



# Newsletter

No. 7 / February 2018

Dear Reader

We are pleased to present the latest SCCER Mobility news to you, now in a new format. This issue communicates major advancements and events of our research platform. Enjoy reading!

## News & Highlights



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### SCCER Mobility

Swiss Competence Center for Energy Research  
Efficient Technologies and Systems for Mobility



### New SCCER Mobility flyer

A new and updated SCCER Mobility flyer is available now. New information about the second funding phase and participating institutions has been added. Additionally some research highlights of each Capacity Area are introduced. If you would like printed copies, please contact the Management Office.

[Download flyer](#)

### eDumper wins European eMove 360° award

In October 2017, eMining AG won the eMove 360° award for the eDumper. Its battery cells, -management system and -pack were developed in collaboration with the SCCER Mobility battery research platform. Along with being the biggest electric vehicle with wheels, it is equipped with the largest battery (710 kWh) manufactured for this purpose. For a single vehicle, it has an enormous potential to reduce fuel consumption (-50'000 L diesel / year) and thus operational CO<sub>2</sub> emissions (-130 t CO<sub>2</sub> / year).

[Read more](#)





## SCCER Mobility interview with Francesca Cellina

Francesca Cellina leads the Sustainability and Society group at the Institute for Applied Sustainability to the Built Environment at the University of Applied Sciences of Southern Switzerland (SUPSI). Within SCCER Mobility, she investigates the potential and effectiveness of ICT-based tools for increasing environmental consciousness. Research efforts are highly participatory and “in our projects, we always interact with citizens and stakeholders, and recently even started co-designing possible solutions with them”, she says.

[Interview](#)



**Hydrogen**  
scaling up

## Hydrogen Council report - Felix Büchi comments

The latest Hydrogen Council report *Hydrogen, Scaling up* outlines the contribution of hydrogen in fostering the energy transition and meeting international CO<sub>2</sub> emission targets. We asked Felix Büchi (Deputy Coordinator CA A2) to comment on some of the projections and their feasibility. While hydrogen has the potential to be a major low C energy carrier, he thinks that long-term trends will depend heavily on technological developments in the different sectors (i.e. batteries, synthetic fuels).

[Read more](#)



## Batteries for E-Mobility

In February, the BFH-CSEM Energy Storage Research Centre hosted the event “Batteries for E-Mobility” in collaboration with inspire AG, ETH Zurich and SCCER Mobility. It welcomed over 280 participants. The talks by invited experts and the concluding panel discussion focused on topics including challenges in mobility for the energy transition, state of the art research on lithium ion batteries and well as safety measures and life cycle assessment of batteries.

[Read more](#)

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## Innosuisse

CTI changed to Innosuisse this year. Please use the new logos, which have been provided by the Management Office. Furthermore, we would like to remind you that it is a continuing requirement to acknowledge Innosuisse for funding in published reports and journal articles.

[More news highlights](#)

## MAS|CAS in “Future Transport Systems” News



## CAS “Technology Potentials” concluded

On 2 February at ETH’s Villa Hatt, participating students concluded the second CAS “Technology Potentials”. Four student groups presented case studies highlighting different emerging mobility technologies, including powertrain, energy carrier and spatial information and communication technologies. Following its success, the MAS ETH “Future Transport Systems” will restart in January 2019 with the CAS “System Aspects”. Registration will open in spring 2018.

[Read more](#)

## Interview Prof. Dominique Foray – perspectives from an innovation economist Part III

Dominique Foray is Full Professor at EPFL and leads the Chair of Economics and Management of Innovation (CEMI). He is also responsible for the content and design of the module dealing with innovation in mobility systems in the CAS "System Aspects". To get a glimpse of how an innovation economist assesses current and future developments in the transport sector, we will be featuring excerpts from an interview with Dominique Foray.



*The development and widespread adoption of computer technology in all sectors of society has thus far not led to the expected increase in economic productivity. Yet this development may promote innovation in combination with other sectors. Where do you see opportunities for this in the transport sector? Do you think they will have far-reaching impacts on society?*

D.F.: Computer technology is defined by economists as a general purpose technology (GPT) – meaning a technology characterized by horizontal propagation and innovational complementarities. General purpose technologies have therefore productivity effects on many sectors of the economy if such complementarities are built (between the GPT and the user or adopter sectors). This takes time and creates lags between the first introduction of the GPT and its productivity effects. Clearly, opportunities are huge in the transportation sector, primarily in the manufacturing and industry segments of the sector but also in the service segment of transportation (management, governance, coordination, business and marketing).

[More information MAS](#)

## Upcoming events

### Save the date SCCER Mobility Annual Conference 2018

The 5th SCCER Mobility Annual Conference will take place on **11 September** at ETH Zurich. Like last year, there will be cross-cutting sessions and the poster award. Stay tuned for more information.

[More upcoming events](#)

## SCCERs



future energy efficient  
buildings & districts

### Resilience! Increasing the adaptability and development capacity of the Swiss building park

6-7 September 2018, ETH Zurich

The Status-Seminar presents the results of Swiss research in the field of buildings and districts with a focus on energy and environmental topics. The conference is aimed at professionals from industry, engineering and architectural offices as well as research and public authorities. At the two-day event, information on the state of research will be presented. [Call for abstracts](#) (Deadline: 7 March 2018)



**biosweet**

Swiss Competence Center for  
Energy Research

### 5th Biomass for Swiss Energy Future Conference

4 September 2018, WSL Birmensdorf

This year's event will focus on the role of biomass in the energy transition, in particular on the integration of bioenergy technologies into the energy system. Aspects such as biomass resources, conversion chains and bioenergy services will be discussed in a Swiss and international context while paying attention to the socioeconomic dimension. [More Information](#)



SWISS COMPETENCE CENTER for ENERGY RESEARCH  
SUPPLY of ELECTRICITY

### Workshop Data Management in Science

22 May 2018, University of Bern

The goal of this workshop is to learn more about the relevance, advantage and implementation of data management, the open research data policies and claims of different facilities such as SNSF or swisstopo, and the long-term perspective for data preservation. During the morning session, the workshop will provide a lecture program with several keynote talks. In the afternoon, the participants will deepen selected themes based on hands-on exercises and discussions led by an expert. [More Information](#)

The SCCER-FURIES Knowledge hub has been developed to facilitate the transfer of the center's knowledge and technological solutions to academia, the market and society. Users of this online tool can discover and access key information about partners, projects and outputs. In addition, they can filter the information by clicking on the map, searching for key words or using the filters for multiple variables such as locations, dates, themes, etc. [Knowledge hub](#)

## SCCER Mobility Glossary

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This section intends to widen the common ground between all SCCER Mobility partners. Contributions from our members are welcome. To make suggestions for this section, please contact the [Management Office](#).

**Power-to-X** refers to a technology that uses (surplus) electricity, ideally from fluctuating renewable energy sources, to synthesize (gaseous) chemical products, like **hydrogen or hydrocarbons**. In a first step of this process, electricity is used to split water to oxygen and hydrogen via **electrolysis**. Produced hydrogen can then be used directly to power fuel cell electric vehicles or fed into the natural gas grid (up to 10% by volume). Furthermore, this renewable hydrogen can also be supplied to the chemical industry, as it is a key feedstock material for many applications.

In a second step, hydrogen from electrolysis can be combined with carbon dioxide via a **methanation** reaction to produce **synthetic natural gas** (SNG) or other **synthetic hydrocarbons** (i.e. methanol). If atmospheric CO<sub>2</sub> is used, then it can act as an effective carbon sink. SNG can be supplied to the gas grid for heating/cooling purposes, used to generate electricity during high-demand periods or as a fuel for gas engine vehicles.

Both methods allow storing excess electricity seasonally (i.e. from summer to winter) or during times when demand is low. One of the major hurdles for establishing this technology in the energy system is its efficiency, which is generally lower than pumped hydropower or battery storage. The **SCCER Joint Activity Power-to-Product** is dedicated to assessing the economic, environmental and regulatory challenges surrounding this technology for Switzerland. The resulting **White Paper** is a joint effort between SCCER Mobility, SCCER HaE, SCCER CREST, SCCER BIOSWEET and SCCER FURIES. [More information](#) about this SCCER Joint Activity.

## Quiz

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Which mechanism recharges the eDumper batteries? The first 10 people to send the correct answer to [Fiorella Meyer](#) will enter the final drawing and have a chance to win (e-mail subject: QUIZ).

Solution of the previous quiz: the ETH Zukunftsblog and Schweizer Maschinenmarkt published articles about SCCER Mobility and its white paper. The winner was Kannan Ramachandran from PSI. Congratulations!

This information is provided by the Management Office of SCCER Mobility. Our newsletter is issued 4 times per year. If you have information that you would like to share, please contact [Kirsten Oswald](#).

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