FOTOVOLTAIČNA KONFERENCA
[SLO-PV 2012](#)
3. SLOVENSKA FOTOVOLTAIČNA KONFERENCA
[SLO-PV 2010](#)
2. SLOVENSKA FOTOVOLTAIČNA KONFERENCA
[SLO-PV 2008](#)
1. SLOVENSKA FOTOVOLTAIČNA KONFERENCA
[SLO-PV 2006](#)



Priložnosti, izzivi
Moderator razprave
Janez Kopač
MG, Direktorat za
Tanja Bogataj in
MOP, Direktorat za
Jože Dimnik
Inšpektorat RS za
Uroš Merc
Slovensko združenje
Marko Topič
Slovenska tehnološka



REPUBLIKA SLOVENIJA
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Slovenija doseгла 25-odstotni delež obnovljivih virov energije

18. 6. 2024

[Ministrstvo za okolje, podnebje in energijo](#)

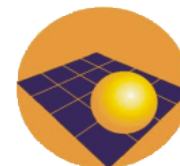
Slovenija je leta 2023 prvič dosegla cilj 25-odstotnega deleža obnovljivih virov energije (OVE) v bruto končni porabi energije. S tem dosežkom Sloveniji ne bo treba kupovati statističnega prenosa, kar je bilo treba v prejšnjih treh letih, ko je za to skupno odštela 18 milijonov evrov.



10. SLOVENSKA FOTOVOLTAIČNA KONFERENCA



SLO-PV 2024





Naproti multi-GW fotovoltaiiki v Sloveniji

Marko Topič

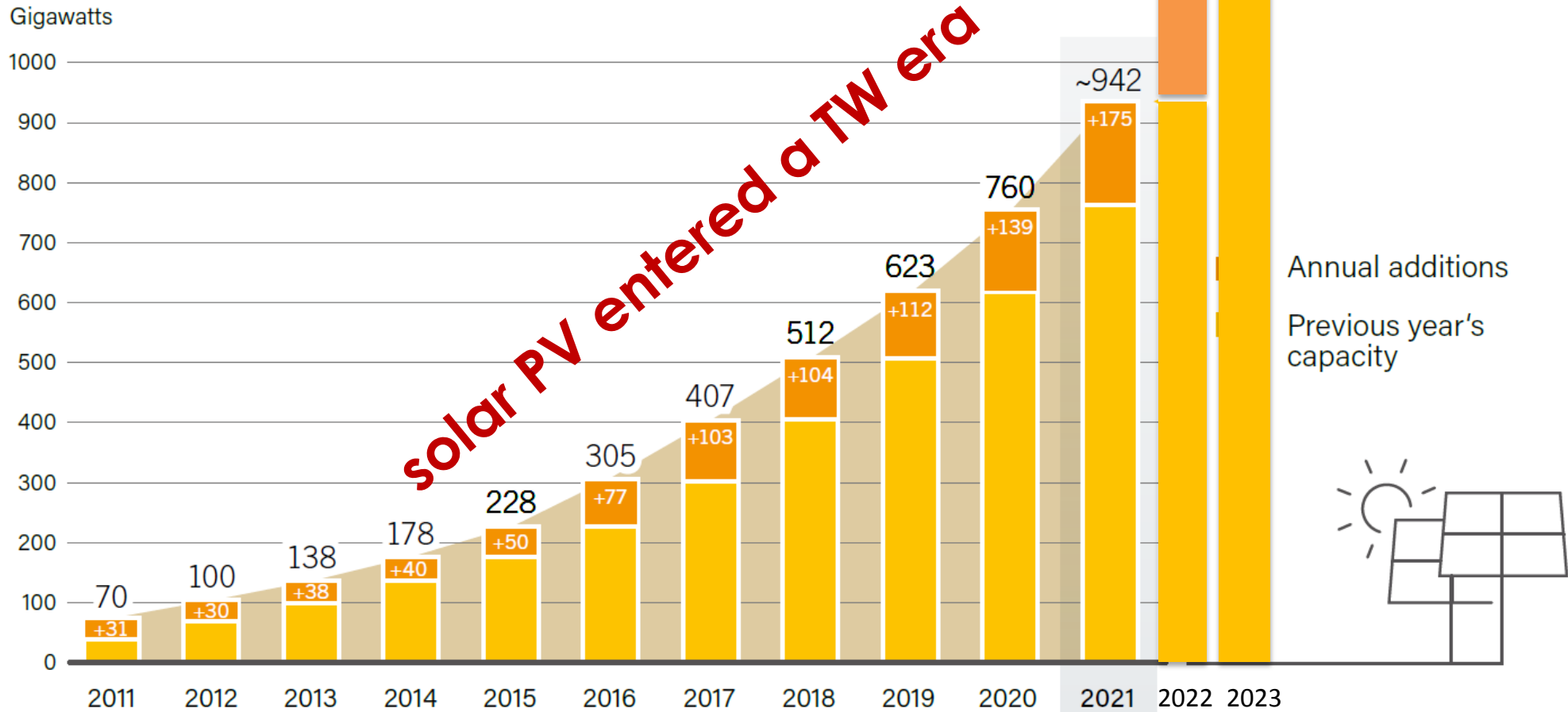
Univerza v Ljubljani

Fakulteta *za elektrotehniko*

Laboratorij za fotovoltaiiko in optoelektroniko

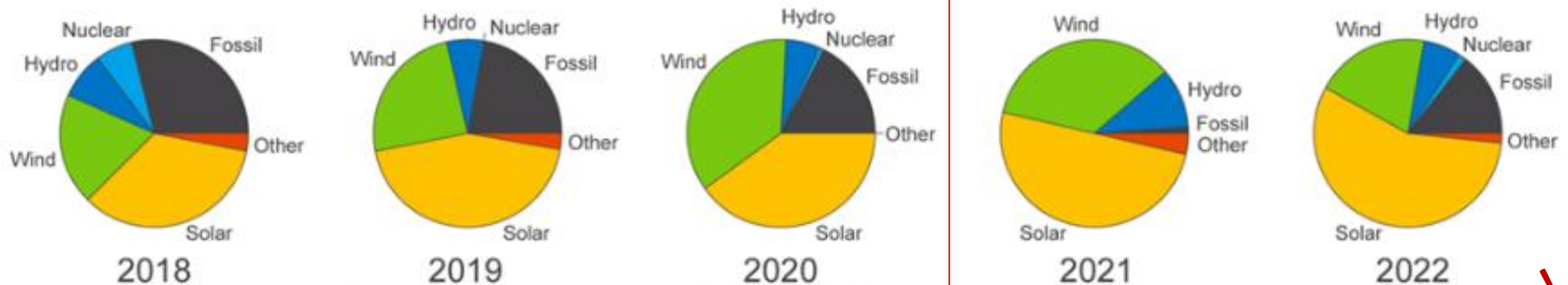


Solar PV Global Installed Capacity



REN21 Renewables 2022 Global Status Report

Solar PV vs. other electricity sources – annual net expansions

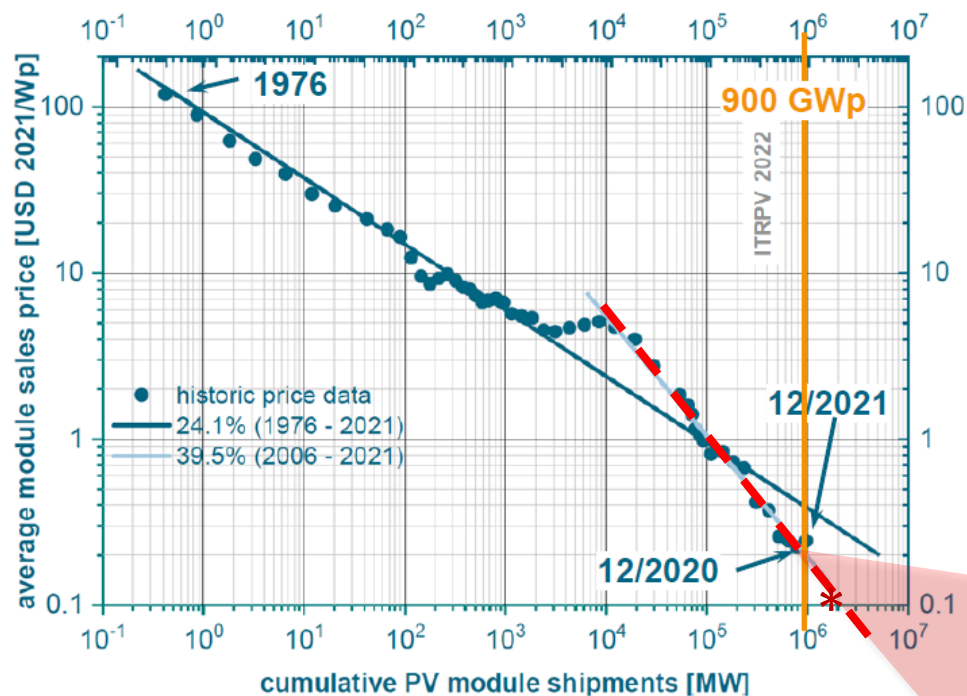


Net Expansions of Global Electricity Capacity

Adopted from Nancy Heager planary talk at EU-PVSEC 2023 and the paper:
Haegel and Kurtz, JPV, Sept. 2023, <https://doi.org/10.1109/JPHOTOV.2023.3309922>
Tabulated data from Statistical Review of World Energy, IEA, EIA, IRENA, REN21, WNA

**PV prevzema
dominantno vlogo!**

PV learning curve



Shipments/avg. module spot market price at year end:

2020: 135 GWp / 0.21 US\$/Wp
2021: 183 GWp / 0.24 US\$/Wp

o/a shipment: ≈ 972 GWp
o/a installation: ≈ 940 GWp

Production capacity end of 2021: ≈ 470 GWp
≈ 95% is c-Si based

LR ≈ 24.1 % (1976 2021)

LR ≈ 39.5 % (2006 2021)

- Significant shipment increase in 2021 despite Covid19
- change in module size continued
- PERC stays PV workhorse

→ HJS and TopCON prevailed



Source: ITRPV Roadmap Webinar, 14 Apr 2022

HOME > SCIENCE > VOL. 380, NO. 6640 > PHOTOVOLTAICS AT MULTI-TERAWATT SCALE: WAITING IS NOT AN OPTION

POLICY FORUM | RENEWABLE ENERGY



Photovoltaics at multi-terawatt scale: Waiting is not an option

25% annual PV growth is possible over the next decade

[NANCY M. HAEGEL](#), [PIERRE VERLINDEN](#), [MARTA VICTORIA](#), [PIETRO ALTERMATT](#), [HARRY ATWATER](#), [TERESA BARNES](#), [CHRISTIAN BREYER](#), [CHRIS CASE](#), [STEFAN DE WOLF](#), [CHRIS DELINE](#), [MARWAN DHARMRIN](#), [BERNHARD DIMMLER](#), [MARKUS GLOECKLER](#), [JAN CHRISTOPH GOLDSCHMIDT](#), [BRETT HALLAM](#), [SOPHIA HAUSSENER](#), [BURKHARD HOLDER](#), [ULRICH JAEGER](#), [ARNULF JAEGER-WALDAU](#), [IZUMI KAIZUKA](#), [HIROSHI KIKUSATO](#), [BENJAMIN KROPOSKI](#), [SARAH KURTZ](#), [KOJI MATSUBARA](#), [STEFAN NOWAK](#), [KAZUHIKO OGIMOTO](#), [CHRISTIAN PETER](#), [IAN MARIUS PETERS](#), [SIMON PHILIPPS](#), [MICHAEL POWALLA](#), [UWE RAU](#), [THOMAS REINDL](#), [MARIA ROUMPANI](#), [KEIICHIRO SAKURAI](#), [CHRISTIAN SCHORN](#), [PETER SCHOSSIG](#), [RUTGER SCHLATMANN](#), [RON SINTON](#), [ABDELILAH SLAOUJ](#), [BRITTANY L. SMITH](#), [PETER SCHNEIDEWIND](#), [BJ STANBERY](#), [MARKO TOPIC](#), [WILLIAM TUMAS](#), [JUZER VASI](#), [MATTHIAS VETTER](#), [EICKE WEBER](#), [A. W. WEEBER](#), [ANKE WEIDLICH](#), [DIRK WEISS](#), AND [ANDREAS W. BETT](#)

fewer [Authors Info &](#)

[Affiliations](#)

SCIENCE • 6 Apr 2023 • Vol 380, Issue 6640 • pp. 39-42 • DOI: 10.1126/science.adf6957



A major renewable-energy milestone occurred in 2022: Photovoltaics (PV) exceeded a global installed capacity of 1 TW_{dc}. But despite considerable growth and cost reduction over time, PV is still a small part of global electricity generation (4 to 5% for 2022), and

CURRENT ISSUE

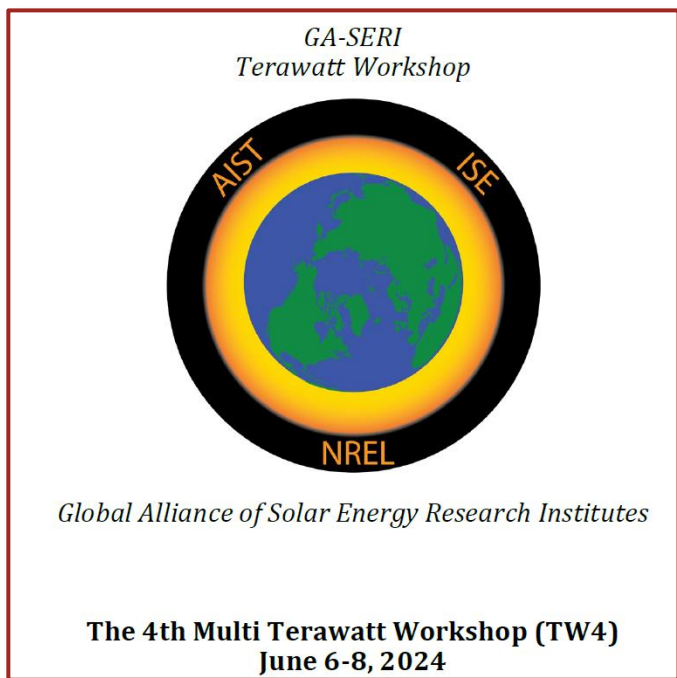


Transforming the understanding of brain immunity

BY GIULIA CASTELLANI, TOMMASO CROESE, ET AL.

Photovoltaics at multi-terawatt scale: Waiting is not an option

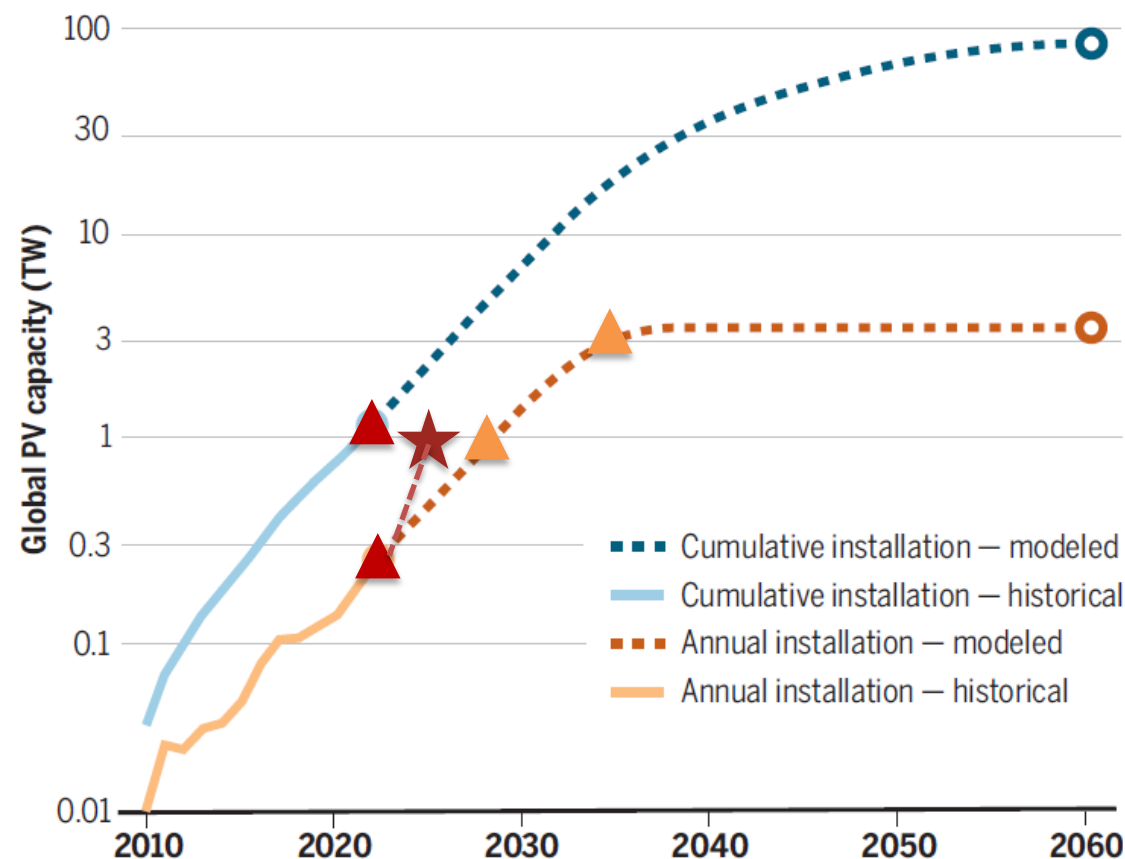
25% annual PV growth is possible over the next decade



Vir: <https://www.science.org/doi/10.1126/science.adf6957>

PV installations and growth toward 75 TW by 2050

Modeled cumulative capacity going forward is based on sustaining 25% production rate growth over the next 7 years and then reducing slowly to steady state. Replacement needs are included by simple subtraction of installations 25 years before the modeled date.



Trendi PV v Sloveniji

PVportal
slovenski portal za fotovoltaiiko

DOMOV FOTOVOLTAIKA ▾ NAČRTOVANJE SE ▾ PODATKI ▾ NOVICE ORODJA ▾ KONTAKT 

ŽE 16 LET Z VAMI

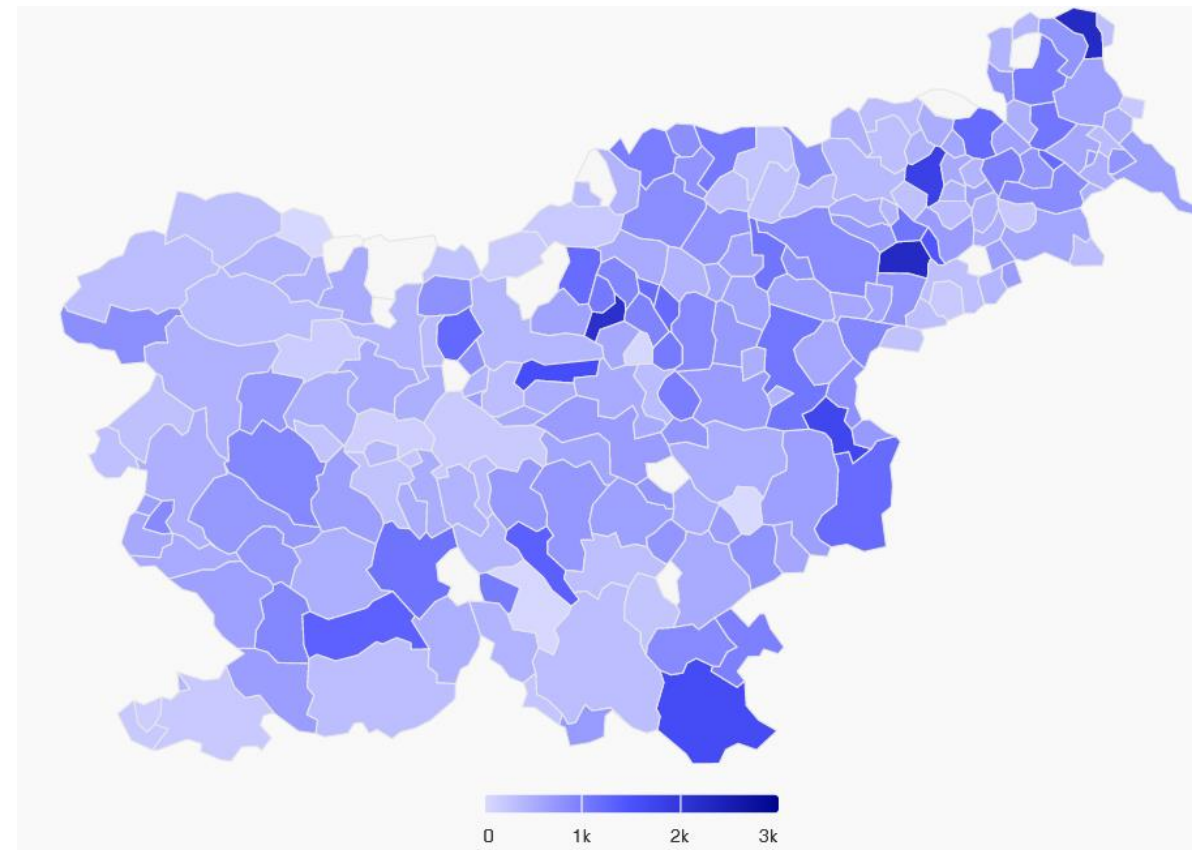
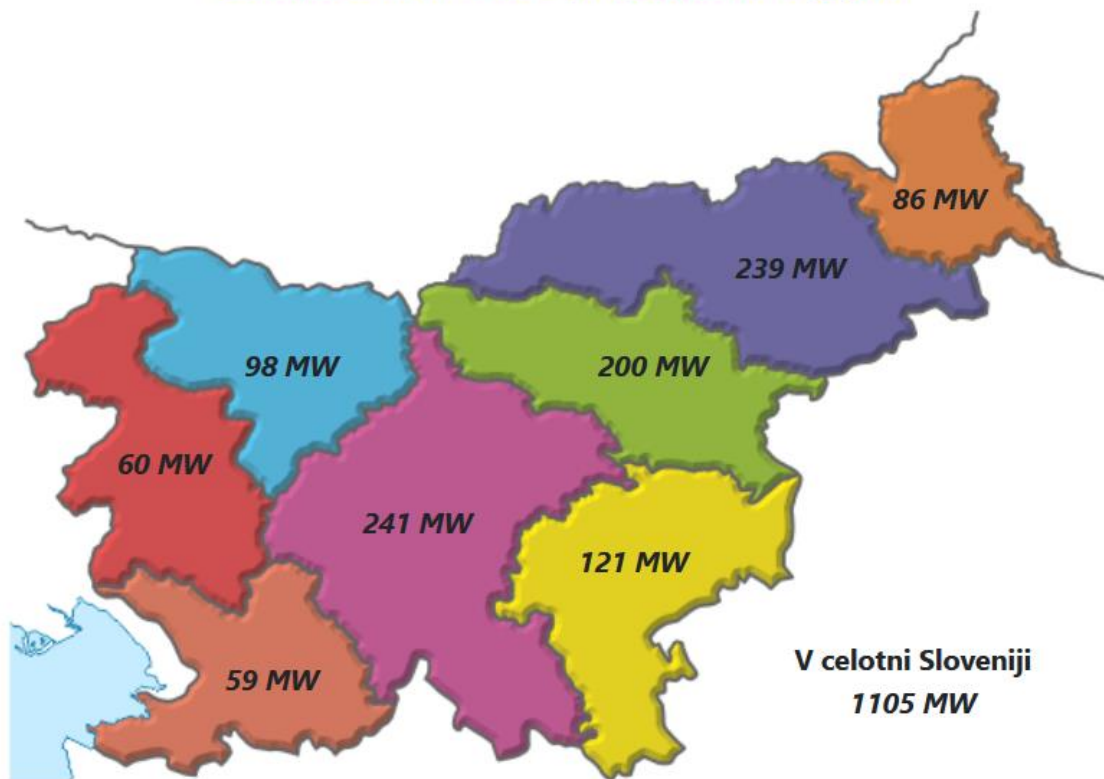
VSE O FOTOVOLTAIKI V SLOVENIJI

TEHNOLOGIJA STANJE

Slovenski portal za fotovoltaiiko

Stanje na dan: 31. 12. 2023

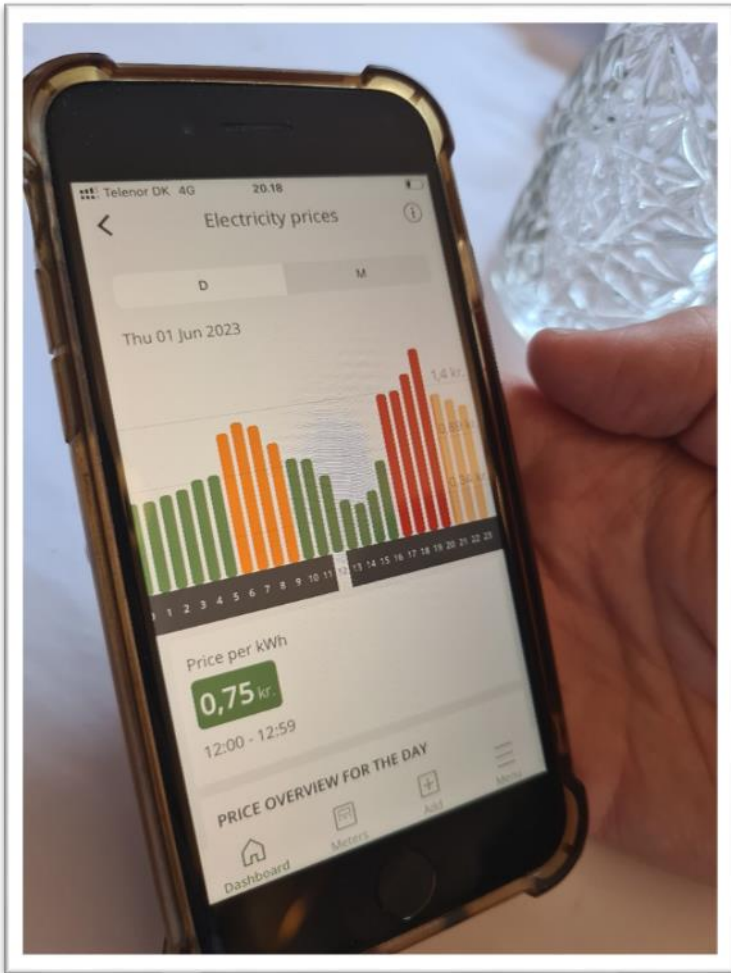
Sončne elektrarne po poštnih regijah



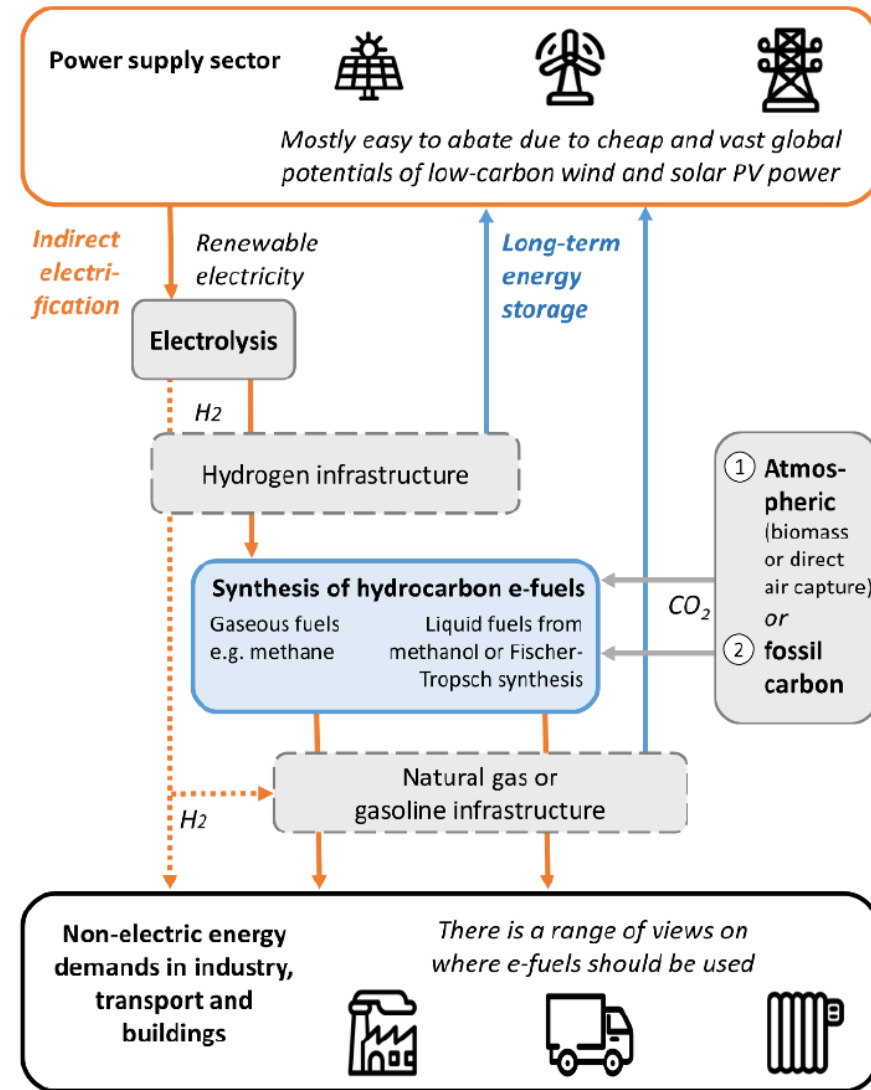
10+% delež el. en. v 2024 (brez hrvaškega dela NEK)

<0,01 € / kWh oz. 30 € / m²



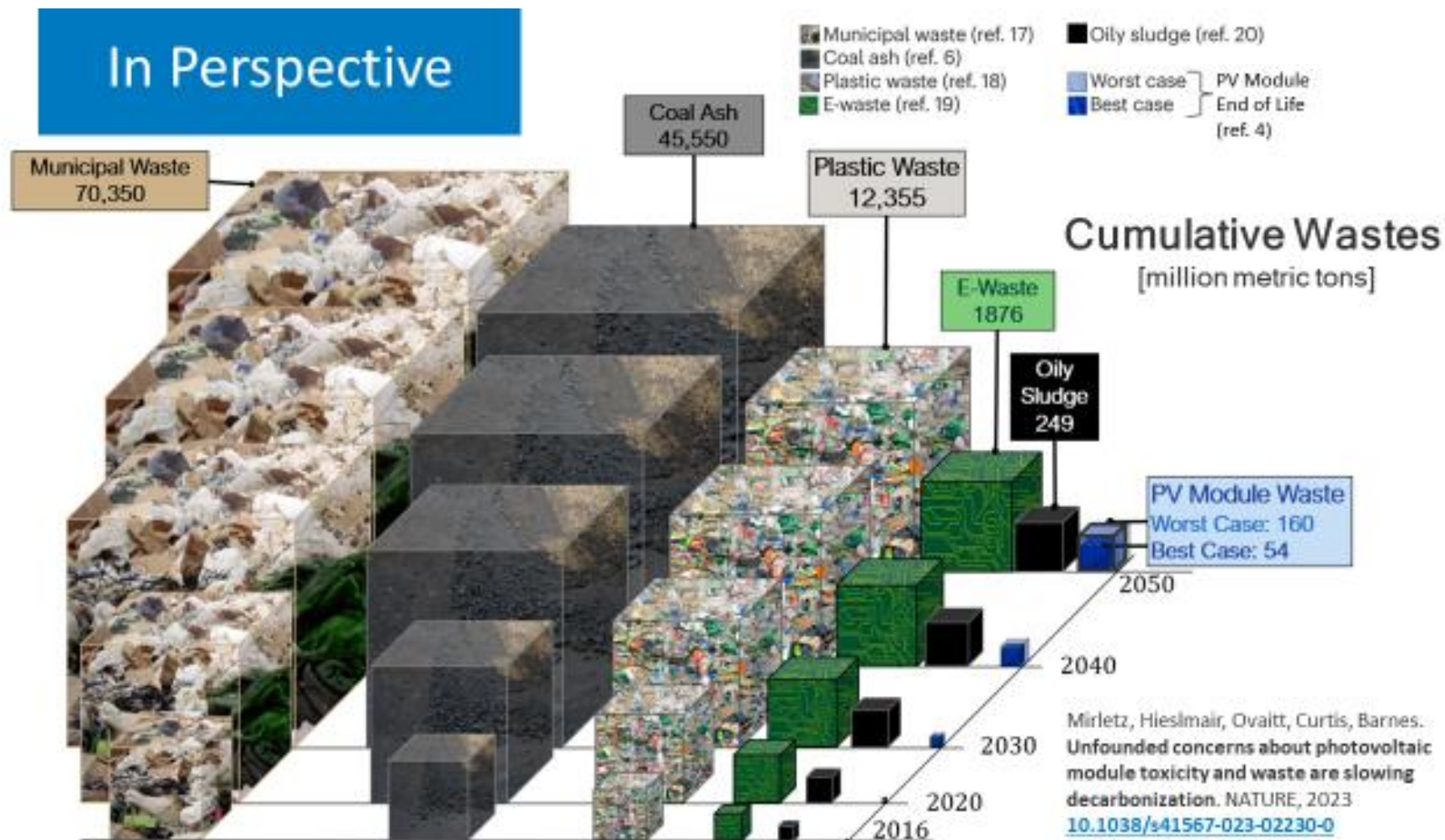


"The costs for the electricity generated from the new British nuclear power plant Hinkley Point C will be well over 15 ct/kWh at the planned start and thus far above the market electricity price," said IWR head Dr Norbert Allnoch in Münster. This is based on data from the British CFD register.



Ueckerdt, F., Bauer, C., Dirnreichner, A., Everall, J., Sacchi, R., Luderer, G. (2021 online): Potential and risks of hydrogen-based e-fuels in climate change mitigation. - Nature Climate Change.

Odrabljeni PV moduli do 2050





Naproti multi-GW sončnih elektrarn v Sloveniji ... za doseganje trajnostnih ciljev Slovenije

Hvala za pozornost!