



ENTREPRENEURSHIP



◀ The capacity to identify and interpret key social issues and trends at an early stage is vital to Chalmers. We must constantly be one step ahead and be prepared to contribute with the right knowledge, expertise and solutions.

Keener competition in the university sector and new forms of learning highlight the importance of taking the lead and testing novel working methods.



WE KNOW WHAT WE WANT

CHALMERS – FOR A SUSTAINABLE FUTURE is our vision. It defines our most important focus – a vibrant and dynamic vision of the future in which the fate of humanity is in the balance. Through this vision, we will seek to meet the need for ecological, social and economic sustainability in a committed, innovative and pioneering way. We are proud of our accomplishments and our aim is to serve as a model internationally.

IN THE *LOCAL AND GLOBAL COMMUNITIES*, CHALMERS – FOR A SUSTAINABLE FUTURE MEANS:

- We contribute to attaining UN sustainability targets, both locally and globally.
- We collaborate with others to find solutions to the growing and increasingly complex challenges facing the world.

FOR US, CHALMERS – FOR A SUSTAINABLE FUTURE MEANS:

- Each and every one of us assumes responsibility for the strict observance of sustainability principles in our day-to-day work.
- We are able to set priorities and adopt a long-term approach when making choices and decisions.





- 1 **Harvard**
- 2 **Stanford**
- 3 **University of California at Berkeley**
- 4 **MIT**
- 5 Cambridge
- 6 **Caltech**
- 7 **Princeton**
- 8 **Columbia**
- 9 **University of Chicago**
- 10 Oxford
- 11 **Yale**
- 12 **University of California at Los Angeles**
- 13 **Cornell**
- 14 **University of California at San Diego**
- 15 **University of Pennsylvania**
- 16 **University of Washington**
- 17 **Johns Hopkins**
- 18 **University of California at San Francisco**
- 19 **University of Wisconsin at Madison**
- 20 Swiss Federal Institute of Technology Zurich



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- 13 **University of California at Los Angeles**
- 14 **Columbia**
- 15 **University of Pennsylvania**
- 16 **Johns Hopkins**
- 17 University College London
- 18 **Cornell**
- 19 **Northwestern University**
- 20 **University of Michigan at Ann Arbor**



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- 14 **Columbia**
- 15 **Cornell**
- 16 **Johns Hopkins**
- 17 University of Edinburgh
- 17 University of Toronto
- 19 Federal Polytechnic School of Lausanne
- 19 King's College London



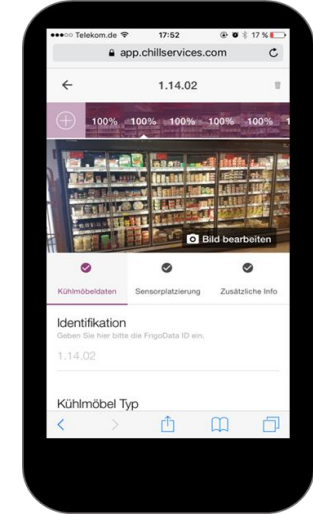
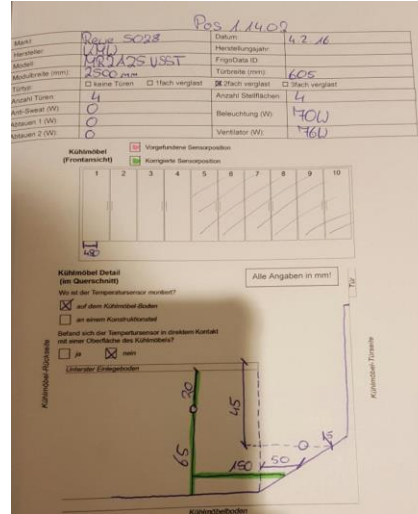
WORLD PREMIERE



1.





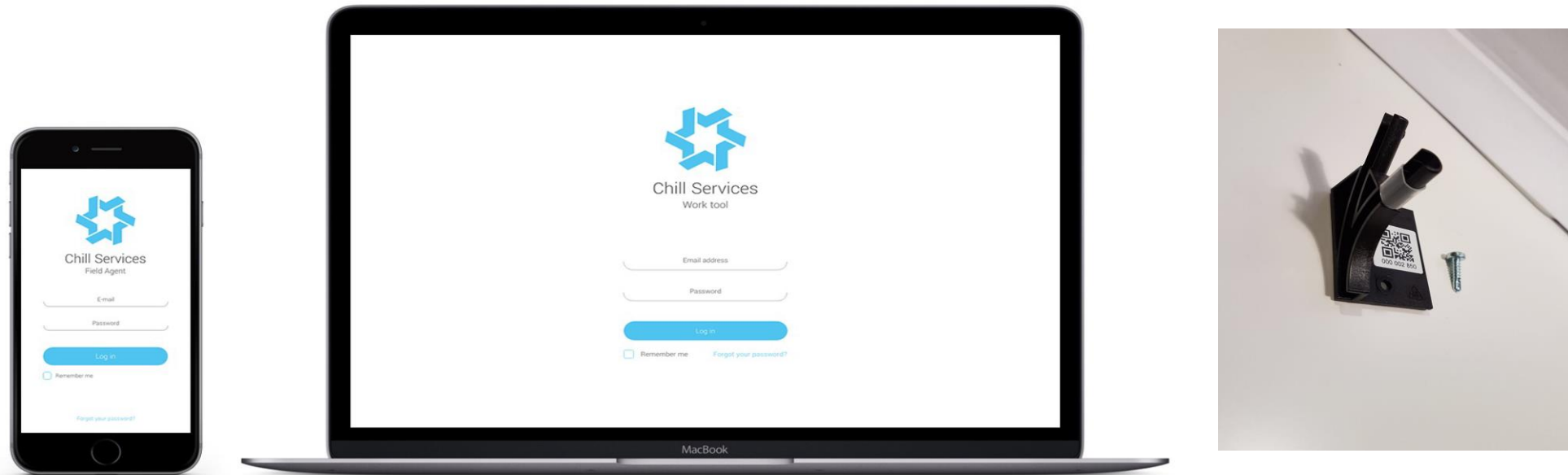


Phase 1 (Autumn 2016)

- **13 markets**
- **196 cabinets (NK)**
- **Improvised positioners**
- **Paper documentation**

Phase 2 (Summer 2017)

- **51 markets**
- **908 cabinets (NK+TK)**
- **Patented 3D printed positioners**
- **Documentation via smartphone**



Phase 3 (2018)

- 350 markets in region north + 2 more regions
- Sensor optimization in 6500 cabinets
- Digitalization of 10.000 cabinets (as inventory and for benchmarking)
- Online data base for visualization of results and benchmarking in cooperation with WURM/ frigodata online 2.0





- Optimize 1 Market
- 20 cabinets
- 3-4 papers
- 2 conferences
- 1 FTE job created (PhD student)
- 100t CO2 mitigated
- 370k turnover



+



ChillServices



- Optimize 350 Markets
- 11'280 cabinets
- 5 papers
- 6 conferences
- 11 FTE direct jobs created
- 15 FTE indirect jobs created
- 42'000t CO2 mitigated
- 2.5mio. EUR turnover (370k EIT)
- 8.3tb data
- One excellence professorship
- One Label



2.





- ☒ LEADERSHIP
- ☒ TEAMWORK
- ☒ COMMUNICATION



INNOVATION



They don't know...





...and they don't know
either...

Profiling (interview stage, co-creation workshop, 52 interviews)

3x



Name

Anna

A1: concern, Business & Market Development (strategic role)

1x



Name

Michael

A2: concern, Product Development (strategic role)



Name

Ben

A3: SME business & product development (strategic role)

(2)x



Name

Emma

B1: Real Estate Investor

(1+2)x



Name

Steve

B2: country/EU policy maker

Profiling (literature stage, 198 LinkedIn profiles)

A1: concern, Business & Market Development (strategic role)



Name

Anna

About

The person has 10+ years of industry experience. She has worked at various roles in the same organisation (possibly at different departments) and is currently managing the sales, business or commercial activities. She also has experience in international markets and likely knows more than one language. Her work, which is cross-functional (business, sales, product dev) involves frequent networking and contact building. Can be either male or female.

Position

Manager- Commercial, Sales, Marketing or Business Development.

Tasks

- Lead a multi-product sales force and be responsible for marketing, business plan development and execution. Also provide strategic inputs to the company board.
- Manage the supply chain and develop/assist the dealer/distributor network. Provide them as well as employees regular supply chain trainings. Developing long term partnerships with most important companies in upstream and downstream actors.
- Profit and loss responsibility at the Business Unit. Reporting to senior management and representing the company at fairs.
- Market assessment or supply and demand analysis. Likely doing team recruitment.
- Contract (tender) management and negotiation (depending on the product).

Pain/Problems

- Liaison with other departments (product development/manufacturing) for inventory and convincing senior management for budgets.
- Identifying new business opportunities and markets, based on accurate information and assessment . Consolidating position in existing markets.
- Accommodate different cultural and functional specialties while keeping the team motivated. Accommodating ownership versus beneficiary issue.
- Identifying innovations to acquire.. Keeping the competition in check.

Needed Information

- General market trends and date, including market structure and channels. Costs of building construction.
- Data on strategic opportunities, contacts for partnerships, key competitors and growth drivers
- Comparable data among different markets with info on local standards, policy context
- Arguments for enabling sales (co-benefits)- energy, health etc.



TEP

Wuppertal
Institut

ENEA

UCL

RICS

TU Delft

Knight
Frank

NAPE

CHALMERS

IVE
INSTITUT VALENCIÀ de l'EDIFICACIÓ
INSTITUTO VALENCIANO de la EDIFICACIÓN

ETH zürich

eit Climate-KIC

wbcsd

iea International
Energy Agency

Global Alliance
for Buildings and
Construction

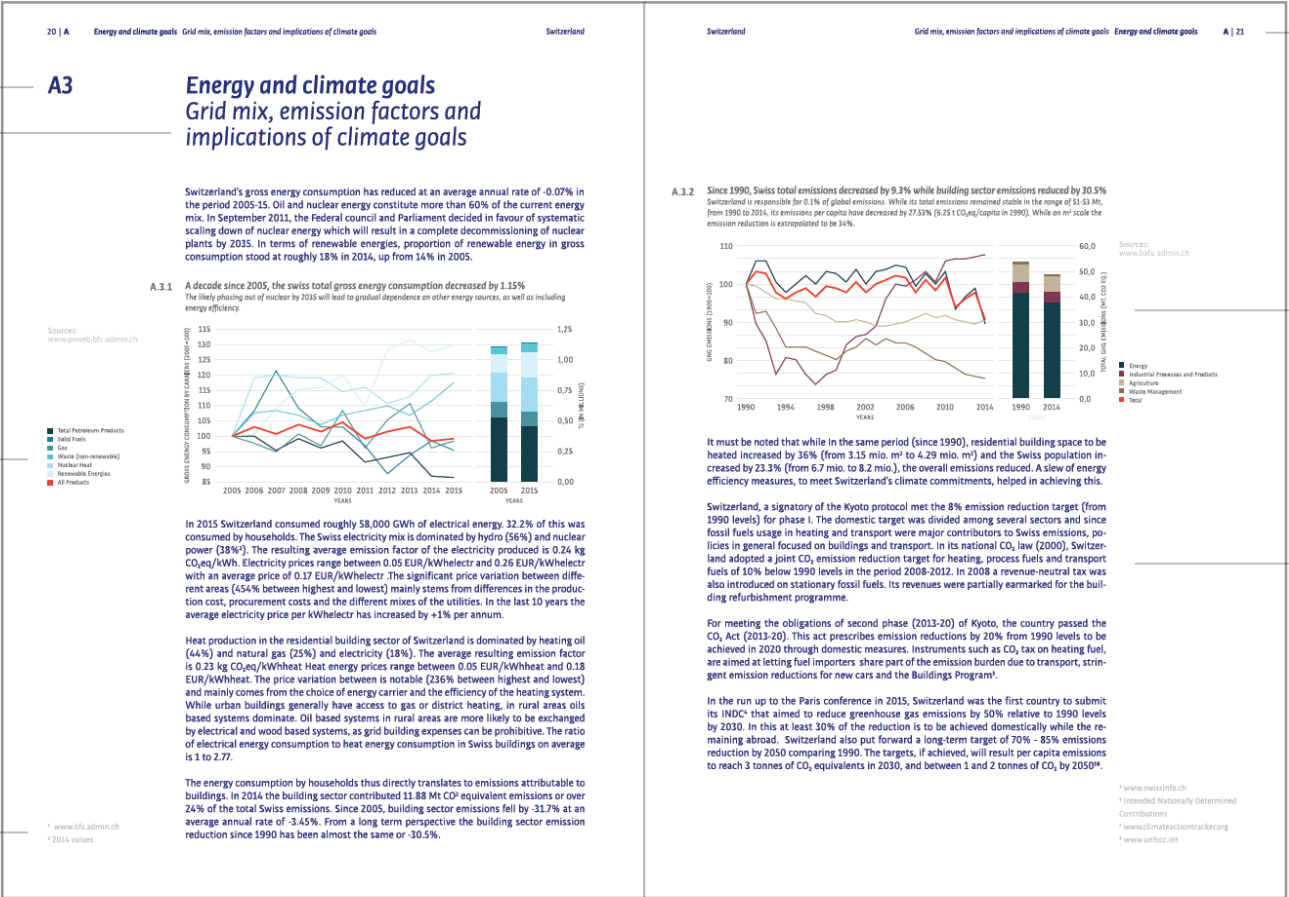
Building Market Briefs

Objective data and experts comments

Subchapter
Title/
Subtitle

Legend

Links to additional reports
or market experts
comments (subjective,
qualitative)



Subchapter

Graph

Main text
(objective,
quantitative)

Building Market Briefs

Upcoming...

2016:

- Co-creation of format
- Prototype report (Switzerland)

2017:

- UK BMB
- French BMB
- German BMB
- Dutch BMB

2018:

- Spanish BMB
- Italian BMB
- Polish BMB
- Danish BMB

2019:

- UK BMB update
- French BMB update
- German BMB update
- Dutch BMB update
- Tbd
- Tbd
- Tbd
- Tbd

3.





Tables

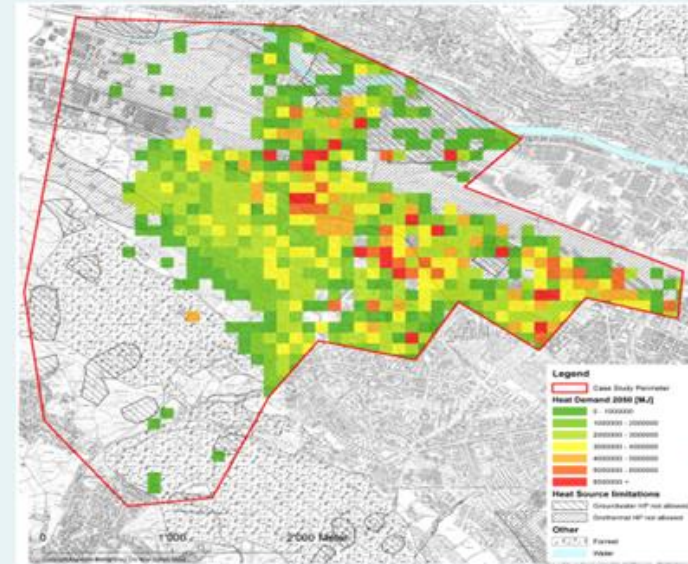
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	Referenz- szenario	Referenz- szenario	Effizienz- szenario
Einwohner	7'871'787	9'558'000 ^a	
THGE _{Erst} [Mt CO ₂ -eq]	3.0	4.9	5.1
THGE _{Betr} [Mt CO ₂ -eq]	18.8	6.2	3.4
THGE _{Total} [Mt CO ₂ -eq]	21.8	11.1	8.5
THGE pro-Kopf [t CO ₂ -eq/P]	2.8	1.2	0.9
PE _{Erst} , n.em. [TWh]	12	19	20
PE _{Betr} , n.em. [TWh]	134	26	14
PE _{Total} , n.em. [TWh]	145	45	34
PE _{Total} , n.em. pro-Kopf [W/P]	2108	537	409
PE _{Erst} , Total [TWh]	15	24	25
PE _{Betr} , Total [TWh]	156	86	62
PE _{Total} [TWh]	171	110	88
PE _{Total} pro-Kopf [W/P]	2484	1317	1046

Figures



Maps

By Hectare



By building



