H in DK

What are the main terms in academic articles regarding Hydrogen in Denmark?

Network constructed with co-occurring terms from abstracts pulled from SCOPUS articles with 20 different search queries related to the hydrogen field in Denmark. It has been filtered to display only the most frequent keywords.

The size of nodes indicates the frequency of the keyword in the corpus.

The node color indicates a community detected by an algorithm. Those communities have been qualified manually.

ANALYSIS

Our motivation for this exploration was to compare the academic discussion to the non-expert discussions that we have observed on Facebook (not featured in this poster).

Two clusters (PRODUCTION & BIOGAS and STORAGE & RELEASE) are denser and less connected to the other clusters, which accounts for the fact that their keywords are more technical and specialized. They were not present in our exploration of the same topic in Facebook.

To find keywords also used by non experts, we have to dive deeper into the ENERGY & VEHICLES cluster. There, we meet terms like “wind turbines”, “hydrogen vehicle”, “transport” and “fueling”, which we also found on Facebook.

Some terms that bridge multiple clusters are concerned with the feasibility of various hydrogen production methods, fuels and more. Will these processes and experiments remain specialized research, or will technological development and innovation mean they will ultimately have larger implications for society?

The public discussion contains terms and phrases from the academic world, but falls short on discussing the technicalities in the field - this sort of information, at least on SCOPUS, is directed towards academics, engineers or people otherwise technically engaged in the field. So who is facilitating the information that is more available to the public?

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PRODUCTION & BIOGAS

ENERGY & VEHICLES

This cluster is more closely connected to the nearby clusters. It seems the most central to this academic discussion. Its keywords consist of quite general terms like “wind turbines” and “electricity demand”.

SYSTEMS & CELLS

The PRODUCTION & BIOGAS and STORAGE & RELEASE clusters are quite dense and more isolated from the rest of the network. Their keywords are specialized and technical.

The keywords bridging clusters are often about feasibility and applications: low cost, production costs, recent advances...

STORAGE & RELEASE

CHEMICAL REACTIONS & PROPERTIES