

Solarity: Solar Clarity for Swiss Households

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A D A

APPLIED DATA ANALYSIS



ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

What is Solarity?

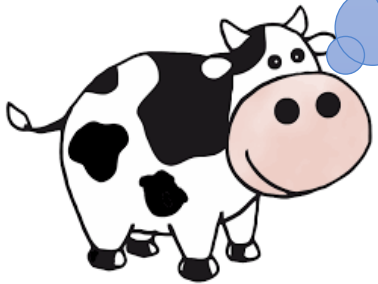
Switzerland 2035
30-40% solar generation



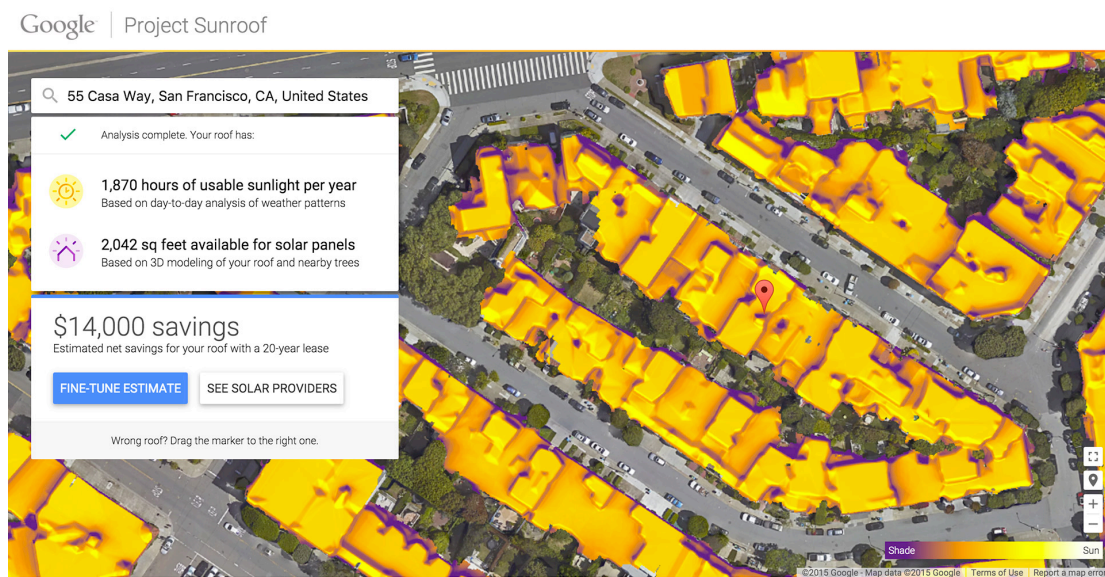
Go Green!



- ❑ How many **solar panels** do I need?
- ❑ How much does it **cost** me?
- ❑ How much would I **save**?
- ❑ How long till I **break-even**?



Solarity vs Project Sunroof



❑ Project Sunroof

- ❑ Uses proprietary Google Earth data

- ❑ Only works for some US states

❑ Solarity

- ❑ Uses publicly available weather data

- ❑ Reproducible results for other countries

Under the Hood

Data Acquisition

- Solar Irradiance (W/m^2)
- Temperature ($^{\circ}\text{C}$)
- Wind Speed (m/s)



200 Weather Stations
2000-2016



No API

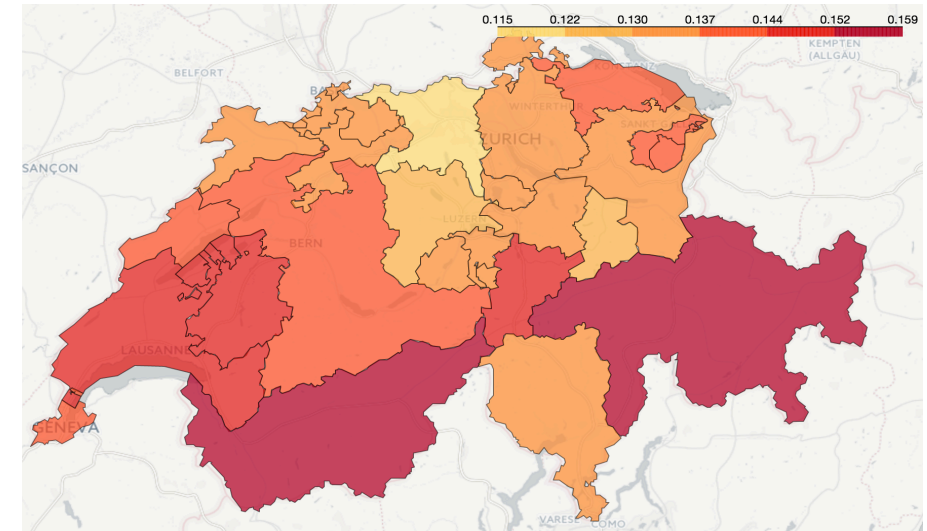
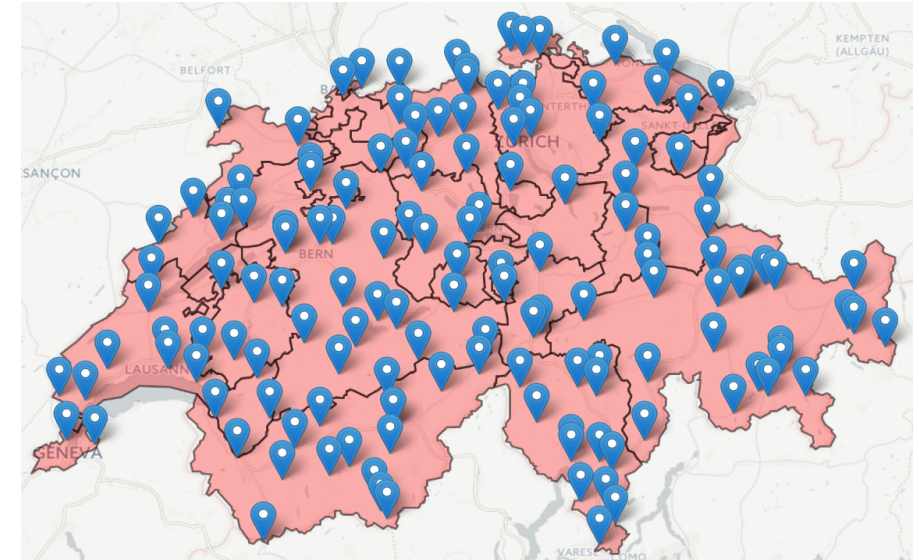
Solar production at
EPFL (W)

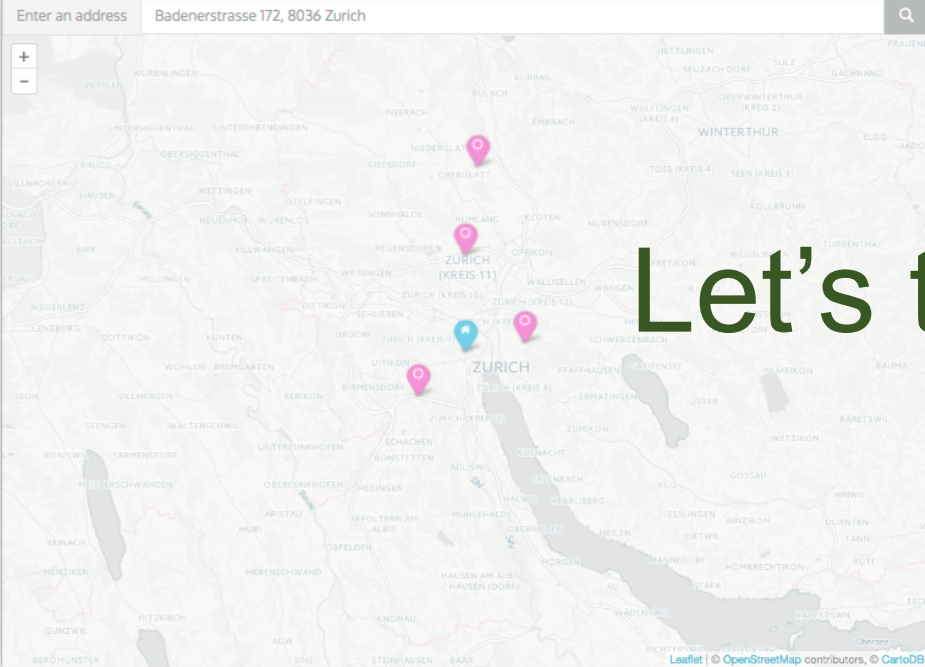
In-house
measurements



Electricity and Solar tariffs (CHF)

From Utilities and Vendors





What's your average monthly electric bill?

CHF

What's your roof area?

m²

Ready

Let's take a look!

