

Energieversorgung für Quartiere & Areale

- Was können dezentrale Energiesysteme leisten?

Prof. Matthias Sulzer
Head SCCER - FEEB&D



sccer | future energy efficient
buildings & districts

In Zusammenarbeit mit der KTI



Förderprogramm Energie
Swiss Competence Centers for Energy Research

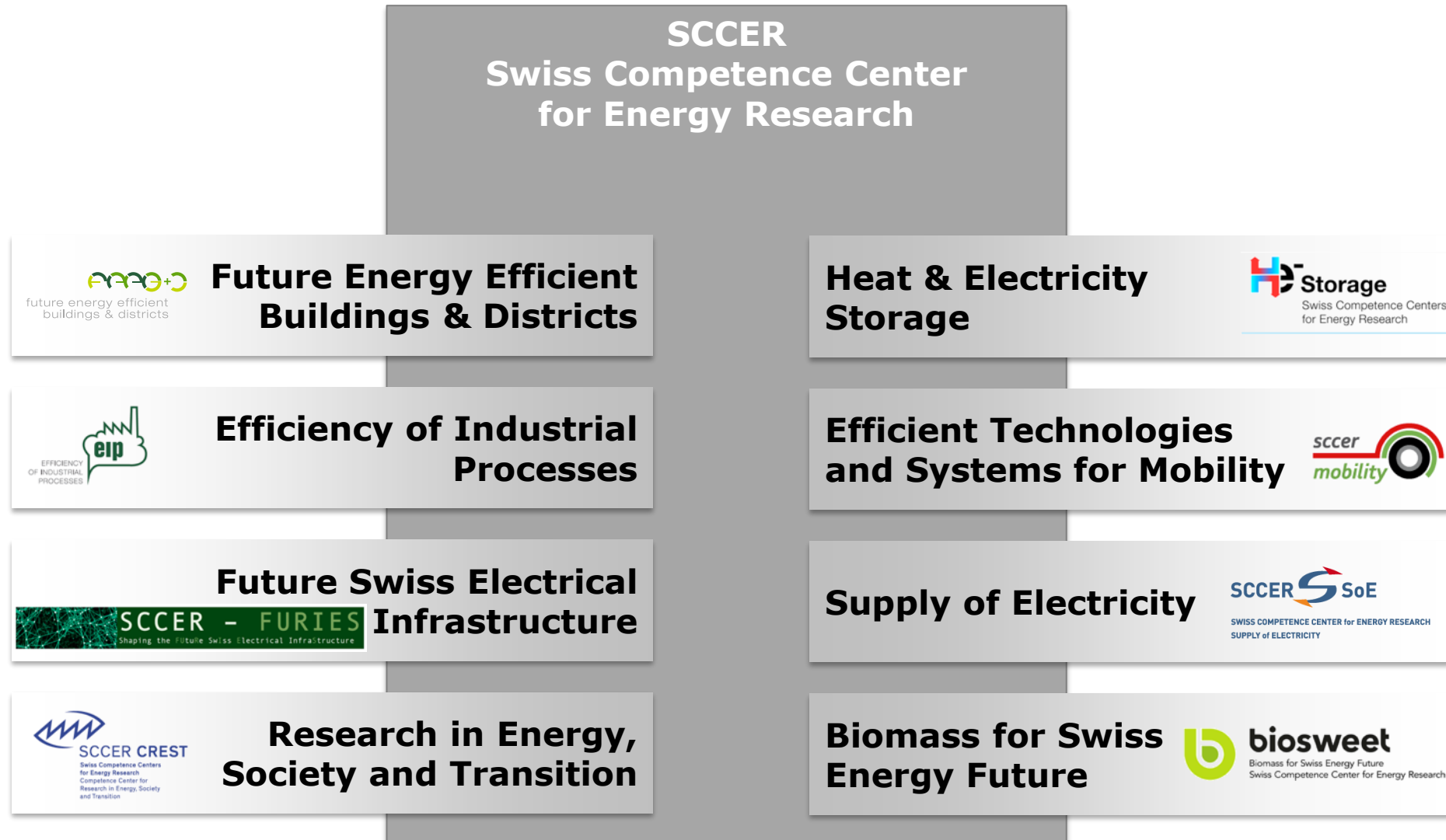


Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

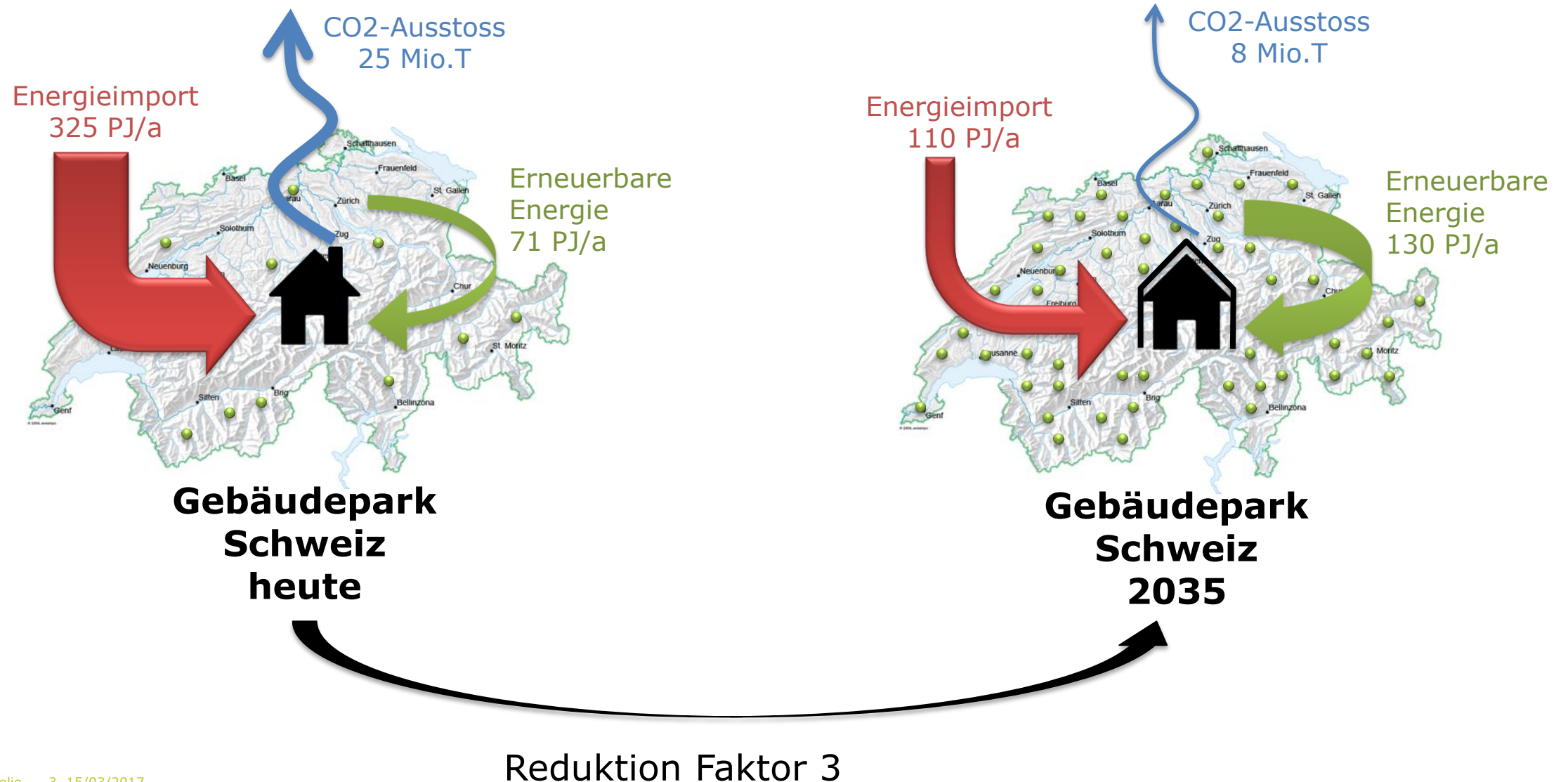
Kommission für Technologie und Innovation KTI

Neuhausen a.R., 6. März 2017

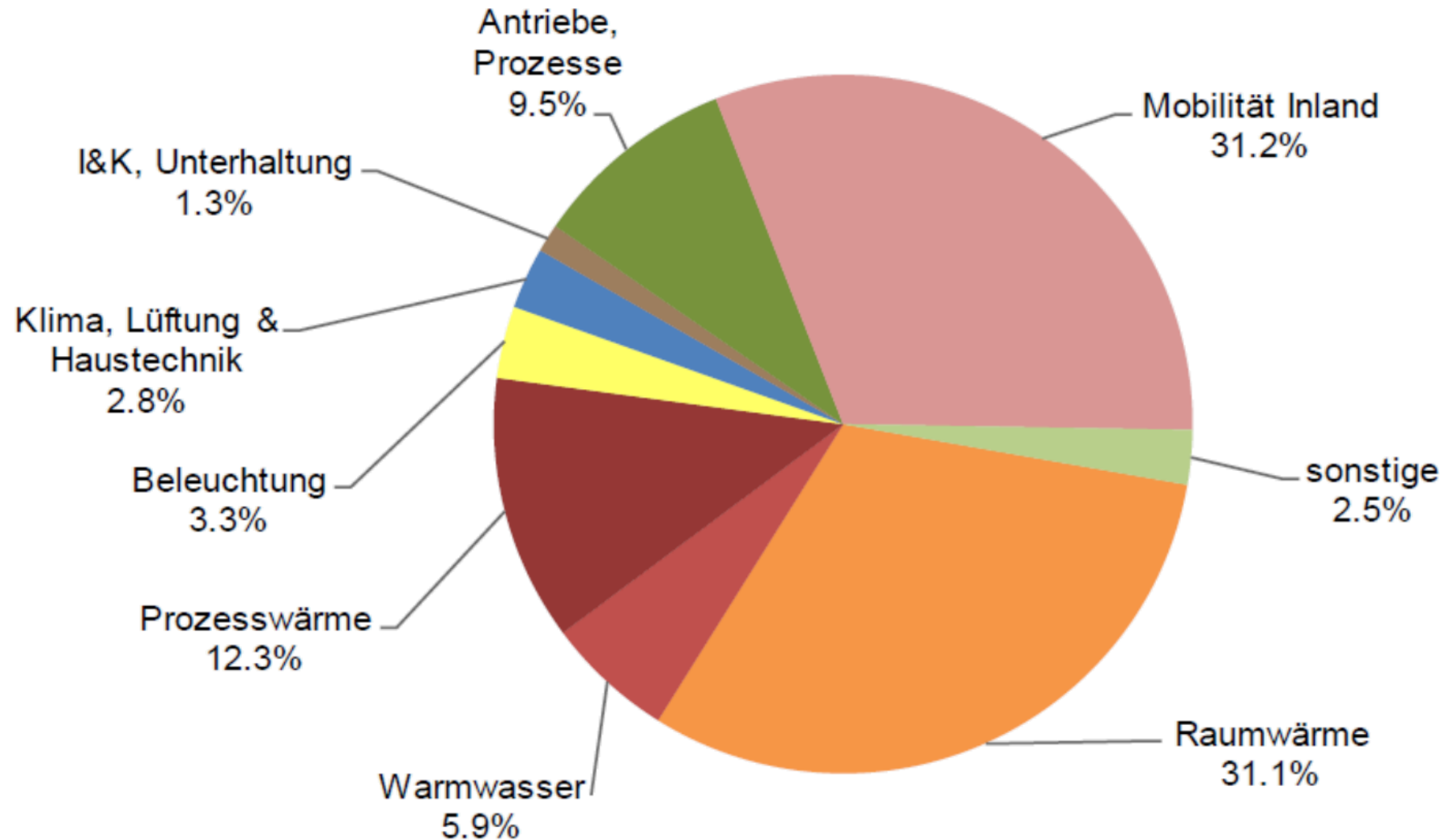
Koordinierte Energieforschung



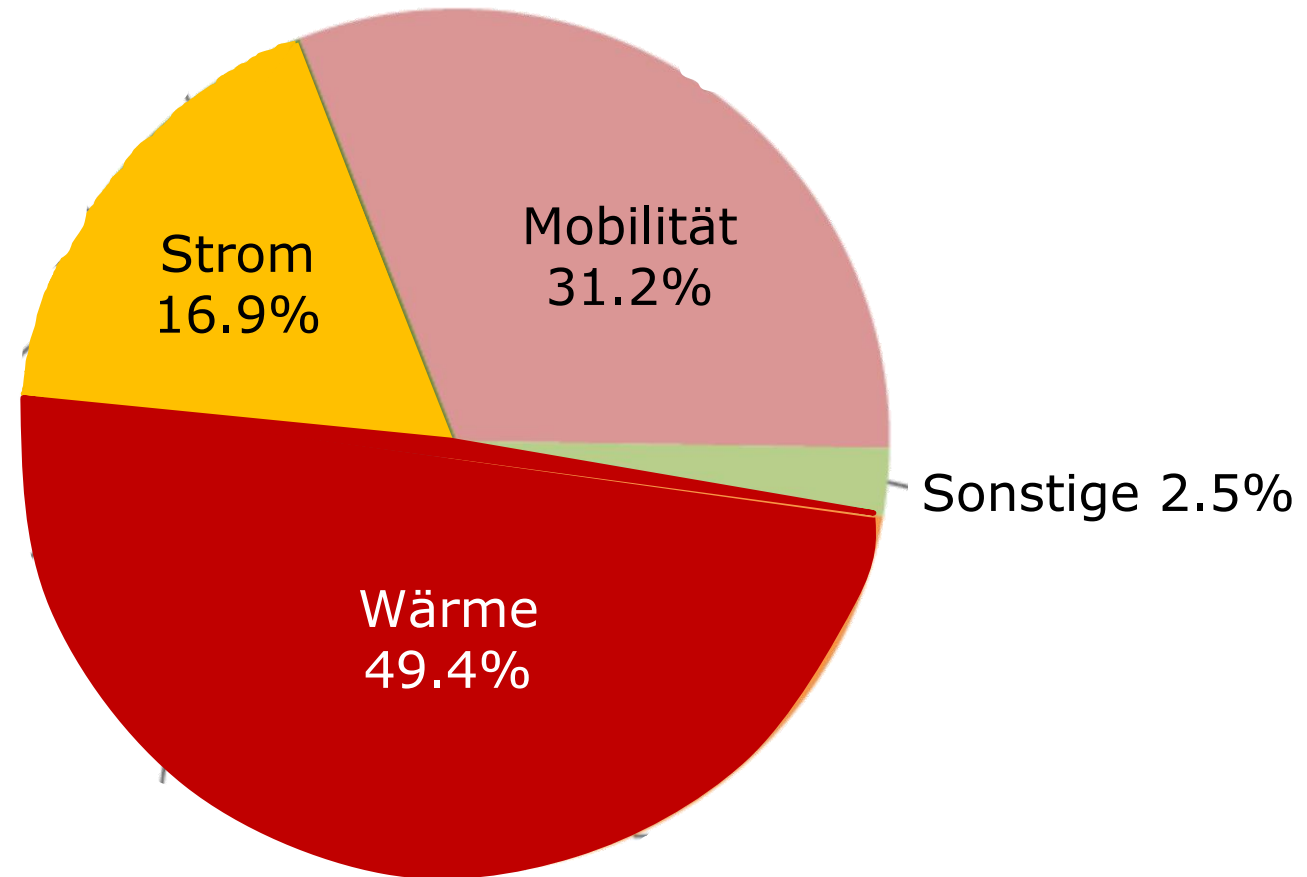
Gebäudepark Schweiz (40% der Endenergie CH)



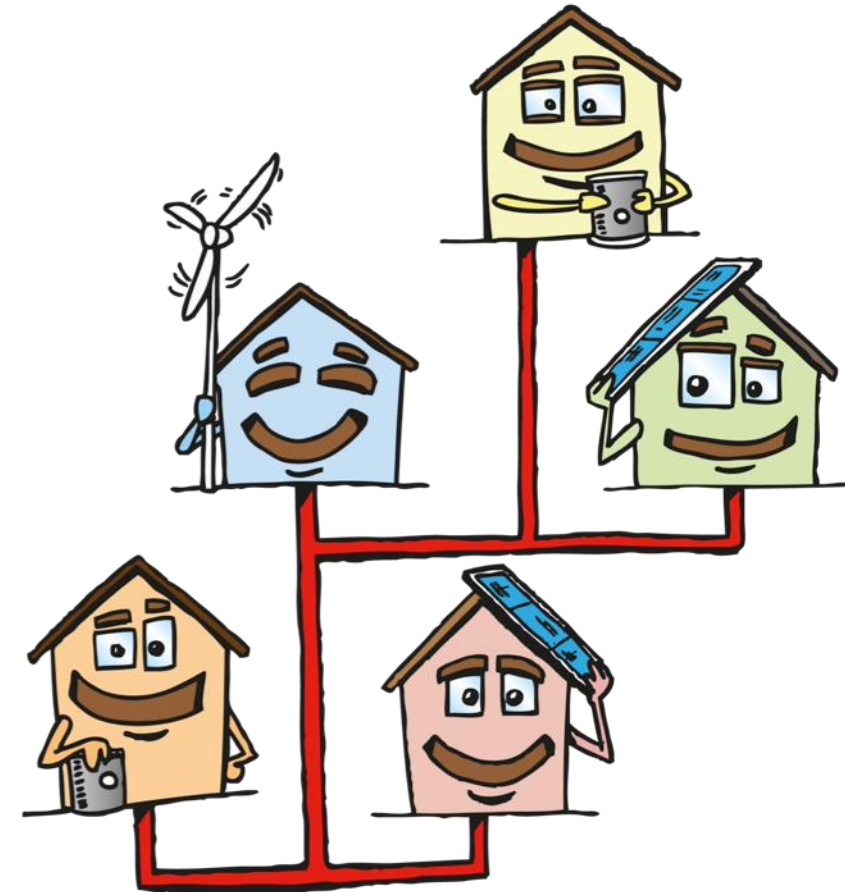
Energieverbrauch CH (752 PJ/a)



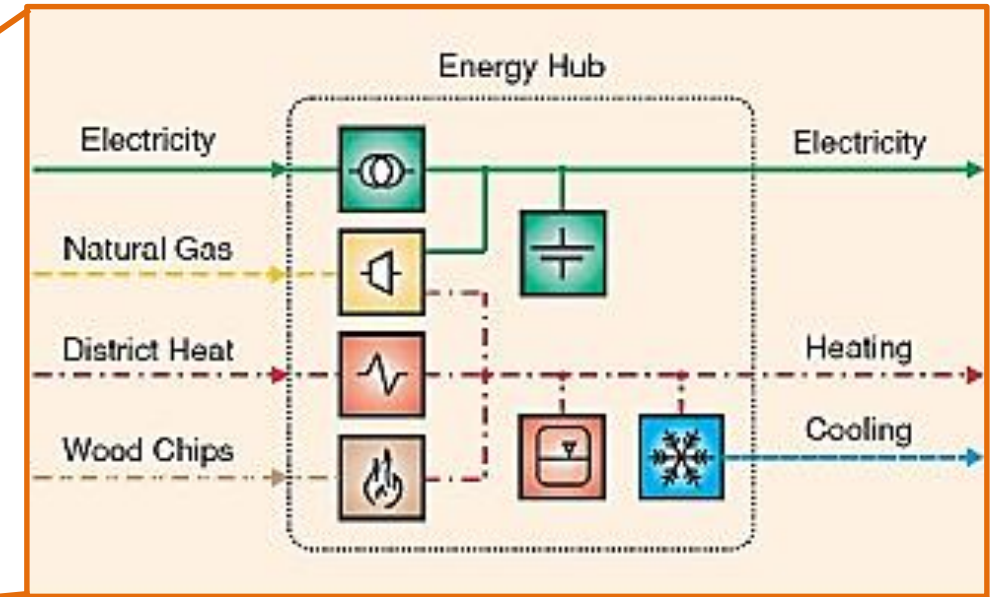
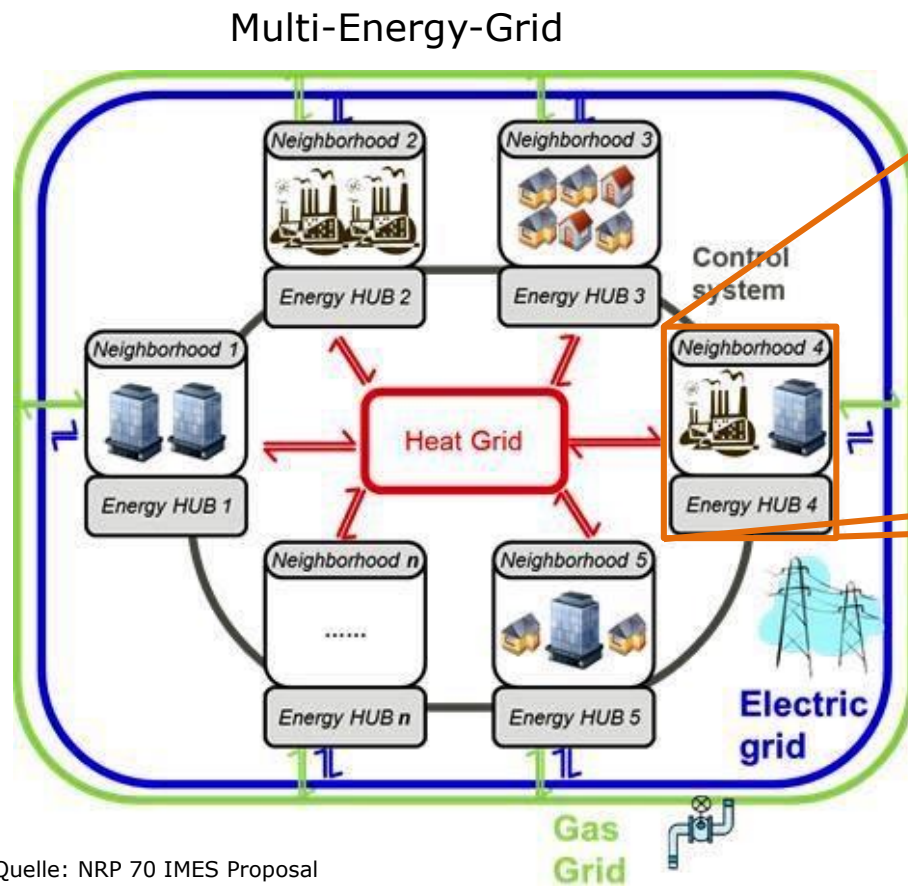
Energieverbrauch CH (752 PJ/a)



Dezentralisierung der Energieversorgung



Dezentrale Energiesysteme



Quelle: resilient project

Quelle: NRP 70 IMES Proposal

NEST: Exploring the Future of Buildings A Holistic, Dynamic and Flexible Demonstration Platform



**Large scale plug-
and-play Living
Lab**

**2'500 m² of
innovation
space**

**Energy Hub
Interface**

**Public Private
Partnership
(Research –
Business –
Society)**

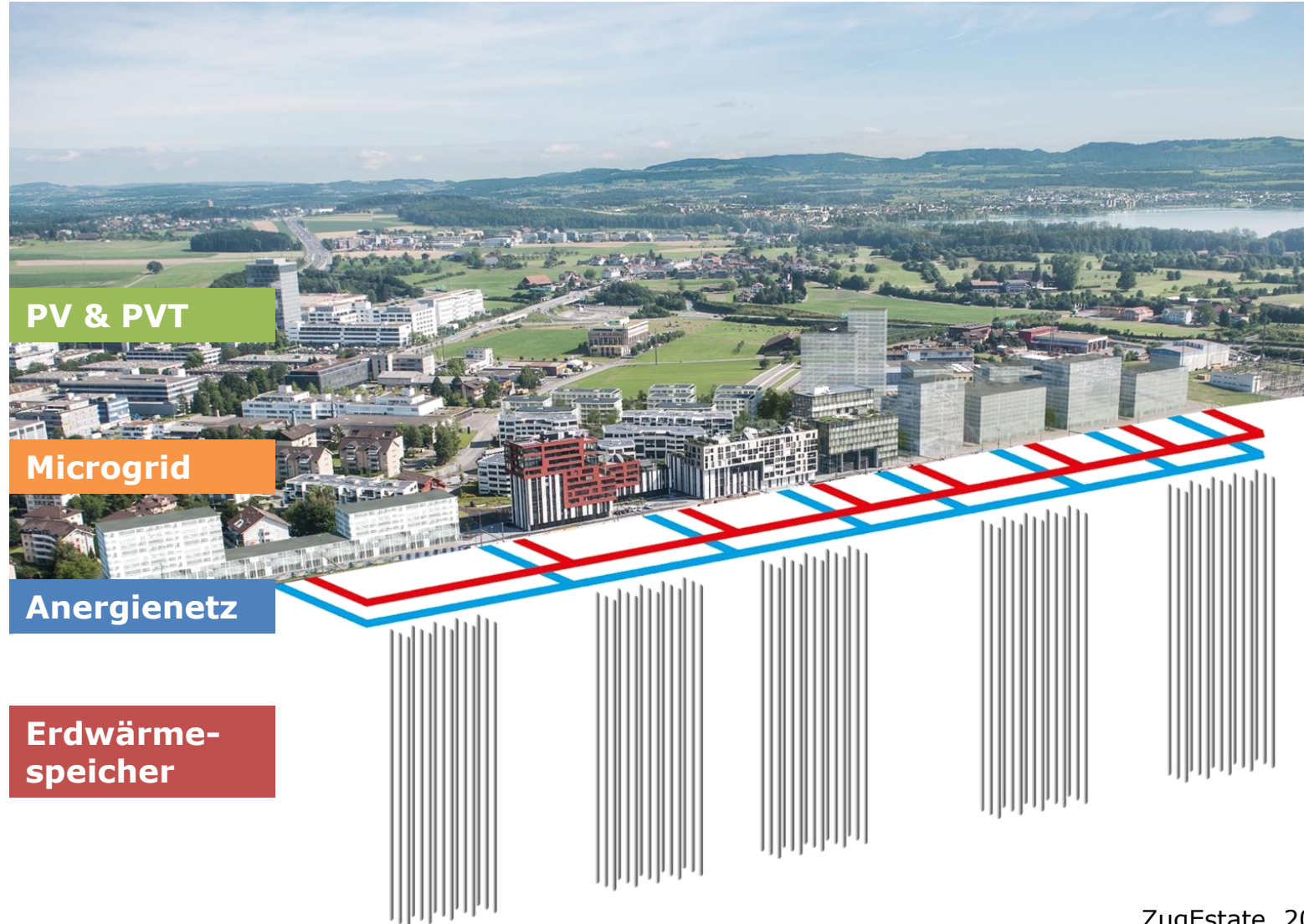
Photo: Roman Keller

Areal Suurstoffi → Energy Hub



6. 12. 2017

Areal Suurstoffi auf dem Weg zum Energie Hub



Bestehendes Areal
62'000 m2 EBF

Vollausbau Areal
165'000 m2 EBF

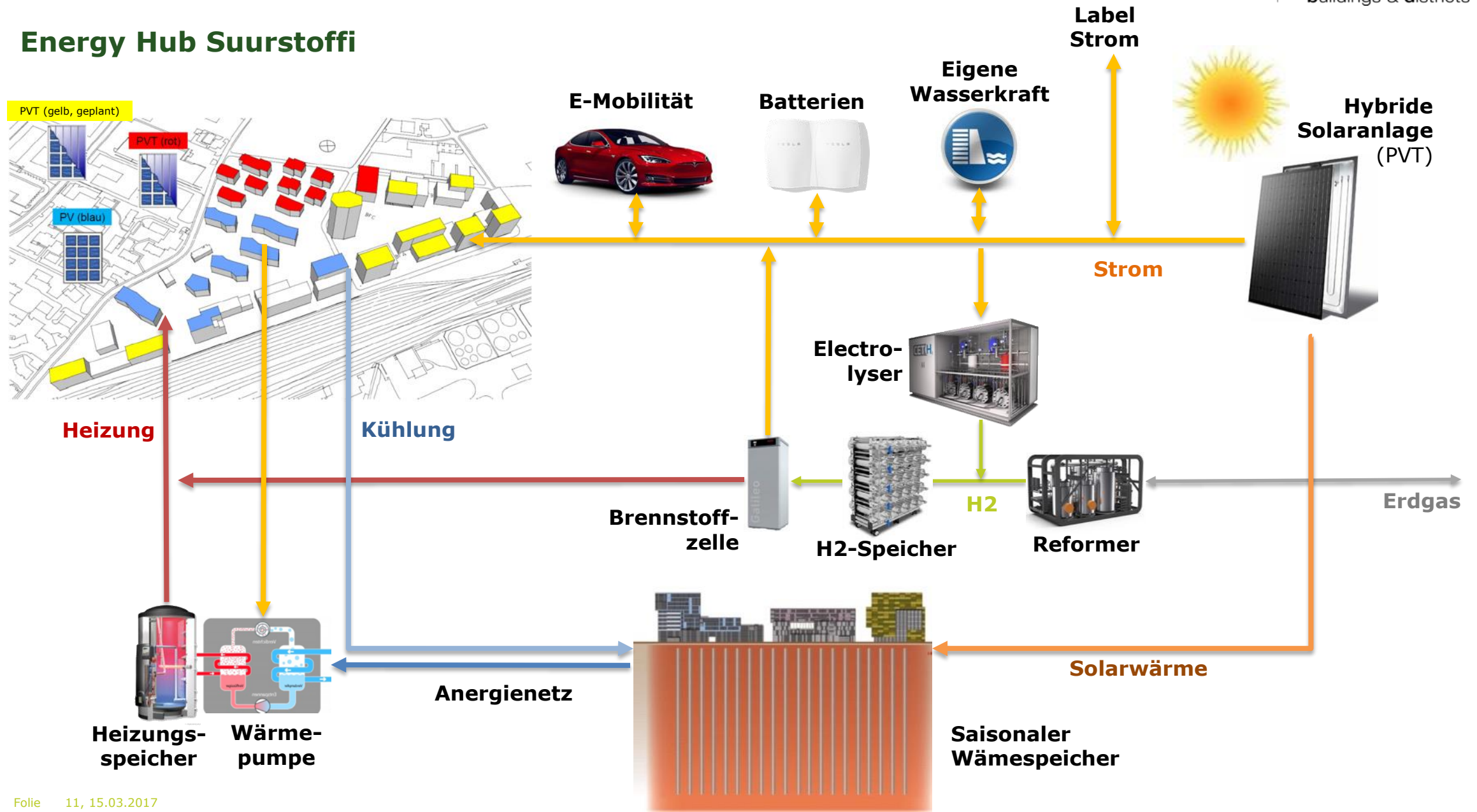
PV(T): 6'200 m2 best.
PV(T): 10'300 m2 voll.

Sonden: 215 Stk. best.
Sonden: 750 Stk. voll

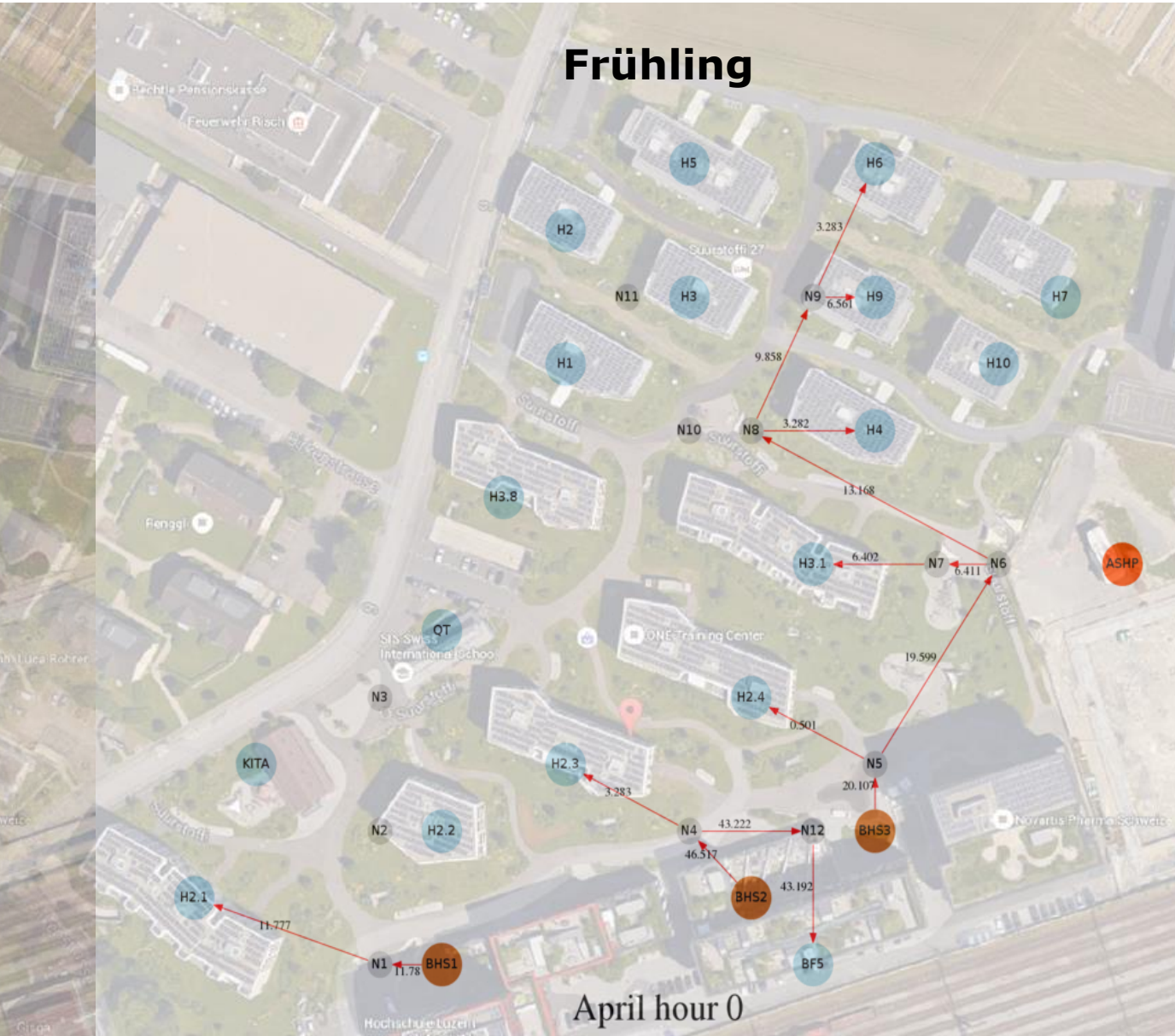
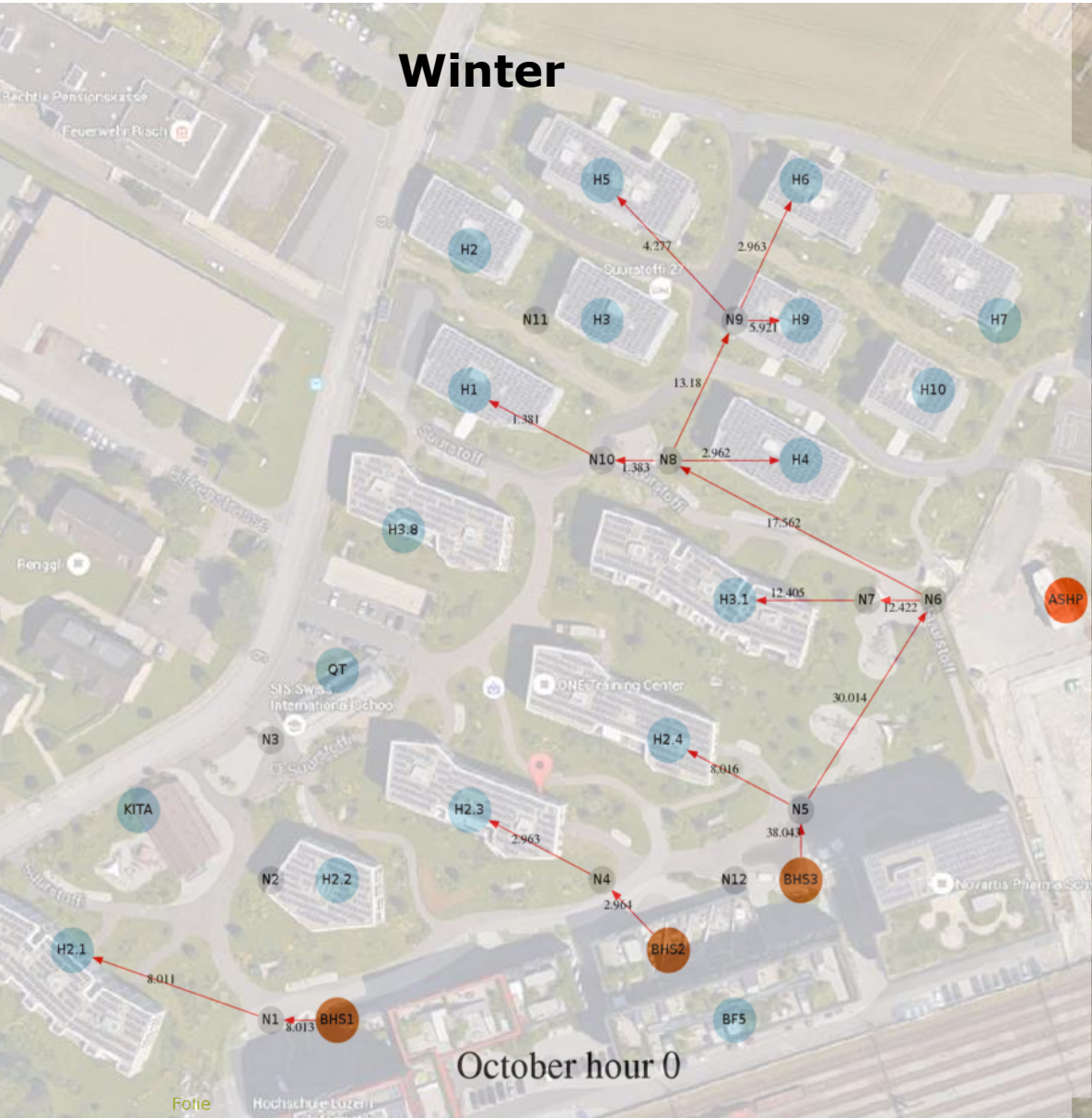
Smartmeter, Arealnetz

Gasanschluss

Energy Hub Suurstoffi

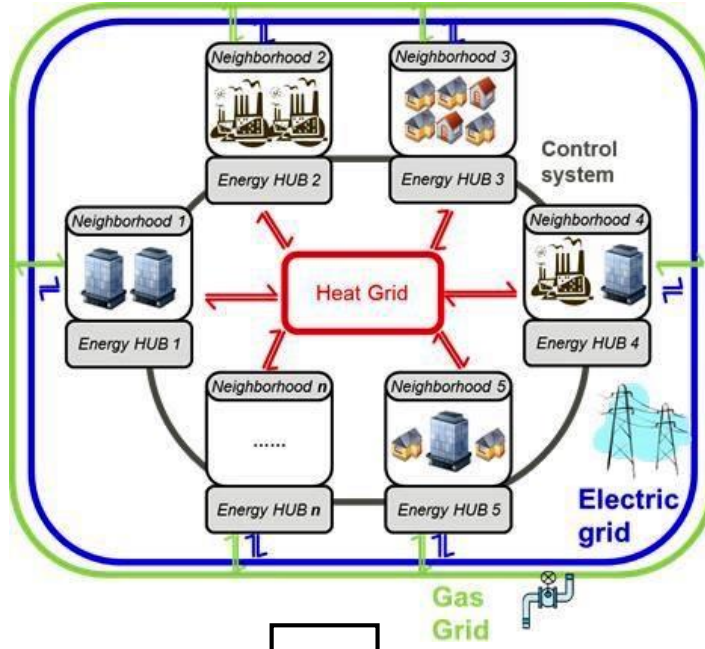


Wärmefluss (kWh/h)

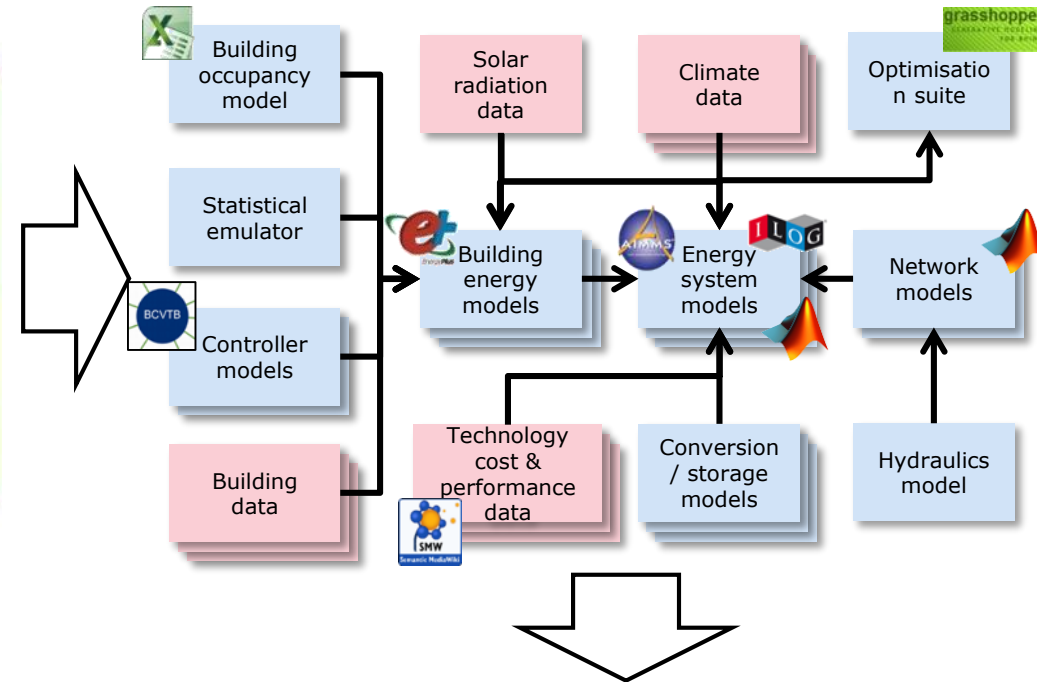


Optimierung im Betrieb

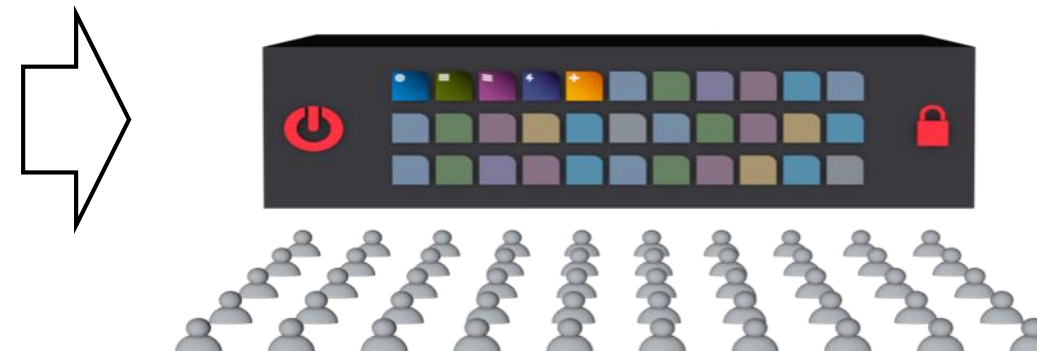
Forschung
Dezentrale
Energiesysteme



Businessmodel
Innovation



HUES Platform
(Holistic Urban
Energy
Simulation)



EnergyOn
Plattform

Film EnergyOn – Internet of Things

<https://www.youtube.com/watch?v=cZgw6I6qsj8>



sccer | **future energy efficient
buildings & districts**

Academic partners



Materials Science & Technology



Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich



ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE



Lucerne University of
Applied Sciences and Arts

**HOCHSCHULE
LUZERN**

Engineering and Architecture
FH Zentralschweiz



**UNIVERSITÉ
DE GENÈVE**

In cooperation with the CTI



Energy

Swiss Competence Centers for Energy Research



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Commission for Technology and Innovation CTI