Understanding the role of digitalisation and social media on energy citizenship

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GREEN ENERGY TRANSITION ACTIONS

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Context

Study of the current **conditions of emergence of energy citizenship** in different scales and contexts to design/test mechanisms of behaviour change

6 case studies + multinational survey with EU citizens (10,000 answers)

- **Community Transition Pathway Packages** – collaborative decarbonization roadmaps that exploit, enhance, and enable positive energy citizenship behaviours
- **Citizenship Contracts** – contracts, agreements, manifestos, memorandum of understanding, voluntary plans, challenges, etc. for energy citizenship
- **Public policy recommendations** focused on empowering citizens in the energy transition through local/global decarbonisation targets

LC-SC3-CC-1-2020 - Social Sciences and Humanities aspects of the Clean Energy Transition

The impact of digitisation and social media on the emergence and consolidation of energy citizenship

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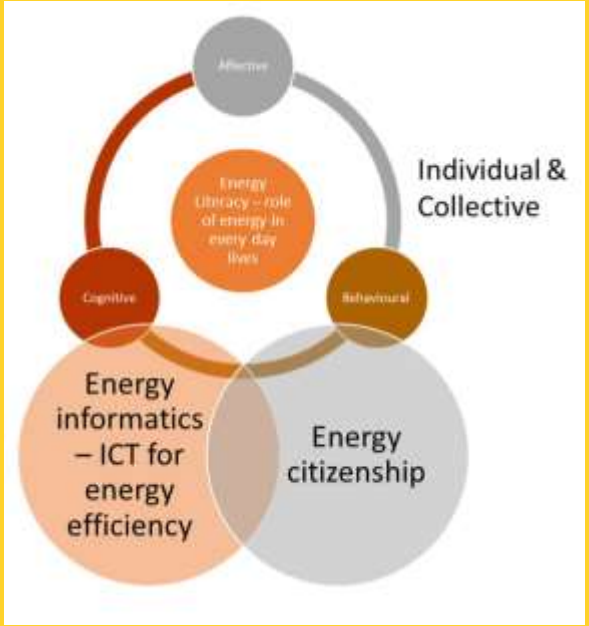
Introduction



- **Digitalisation** of the energy domain and **social media** >>> potential to boost the emergence of energy citizenship behaviours
    - Idea is premised on citizens being able to make sense of such information
- Look at it from an **energy informatics / energy literacy perspective** (non-material participation)
    - i.e., how engaging with energy-related information may or may not support improved decision-making processes and consequently energy citizenship behaviours
- ***Energy informatics*** *– how ICT is used within energy systems to improve energy use and management – cyber-physical systems vs human decision-making*
- ***Energy literacy*** *- the ability to answer questions and solve energy-related problems - impact on energy saving behaviours*

Energy informatics & energy literacy play a significant role in spurring energy citizenship behaviours

Methods

Interviews to understand how citizens currently make use of energy information and social media to communicate with others

Social media content analysis to identify key energy-related topics of discussions among citizens

Topic modelling to identify common factors that spur behaviour change towards energy citizenship among the 5 case studies

GRETA case studies

Geographically anchor cases of emergence or inhibition of energy citizenship under different sociodemographic, socio-technological, socio-political (including institutional) and geographical preconditions

CS1 - Renewable Energy District - Bologna Pilastro-Roveri, Italy

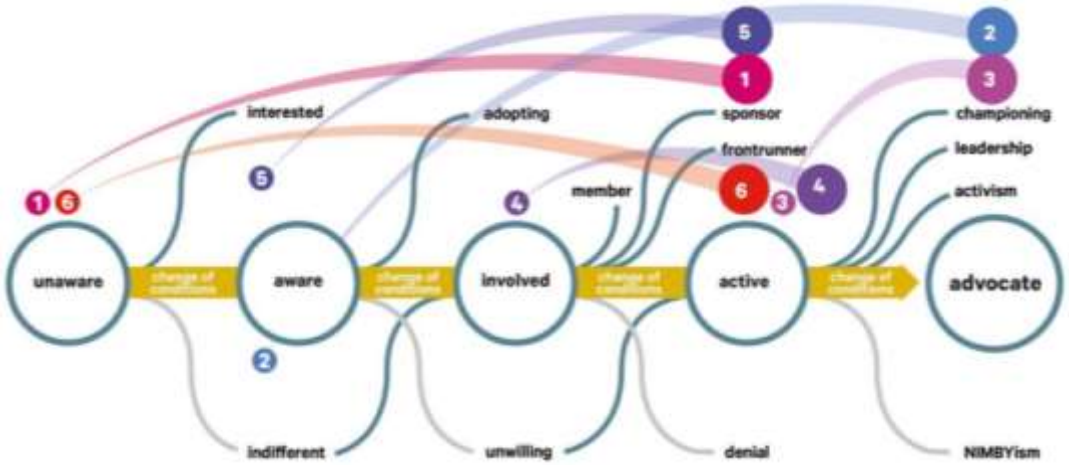
CS2 - Natural gas-free districts - Netherlands

CS3 – National Renewable Energy Cooperative - Coopérnico, Portugal

CS4 – Local Energy Efficiency Cooperative – UR BEROA, Spain

CS5 - Mobile City game - Virtual game app for energy citizenship, Germany

CS6 - Autonomous and connected electrical mobility network - transnational



*Seek info on **why** the green transition is important, **what** actions can be taken and **how** citizens can get involved*

Results:

Main channels for dissemination of energy information: (i) flyers; (ii) interpersonal meetings; (iii) townhall meetings; (iv) newsletters and magazines; (v) website / blogs; (vi) social media; (vii) radio and TV; energy management apps/platforms

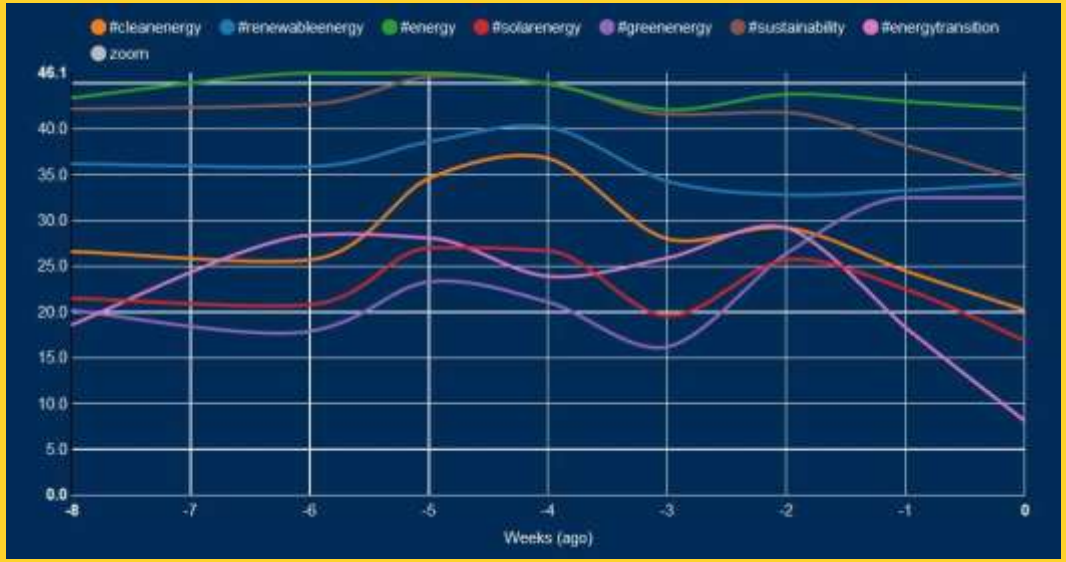
Energy information channels:

- increase insights into citizen's energy consumption patterns and drive citizens' engagement up
- usefulness depend upon the message being conveyed and the demographics they are catering to
- help visualising and circulating up-to-date energy information

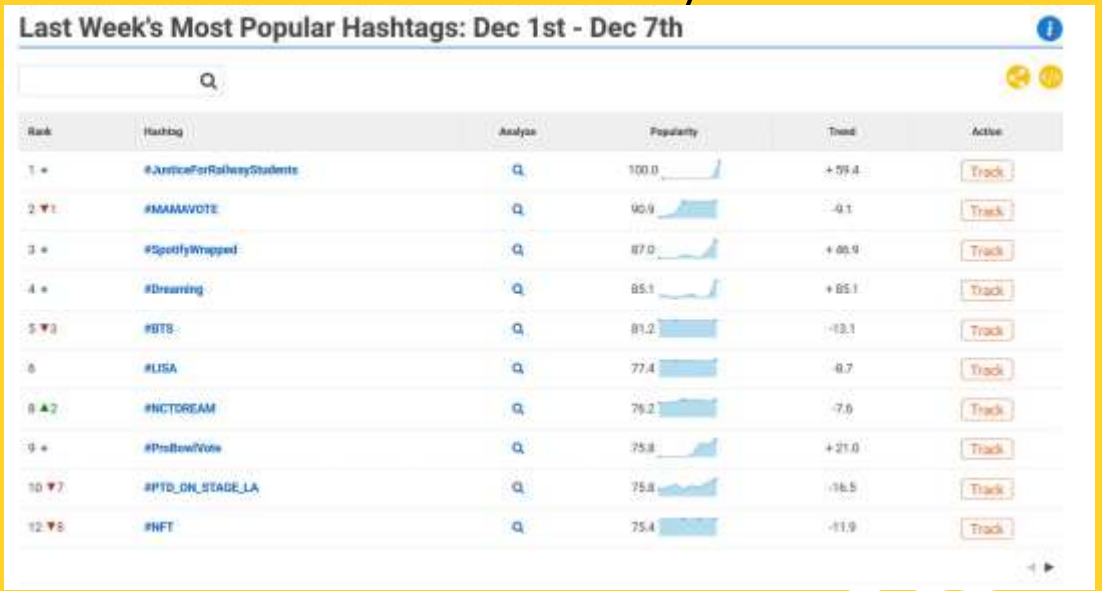
Interview analysis

Results

- Social media is generally limited to a younger stratification of society - **generational gaps** (Correa et al., 2010)
- **Hashtagify.me** to analyse Twitter trends on energy-related hashtags
    - #cleanenergy, #renewableenergy, #solarenergy, #greenenergy, #sustainablity, #energytransition
- Last 8 weeks' worth of tweets to see the **popularity score** - based on the velocity with which new tweets are posted on Twitter
    - hashtags do not generate much engagement from people; number of likes and comments are mostly absent, with exceptions
- The role of social media on energy informatics is yet to be exploited to its full potential. Need for:
    - efforts on the part of all stakeholders to use social media for disseminating energy information to spur energy citizenship
    - formulating a coordinated response strategy/campaign for dissemination of energy-related content
- Misinformation persists and could hinder the advancement of the energy citizenship phenomena



content analysis



Analysis of current ways of presentation and representation of energy information across GRETA – look for **shortcomings** and **good practices**

Text classification was performed using **topic detection** (also known as topic modelling or topic analysis)

Exercise was interpretative and adopted a **social constructionist perspective**

Results:

- The uncovered topics might be suggestive of **potentially new end-user engagement mechanisms** to be embedded in the design of energy-related digital platforms
- Need to surpass formal boundaries of techno-economic constructs, and start also addressing qualitative, subjective constructs, such as emotions, affections, and feelings – touching in that sense the concept of "**corazonar**" (also known as **warming up of reason**) proposed by Santos (2018)

Topic modelling

Results

Gaps	Good practices
• **Ease-of-use, intuitive presentation/ visualisation of energy information** • **Simplification of complex/ overly technical information** • Reduce overload of information • Inclusive, non- discriminatory information sharing • Awareness raising • Retain attention • Catering of trustworthy and scientifically valid information	• **Humanisation of processes / spur social value generation** • Use of graphs/ images • Digitalisation/ dematerialisation of information and processes • Use of metrics to present information • Create step-by- step guidelines • Create new communication streams • Associate processes with a monetary value • Personalisation of the presentation of information

Discussion

The case study interviews allowed to identify that there is still work to be done in **making energy information easy-to-use and more understandable**, especially for a general audience

Need to consider the **emotive/affective aspects of energy information** as being equally important in fostering energy citizenship

- This aligns well with our proposed hypothesis, as it relates the **cognitive and affective aspects of energy literacy** to behaviour and action
- **Socio-economic condition of a neighbourhood changes the information needs** – potential effect on the affective dimensions of energy literacy, such as they relate to people's attitudes and values

Social media: potential spread of misinformation; impact on energy topics is not as strong as it could be

Study will help to guide GRETA's case study implementation and analysis (deliverables D1.3 and D1.4) as well as support creation of design principles for energy interfaces based on energy informatics (D2.4)

Thank you!

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