

## SHORT TERM SCIENTIFIC MISSION (STSM) – SCIENTIFIC REPORT

**Action number: CA16232**

**STSM title: Accountability analysis at the solar uptake and energy poverty interface**

**STSM start and end date: 24/02/2019 to 09/03/2019**

**Grantee name: Dr. Siddharth Sareen**

### PURPOSE OF THE STSM

The STSM aimed to analyse how accountability relations shape intertwined outcomes of energy governance, namely the uptake of renewable energy and energy poverty alleviation. These are timely and important questions in Portugal, which has high rates of energy poverty incidence, some of the best conditions for solar irradiation in Europe, and good complementarity between cost competitive solar technologies and significant installed wind and hydropower energy capacity. From a domestic energy policy perspective, energy poverty alleviation has begun to gain traction. The draft National Climate and Energy Plan (NCEP) 2030 was open for public consultation during the STSM, which constituted an opportunity to provide direct inputs. Portugal moved the energy portfolio, long held by its finance ministry, to a new Ministry for Environment and Energy Transition in late 2018. In the run-up to elections in late 2019, the launch of an NCEP with ambitious energy transition targets, as well as a Carbon Neutrality Roadmap 2050, signaled intent to follow up institutional change with sectoral developments that are likely to have major implications for both solar energy uptake and energy poverty. In line with an approach to energy transitions as simultaneously involving decarbonisation and social equity to secure sustainable outcomes, the STSM investigated these conjoined concerns.

Given this background, the STSM had three objectives: (i) to interview a wide range of sectoral stakeholders for discussion and inputs, (ii) to analyse these varied perspectives using an accountability framework on energy governance, and (iii) to extend existing collaboration between the STSM awardee and the host institution on energy poverty indicators (ENGAGER Working Group 2).

### DESCRIPTION OF WORK CARRIED OUT DURING THE STSM

Towards the first objective, the STSM awardee conducted 11 interviews with 15 energy sector stakeholders in Portugal, including national authorities, international investors, private companies, energy poverty and solar energy researchers, analysts and journalists. He also attended a national meeting hosted by the Portuguese Ministry for Environment and Energy Transition, where he posed a question in front of a 100-strong audience of sectoral stakeholders. This was not only answered by research and private sector panellists, but directly addressed by the Secretary of State for Energy, João Galamba, in his speech. The intervention included a comment on the short section on energy poverty in Portugal's draft PNEC 2030, which the Ministry discussed with an invited group of experts and with the public shortly after the STSM. The question linked this with the potential of small-scale solar uptake as part of Portugal's energy transition strategy, which requires an enabling legislative and regulatory framework for community energy projects. The Secretary of State for Energy responded affirmatively that this is part of the Ministry's vision to unlock distributed solar energy uptake.

Towards the second objective, analysis of the interviews both during and after the STSM contributes to ENGAGER's work on the interface of energy poverty and energy transitions. It explicitly introduces an innovative accountability framing of the governance of energy transitions. This accountability framework, under development by the STSM awardee with various collaborators, emphasises the relational processes through which decarbonisation and social equity are targeted. It draws on the context-specific empirical data about solar energy uptake and energy poverty in Portugal, generated during the STSM, to abstract out to a more abstract characterisation of its energy transition. The awardee shared an overview of the approach and preliminary findings from the STSM with academics in Portugal. This was enabled by ENGAGER's Portuguese Management Committee member Dr. Ana Horta, who hosted a seminar for Dr. Sareen at the Institute of Social Sciences, University of Lisbon.

Towards the third objective, the awardee and his host Dr. João Pedro Gouveia at NOVA University Lisbon drafted a co-authored manuscript, along with four other ENGAGER members, during the STSM period. This focused on the problematic of multi-scalar energy poverty metrics, and deepened

an understanding of the prospects and challenges for energy poverty metrology, which is a key task for Working Group 2 within ENGAGER. This STSM reciprocated a visit by Dr. Gouveia to Dr. Sareen during 2018, which featured a seminar on energy, measurement and society, and the collaborators used this occasion to extend the discussion. Dr. Sareen also met with several members of Dr. Gouveia's group, including the research group leader Dr. Julia Seixas and postgraduate students.



STSM and WG2 partners share a lighter moment.



Ministry meeting attended by STSM awardee.

## DESCRIPTION OF THE MAIN RESULTS OBTAINED

The main results include identifying strong opportunities to inform energy poverty and solar energy uptake interventions in Portugal on some key trends. Briefly, these are linked with: (i) the emergence of solar auctions during mid-2019 for more systematic and transparent development of Portuguese solar capacity, (ii) a push for legislative and regulatory framework development to enable community energy for multi-scalar solar uptake that enhances social equity alongside decarbonisation, (iii) adoption of energy poverty metrics that are appropriate to Portugal's particular context and sensitive to issues such as widespread energy inefficient buildings, regional disparities, wintertime heating needs and increasing climate risk such as wildfires for extended summertime periods, (iv) scope to integrate small-scale solar uptake with retrofitting schemes and possibilities under Portugal's self-consumption regime for solar generation, (v) deliberation on low voltage grid concessions for the next licensing period by all municipalities with due attention to the possibilities unlocked by smart grids, including savings on energy and energy expenditure, distributed energy and multi-parameter monitoring through citizen science (e.g., indoor air quality, temperature) and possibilities for more accurate and targeted energy poverty metrics, and (vi) opportunities to enhance public engagement and responsive decision-making in the energy sector through current and future activities such as PNEC 2030, the Carbon Neutrality Roadmap 2050, the European Green Capital Lisbon 2020, and more narrowly specified policy discussions on energy poverty, solar uptake, energy efficiency, and housing related schemes.

Within the thrust of the STSM on framework development and application, the analytical focus on accountability relations enabled linking infrastructural changes with public benefits through empirical study. These empirics provide an evidence base to characterise sectoral changes. It can thus become possible to deconstruct specific components of an energy transition as strongly accountable or not. Research outcomes can inform advocacy efforts that support substantiated accountability. This can enable strategic, timely interventions that combine energy transitions and social equity enhancement, by unlocking possibilities to mitigate household energy poverty alongside solar energy uptake.

## FUTURE COLLABORATIONS (if applicable)

The STSM awardee and host have developed a good basis for future collaboration within ENGAGER and between their institutions in Norway and Portugal. They have identified specific channels to take these forward. These include project ideas and joint supervision of a doctoral student on energy poverty and energy transition policies in Portugal. These opportunities are contingent on competitive grant application processes, hence the form such collaboration can take remains to be seen.