

Good Energies Chair for
Management of Renewable Energies



University of St.Gallen

RE-Invest 2016

7th St.Gallen Forum for Management
of Renewable Energies

May 26th & 27th, 2016



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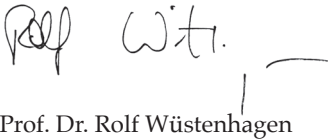
RE-Invest 2016



After several years of negotiations, during which global greenhouse gas emissions continued to rise, governments from around the world finally struck a new climate deal in Paris. The progress that renewable energy technologies have made on the learning curve clearly helped make an ambitious agreement possible. There is increasing awareness among political and business leaders that shifting away from non-renewable sources of energy makes sense – not just from a societal point of view, but as a way to improve future competitiveness.

The Paris agreement, however, can only be the first step. It needs to be translated into action and, particularly, be reflected in energy investment strategies, which are the focus of this year's St. Gallen Forum for Management of Renewable Energies: RE-Invest 2016. How is the new global climate framework influencing the energy investment landscape? What role will corporate, institutional and retail investors play in building up a clean energy system? How can the latest insights from research in energy, management, psychology and political science help to shape successful strategies? What is the outlook for key renewable energy technology sectors such as solar and wind? And what is the role of countries like Switzerland and Germany in bringing about a global transition to renewable energy? These questions will be addressed through a mix of keynote speeches by international thought leaders, high-profile panel discussions and interactive workshops which provide participants with new insights and high-level networking opportunities.

Welcome to Forum 2016!



Prof. Dr. Rolf Wüstenhagen



www.hsg-energieforum.ch

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Programme | Thursday, May 26th, 2016

10.00– **Pre-Conference-Workshop: Disrupt yourself, or be disrupted!**

17.30 **Moderator:** Dieter Hirdes, EMPOWER

14.00– **Pre-Conference Workshop: Electric Mobility – from Niche to Mass Market**

17.30 **Moderators:** Prof. Dr. Torsten Tomczak & Prof. Dr. Rolf Wüstenhagen,
University of St. Gallen

18.30 **Apéro & Dinner**

(Apéro with kind support of A.T. Kearney)

Dinner Speech

The Influence of Worldviews on Energy Decision Making

Prof. Dr. Elke Weber, Jerome A. Chazen Professor of International Business,
Columbia Business School, New York

Hosted by Prof. James Davis, Ph.D., Center for Energy Innovation, Governance
and Investment, University of St. Gallen

Programme | Friday, May 27th, 2016

08.30 Registration & Coffee

09.00 **Introduction to the Conference Theme**

Prof. Dr. Rolf Wüstenhagen, Center for Energy Innovation, Governance and
Investment, University of St. Gallen

09.20 **Panel Discussion:**

The RE Investment Landscape after Paris

- Christopher Knowles, Head of Climate Change & Environment Division,
European Investment Bank
- Gerard Reid, Founder and Managing Partner, Alexa Capital LLP
- Philipp Schröder, Managing Director, sonnen GmbH
(formerly Sonnenbatterie GmbH)

Moderator: Dr. Melinda Crane, Chief Political Correspondent, Deutsche Welle

10.20 **Announcement of the Zurich Climate Prize 2016**

Roland Betschart, Programme Director, Corporate Responsibility, Zurich Switzerland

10.40 Coffee Break

11.10 **Social Science Research in Support
of Energy System Change – Evidence from the UK**

Prof. Jim Watson, Ph.D., Research Director, UK Energy Research Centre, London

- 11.30 The Role of Digitalization in a Changing Energy World**
Jörn Splanemann, Business Development Advanced Utilities Solutions,
Schneider Electric Energy GmbH
- 11.45 The Customer's Voice: New Evidence about Energy Preferences in Switzerland**
Consumer Barometer Renewable Energies 2016 – in Cooperation with Raiffeisen
 - Anna Ebers, Ph.D., Chair for Management of Renewable Energies, University of St. Gallen
 - Beat Stemmler, Sustainability Management, Raiffeisen Switzerland
- 12.00 Surprise Act**
- 12.15** Networking Lunch
- 13.45 Workshops**
- 1 Winning the Solar Customer – The Power of Aesthetics and Peer Effects for successful PV Marketing and Sales**
Hans Curtius & Prof. Stefanie Hille
- 2 Strategic Innovation in the Energy Industry**
Dr. Emmanuelle Reuter & Prof. Moritz Loock
- 3 Investing in Renewables: Insights from Commercial Real Estate**
Prof. Roland Füss
- 4 Solar PV Self-Consumption between "Death Spiral" and "Sun Tax" (German)**
Merla Kubli
- 5 #YieldCo – Finding the Magic Formula for Renewable Energy Investments**
Sarah Salm
- 6 Should I Stay or Should I Go? – Risk-Return Profiles of Domestic vs International Energy Investments**
Yuliya Karneyeva
- 7 EMPOWER to the people!**
Prof. Bernt A. Bremdal
- 15.45** Coffee Break
- 16.00 Exporting the Energy Transition: How Can European Countries Benefit From Global RE Investment Opportunities?**
Panel Discussion in collaboration with the expert conference ENERGIE+BAUEN*
 - Kai Buntrock, CFO, SOWITEC
 - Hans-Dieter Kettwig, CEO, Enercon
 - Peter Pauli, CEO, Meyer Burger Technology AG
 - Dr. Markus Wyss, Executice Management, Switzerland Global Enterprise**Moderator:** Dr. Melinda Crane, Chief Political Correspondent, Deutsche Welle
- 17.00 Closing remarks**
Dr. Peter Richner, Swiss Fed. Lab. for Materials, Testing and Research (EMPA)
Prof. Dr. Rolf Wüstenhagen, University of St. Gallen
- 17.15** Apéro riche

Pre-Conference-Workshops | May 26th, 2016

Pre-Conference Workshop

Electric Mobility – from Niche to Mass Market

Moderation ■ Prof. Dr. Torsten Tomczak
■ Prof. Dr. Rolf Wüstenhagen

Venue ■ City Hall, St. Gallen
14.00-17.30 (by invitation only)



Pre-Conference-Workshop

Disrupt yourself, or be disrupted! (organized by EMPOWER)

10.00 Pre-Conference-Workshop part 1
12.45 Lunch
13.45 Pre-Conference-Workshop part 2
17.30 End of Workshop



New information and communication technologies will soon revolutionize the energy sector. Smart meter reading is just the beginning. The introduction of disruptive new IT technologies like Big Data Analytics, Cloud Computing, Social Media and Internet of Things, opens up for new business models, new energy related services and new energy market players.

Digitalization is having a dramatic effect on several areas and industries. It is disruptive in that it puts prevailing rules and business models out of action – and establishes new ones, like streaming music and video services, UBER challenging the taxi industry world-wide, and AirBnB challenging the global hotel industry, to name a few examples.

The European power sector has long been spared disruptive changes. That time will soon be over. Which new business models will emerge and which new actors will enter the energy scene? How can today's energy companies disrupt themselves, as other successful businesses have done, to survive disruptive changes in enabling technologies?

In this pre-conference workshop, we will present new players on the energy scene, with examples from Nordic and Continental energy businesses. You will meet newcomers with challenging and exciting business ideas and you will participate in discussions on how to exploit technology and business disruption.

These and further Strategy Pilots will challenge you and guide the workshop:

- Prof. Bernt A. Bremdal, NCE Smart Energy Markets
- Dieter Hirdes, EMPOWER
- Dr. Christian Kunze, Swiss Grid
- Prof. Dr. Moritz Loock, University of St.Gallen
- Dagfinn Wåge, Lyse Energy

Venue: Executive Education Campus (WBZ), Holzstr. 15, 9010 St.Gallen -> <http://www.wbz.unisg.ch>

Workshops | May 27th, 2016, 13:45–15:45

Workshop 1

Winning the Solar Customer – The Power of Aesthetics and Peer Effects for successful PV Marketing and Sales

As solar power is moving closer to grid parity and feed-in tariffs are fraught with policy risk, marketing photovoltaic systems to homeowners requires new approaches. Based on the University of St. Gallen's latest research insight into consumer preferences for residential photovoltaics, participants will explore the role of social prestige, aesthetics and social norms in PV adoption. Brian F. Keane, an experienced marketing expert and president of SmartPower, will share best practice examples from the United States of how to most effectively leverage the power of peer effects. Based on experiences from the innovative outreach campaign "Solarize", backed by the US Department of Energy, Keane will demonstrate how – and why – homeowners in the United States are adopting solar at a record pace. After the presentations, workshop participants will be invited to join a discussion about how these insights can be integrated into their daily business.

Moderation ■ Prof. Dr. Stefanie Hille and Hans C. Curtius, University of St. Gallen

Speaker ■ Brian F. Keane, President, SmartPower, USA

Venue ■ Room 9.1.2, Rest. Rosso, ground floor

Workshop 2

Strategic Innovation in the Energy Industry

The energy industry is undergoing a fundamental transformation. The sharing economy, digitalization and de-/reregulation constitute only some of the key trends that give rise to enormous opportunities for strategic innovation. They bear the potential to create fundamentally new value creation opportunities through new practices of energy production and consumption. Although the ways in which these opportunities can be leveraged are manifold and diverse in nature, they have one common element: identifying and creating a sustainable position for the future! This workshop concentrates on strategic innovation in the energy industry with a specific emphasis on the decentralization of energy production. It reveals how and why firms take a variety of approaches to taking advantage of opportunities when deciding how to go forward and how to build on this trend. In this session, we bring together representatives of different stakeholder groups to engage in a discussion about the dynamics of strategic innovation. In the first part, incumbent utilities outline their views about future decentralized energy markets. They uncover the enablers and constraints to successfully renewing once successful business models, and point to some of the challenges that they see going forward. In the second part, these insights will be contrasted with startups' visions of the future energy market and their own experiences about the drivers and barriers to successfully implementing their strategies. In the third and final section, these insights will be discussed in a panel session format.

Moderation ■ Prof. Dr. Moritz Loock and Dr. Emmanuelle Reuter, University of St. Gallen

Speakers ■ James Johnston, CEO, Open Utility

■ Marcel Morf, Member of Executive Board, Alpiq InTec AG

Venue ■ Room 9.2 D, second floor

Workshop 3

Investing in Renewables: Insights from Commercial Real Estate

Energy accounts for 30% of operating expenses in a typical office building and the impact of energy costs directly affects tenants and landlords. "Green" buildings attract a considerable financial premium in terms of rental and sales price. Furthermore, environmental rating systems for commercial properties aim at reducing information asymmetries on building's degree of energy efficiency and sustainability between landlord (investor) and tenant (occupier) or seller and buyer. However, with the increasing diffusion of green certificates, the premiums for real estate companies gradually decrease. This trend leads to an increased attention to cost savings by reducing water and electricity consumption and making use of energy supply contracting as well as sustainable facility management. Starting with the question how green labeling and the "greenness" of a commercial property portfolio affects financial performance, we aim at exploiting additional sources of profitability from sustainability. We thereby investigate how our experiences from real estate operating companies (or REITs) can be used for other investments and businesses in sustainability.

Moderation ■ Prof. Dr. Roland Füss and Samdrak Dharshing, University of St. Gallen

Speaker ■ Sebastian Carneiro, Director, SUSI Energy Efficiency AG

Venue ■ Room 2.0, ground floor

Workshop 4 (in German)

Solar PV Self-Consumption between "Death Spiral" and "Sun Tax"

Decentralized renewable energies, especially photovoltaic (PV), have started a trend whereby "prosumers" replace consumers. The spread of PV systems has significantly contributed to the creation of a more sustainable power supply in Switzerland, as well as fulfilling the goal of the energy strategy 2050. On the other hand, the income of grid operators has due to the rising number of prosumers. PV owners consuming their own power usually require less energy from the power supply system, but still use the services of distribution grid operators. As a result, it might become necessary in the future to increase grid charges for households without PV systems in order to compensate for losses, because standard pricing will no longer cover costs. This cycle of adapting tariffs for grid usage leading to higher attractiveness of prosuming is often called "death spiral". This situation raises many questions: is a new grid tariff system necessary to put an end to this vicious circle, cover grid costs and protect grid operators from a decline in their incomes? Is a "sun tax" for solar power producers killing the energy transition? What are the appropriate incentives for running decentralized facilities according to the needs of grids? And how is decentralized storage going to influence this setting? Together with experts we will discuss complex issues regarding prosuming and grid regulation.

Moderation ■ Merla Kubli, University of St. Gallen

Speakers ■ Peter Graf, Head Energy and Marketing, St. Galler Stadtwerke

■ Dr. Rudolf Rechsteiner, re-solution.ch, Consultant to Swissolar

■ Renato Marioni, Swiss Federal Office of Energy (SFOE)

Venue ■ Room 9.2 B, second floor

Workshop 5

#YieldCo – Finding the Magic Formula for Renewable Energy Investments

In numerous European countries, the energy transition is a high priority topic. In contrast to conventional energy infrastructure, the renewable energy market has attracted a very heterogeneous set of investors and has created many new investment vehicles for optimizing project related cash flows. YieldCos are at the forefront of these discussions and have the potential to play a major role in financing parts of Europe's renewable energy infrastructure. A YieldCo is a cashgenerating infrastructure asset that spins out ownership to public markets. Additionally, many market participants see YieldCos as a „magic formula“ to generate positive cash flows in contrast to less attractive business units. What are the pros and cons of YieldCos as compared to traditional project financing instruments? What can be learned from the bumpy ride of U.S. YieldCos for financing renewables in Europe? What is the primary goal of utility companies vs. institutional investors as regards pushing forward such investment vehicles? The workshop will provide background information about these emerging questions and potential and future development will be discussed with experts.

Moderation ■ Sarah Salm, University of St. Gallen

Speakers ■ Astrid Manroth, Managing Director Asset and Wealth Management & Head of Sustainable Investments EMEA, Deutsche Bank AG
■ Dr. Celine McInerney, University College Cork
■ Dr. Christoph Sutter, Head of Division New Energies / Member of Executive Board, Axpo AG

Venue ■ Room 3.1, first floor



Workshop 6

Should I Stay or Should I Go? – Risk-Return Profiles of Domestic vs International Energy Investments

Switzerland, located in the heart of Europe, is home to many international investors. Nearly 90% of Swiss investment targets renewable energy projects abroad (BNEF, 2015). While there is a case for international diversification, putting eggs in too many different baskets may also bring new risks. In energy investment these risks include, for example, currency and politics. Mitigating those risks in different locations involves incurring additional costs, which have to be earned through higher returns. In this workshop we examine risk-return profiles of domestic and international investments. To stimulate fruitful discussion, investment community experts and risk assessment specialists will share their experiences. Successful and less successful investment cases and risk mitigation strategies will be discussed. Based on international perspectives on energy investment risk and return, participants will have a chance to discuss their own experiences and reflect upon the implications for future investment strategies.

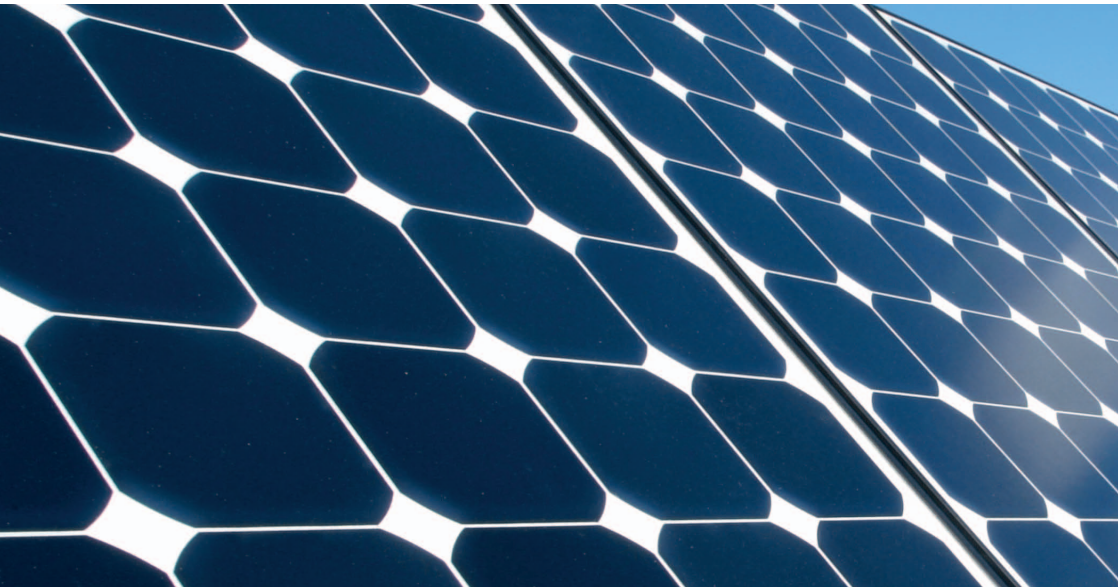
Moderation ■ Yuliya Karneyeva, University of St.Gallen

Speakers ■ Pascal Egloff, Banking Analyst, Power & Energy Utilities, European Bank for Reconstruction and Development

■ Christian Gradel, CFO, re:cap global investors ag

■ Clemens Hasler, CEO, Kraftwerke Zervreila AG & SN Energie AG

Venue ■ Room 2.1, first floor



Workshop 7

EMPOWER to the people! (organized by EMPOWER)

In the future, most of the energy we use will be produced where it is consumed. The surplus from your PV panels may be sold to your neighbors or stored locally for later use. Central energy production facilities will experience decreased sales and revenues. Central grids and local distribution grids will be relieved from heavy peak loads. Investments in increased transmission capacity can be postponed. But what does it mean if a TSO or DSO loses 80% of their grid rental charges? If not 80%, even a 20% loss could be a dire challenge for local DSOs and their owners. Decentralized renewable energy production and storage will soon revolutionize the energy sector. Energy produced, consumed and traded locally requires local energy markets. This is exactly what the EMPOWER project will develop: a new model for local energy markets and a software platform for local energy trading. The platform will be developed and verified at demo sites in Germany, Malta and Norway. In St. Gallen, the EMPOWER project invites experts from its Technical Advisory Group (TAG) and participants from the St. Gallen Forum to the EMPOWER TAG Workshop to be updated on the project's status and to contribute to the next generation local trading platform developed by energy trading and software development teams who developed trading platforms for the Nordic Energy Markets.

- Moderation** ■ Prof. Bernt A. Bremdal, Norwegian Centre of Expertise Smart Energy Markets
- Speakers** ■ Knut H. Johansen, CEO eSmart Systems AS
- Prof. Andreas Sumper, CITCEA - Universitat Politècnica de Catalunya
- Venue** ■ Room 9.2 C, second floor



This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No 646476.



Speakers and Moderators

Detailed CVs can be found on
www.hsg-energieforum.ch



- **Roland Betschart** Corporate Responsibility, Zurich Switzerland
- **Prof. Bernt A. Bremdal** Norwegian Centre of Expertise Smart Energy Markets
- **Kai Buntrock** CFO, SOWITEC



- **Sebastian Carneiro** Director, SUSI Energy Efficiency AG
- **Melinda Crane** Chief Political Correspondent, DW TV
- **Hans C. Curtius** Good Energies Chair for Management of Renewable Energies, University of St.Gallen



- **Prof. James W. Davis, Ph.D.** Director, Institute of Political Science, University of St.Gallen
- **Samdruk Dharshing** Good Energies Chair for Management of Renewable Energies, University of St.Gallen
- **Anna Ebers, Ph.D.** Good Energies Chair for Management of Renewable Energies, University of St.Gallen



- **Pascal Egloff** European Bank for Reconstruction and Development
- **Prof. Dr. Roland Füss** Chair of Real Estate Finance, Director at the Swiss Institute of Banking and Finance, University of St. Gallen
- **Christian Gradel** CFO, re:cap global investors ag



- **Peter Graf** Member of the Executive Management Board, Sankt Galler Stadtwerke
- **Clemens Hasler** CEO, Kraftwerke Zervreila AG & SN Energie AG
- **Prof. Dr. Stefanie Hille** Good Energies Chair for Management of Renewable Energies, University of St.Gallen



- **Dieter Hirdes** EMPOWER
- **Knut H. Johansen** CEO eSmart Systems AS
- **James Johnston** CEO and Co-Founder, Open Utility



- **Yuliya Karneyeva** Good Energies Chair for Management of Renewable Energies, University of St.Gallen
- **Brian F. Keane** President, SmartPower
- **Hans-Dieter Kettwig** CEO, ENERCON GmbH



- **Christopher Knowles** Head of Climate Change & Environment Division, European Investment Bank - EIB
- **Merla Kubli** Good Energies Chair for Management of Renewable Energies, University of St.Gallen
- **Dr. Christian Kunze** Swiss Grid



- **Prof. Dr. Moritz Look** Good Energies Chair for Management of Renewable Energies, University of St.Gallen
- **Astrid Manroth** Head of Sustainable Investments EMEA, Deutsche Bank AG
- **Renato Marioni** Senior Policy Advisor, Swiss Federal Office of Energy (SFOE)



- **Dr. Celine McInerney** Finance and Information Systems, University College Cork
- **Marcel Morf** Management Board, Alpiq InTec Group
- **Peter Pauli** CEO & Board Member, Meyer Burger Group



- **Dr. Rudolf Rechsteiner** Owner, re-resolution.ch and Cosultant to Swissolar
- **Gerard Reid** Founder and Managing Partner, Alexa Capital LLP
- **Dr. Emmanuelle Reuter** Good Energies Chair for Management of Renewable Energies, University of St.Gallen



- **Sarah Salm** Good Energies Chair for Management of Renewable Energies, University of St.Gallen
- **Philipp Schröder** Managing Director, sonnen GmbH
- **Jörn Splanemann** Business Development, Advanced Utilities Solutions, Schneider Electric Energy GmbH



- **Beat Stemmler** Consultant, CSR-Management, Raiffeisen Switzerland
- **Prof. Andreas Sumper** CITCEA – Universitat Politècnica de Catalunya
- **Dr. Christoph Sutter** Head of New Energies, Axpo AG



- **Dagfinn Wåge** Lyse Energy
- **Prof. Jim Watson** Director, UK Energy Research Centre
- **Prof. Dr. Elke U. Weber** Jerome A. Chazen Professor of International Business, Columbia Business School



- **Prof. Dr. Rolf Wüstenhagen** Good Energies Chair for Management of Renewable Energies, University of St.Gallen
- **Dr. Markus Wyss** Executive Board, Switzerland Global Enterprise

Host

Good Energies Chair for Management of Renewable Energies: the first of its kind at a leading European business school – goodenergies.iwoe.unisg.ch

In cooperation with EGI-HSG – Center for Energy Innovation, Governance & Investment www.egi.unisg.ch, partner of SCCER CREST – Competence Center for Research in Energy, Society and Transition.

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SAVE-THE-DATE 2017 **8th St.Gallen Forum for Management** **of Renewable Energies** **May 11th/12th, 2017**



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Transportation

All city busses are free of charge with conference badge. For Pre-Conference Workshop on Thursday (Disrupt yourself, or be disrupted!) take bus no. 5, direction "Rotmonten", exit at "Rotmonten". For conference venue on Friday take bus no. 3 direction "Heiligkreuz", exit at "Olma Messen". From venue back to trainstation take bus no. 3 direction "St.Gallen Bahnhof".

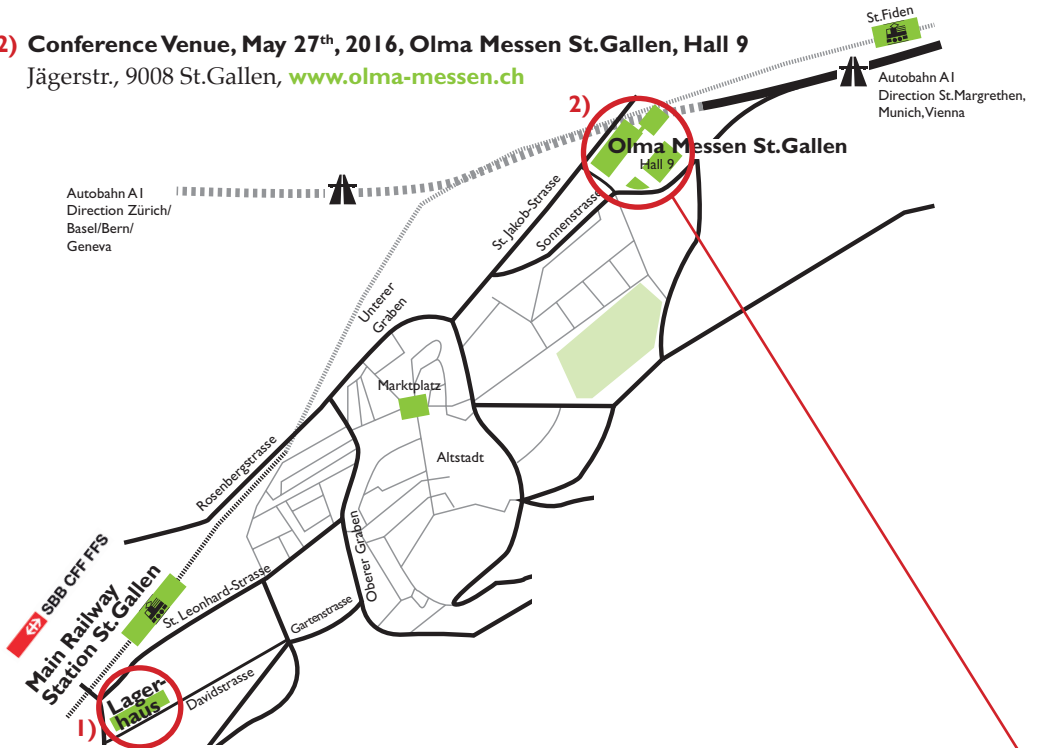
Venue

1) Welcome-Dinner May 26th, 2016, 18.30 h, Restaurant 'Lagerhaus'

Davidstr. 42, 9000 St.Gallen, www.restaurantlagerhaus.ch

2) Conference Venue, May 27th, 2016, Olma Messen St.Gallen, Hall 9

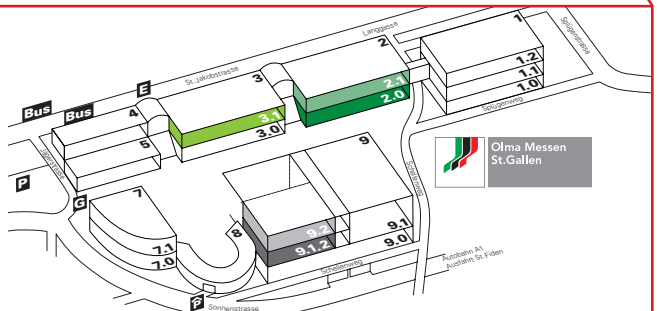
Jägerstr., 9008 St.Gallen, www.olma-messen.ch



Entrances

Parking

- Workshop 1 in 9.1.2 Rosso
- Workshop 2 in 9.2 D, 2nd floor
- Workshop 3 in 2.0
- Workshop 4 in 9.2 B, 2nd floor
- Workshop 5 in 3.1
- Workshop 6 in 2.1
- Workshop 7 in 9.2 C, 2nd floor





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**Energie-Tage
St.Gallen**
May 26th – 27th, 2016

The Energy Days represent
a Knowledge and Community
Platform around the Energy
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More Information on:
www.energie-tage.ch

**5th International Geothermal
Energy Congress**

Thursday, May 26th, 2016
www.geothermie-bodensee.ch



**4th National Energy Strategy
Congress**

Thursday, May 26th, 2016
www.energiekonzeptkongress.ch



**2nd Expert Congress
Energy + Building**

Friday, May 27th, 2016
www.empa.ch/eub



**7th St.Gallen Forum for
Management of Renewable
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Thursday/Friday, May 26th/27th, 2016
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