ENTRANCE
CENTRE OF EXPERTISE ENERGY

Effect of soiling and cleaning of PV solar parks

Client	ENTRANCE
Related project	Effect van vervuiling en reiniging van zonneparken op verschillende locaties in Nederland, met verschillende karakteristieken Effect of soiling and cleaning of PV solar parks at different locations in the Netherlands, with different characteristics
Start date	Flexible
Suitable for training course(s)	Master: EMRE, SESyM, Smart System Engineering, Physics, Mathematics Bachelor: Engineering, ICT
Learning Community	

Assignment context

Dirty solar panels produce less energy than clean ones. Soiling of PV solar panels in desert areas has been studied a lot, but far less is known about the effect of soiling here in the Netherlands where it rains regularly and a lot of soiling (probably) washes away. Therefore, we perform a practical study into the energy yield reduction of solar panels as a result of soiling in the Netherlands. With this data, a better estimate can be made to the usefulness of cleaning solar panels at different locations in the Netherlands, with different PV solar park characteristics.

Within this research project, the student has multiple options to define a thesis focussing on data collection or data analyses.

Assignments

Examples of **Master** (e.g., EMRE, SESyM, Smart System Engineering, Physics, Mathematics) thesis topics:

- Compare different known approaches to quantify the effect of soiling on PV yield
- Study sources of inaccuracy in assessing the effect of soiling on PV yield
- Analyse measurement data of soiling sensors
- Link PV yield to rain occurrence/amounts

Examples of **Bachelor** (Engineering, ICT) thesis/internship topics:

- How does the yield ratio of pairs of uncleaned PV panels (or strings of PV panels) change over the year (on a monthly or daily basis)?
- How does that ratio depend on the amount of sunlight of that day?

General information

Final Product	Overview of extra yield that can be obtained when cleaning PV parks in the Netherlands
Location	ENTRANCE
Parties involved	tbd
Contact person	Sandra Bellekom: a.a.bellekom@pl.hanze.nl
Guidance	Sandra Bellekom or others depending on the selected topic

Who are we and where can you find us?

ENTRANCE is a learning knowledge community, where students and professors from various programmes work together with researchers, companies, governments and civil society organisations to accelerate the energy transition.

ENTRANCE is the place where you, as a student, work together with lecturers, researchers, businesses, governments and/or civil society organisations on complex issues. We do this at the following locations:

- Location Proeftuin, Zernikelaan 17

- Location Energy Academy Europe, Nijenborgh 6.

What do we offer?

ENTRANCE offers you a multidisciplinary, inspiring learning, working and research environment where you can develop the competencies needed to shape and accelerate the energy transition. There is room for collaboration with professors, researchers, lecturers and the professional field. In addition, you will be supervised by professionals who are part of the ENTRANCE Learning Communities (ELC).

Contact us

Are you interested in the vacancy? Do you have questions or would you like to apply directly?

- Jacqueline Joosse, Coordinator ENTRANCE Learning Communities.
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- E: entrancelc@org.hanze.nl