

# **Business Means Renewables Go for 100%**

Stefan Schurig – Director Climate Energy – Tokio, ReVision March 2017

**Thesis #1: current energy markets are subject of a transformation from a vertical structure into a horizontal structure.**



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# Growth of 860,000 PV Installations in Germany

Jan 2009 - Jan 2013

Data from:  
[bundesnetzagentur.de](http://bundesnetzagentur.de)

Visualization by:

Chris Davis  
&  
Alfredas  
Chmieliauskas

[enipedia.tudelft.nl](http://enipedia.tudelft.nl)

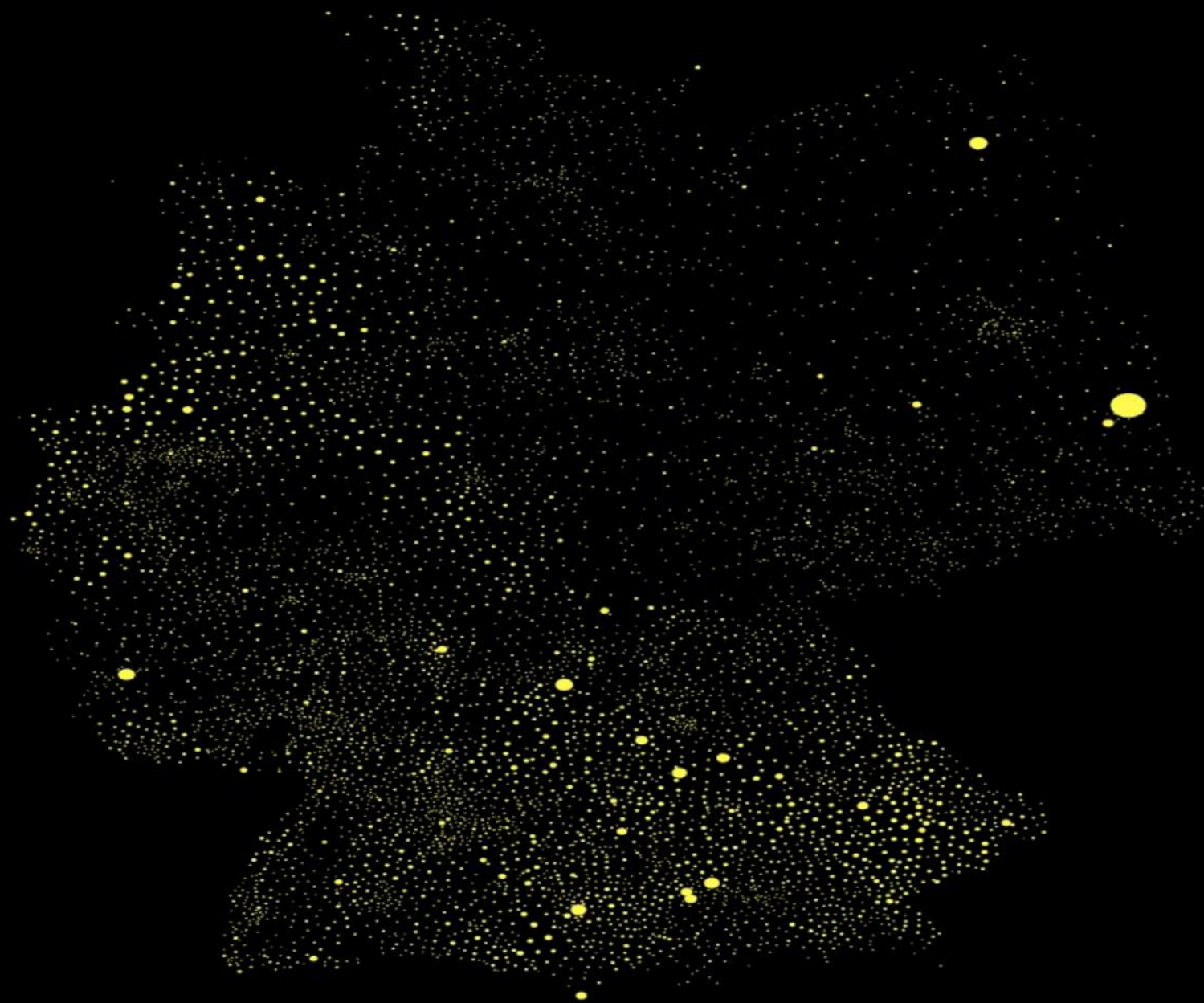
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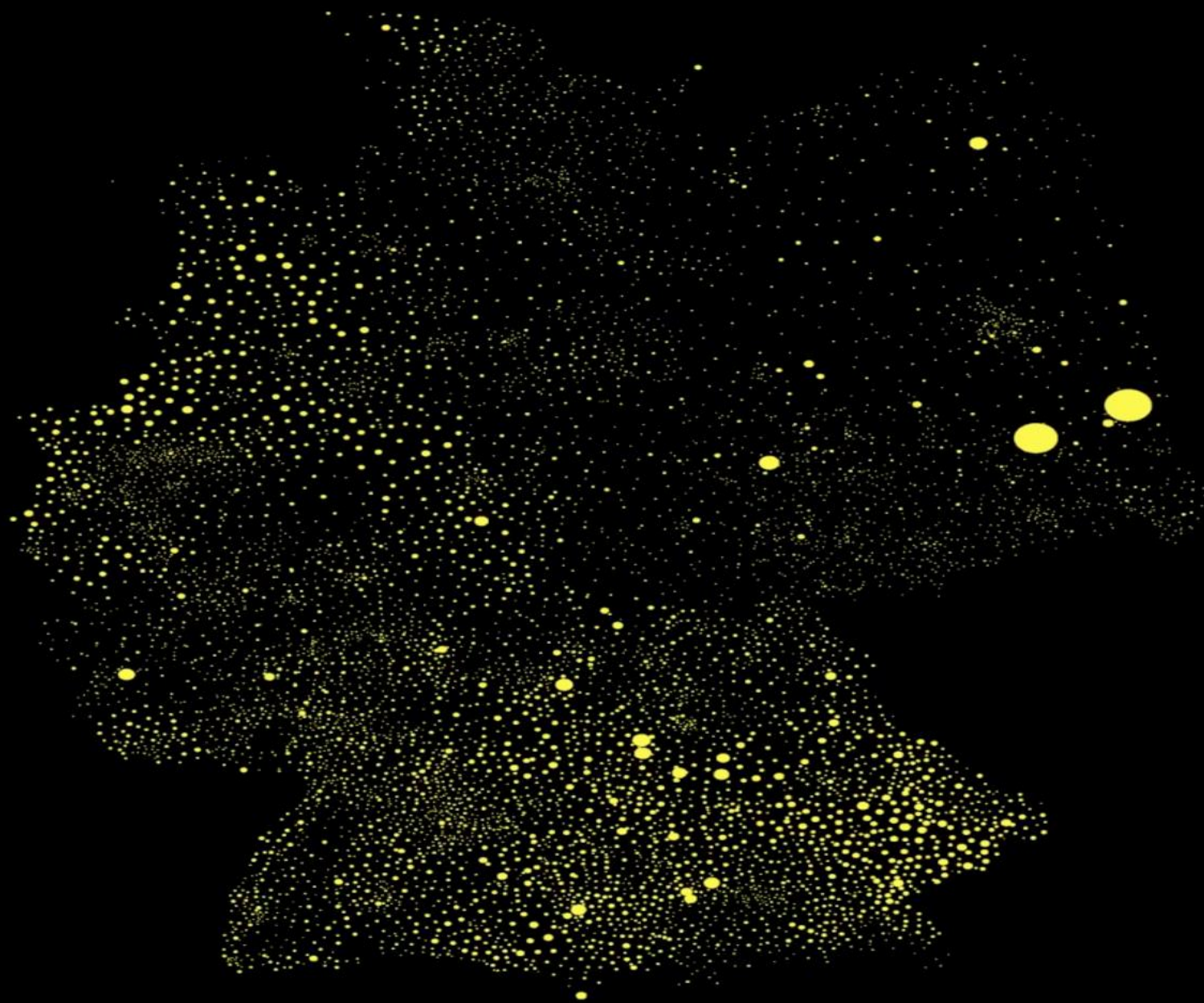
2009-04-04 - 86.0 MW



2009-07-20 - 717.7 MW



2009-09-30 - 1470.8 MW





2009-12-15 - 2843.9 MW



2010-02-08 - 4072.3 MW





2010-06-08 - 5734.8 MW





2010-08-13 - 8483.6 MW





2010-10-21 - 10086.5 MW





2012-01-18 - 19524.9 MW



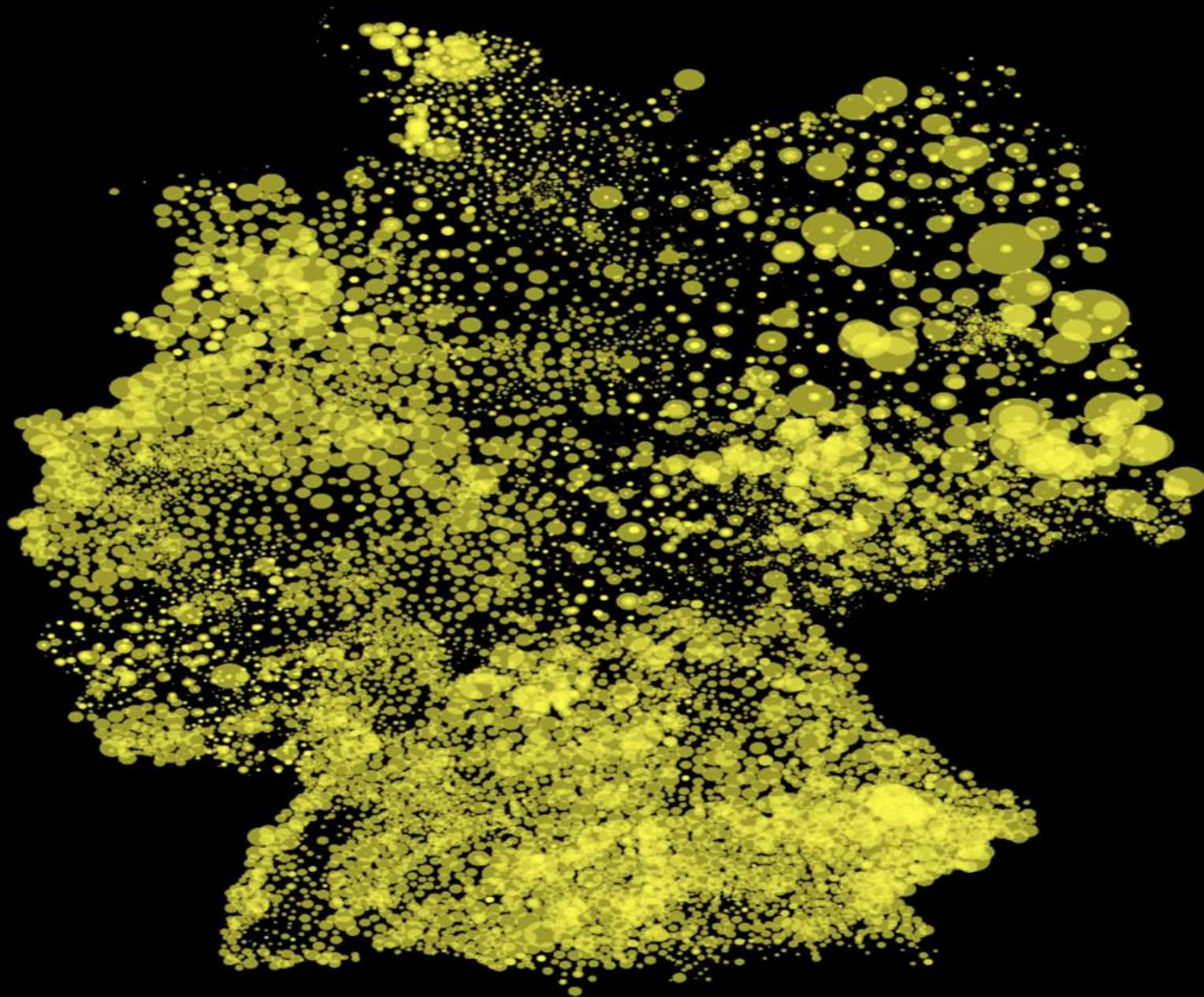


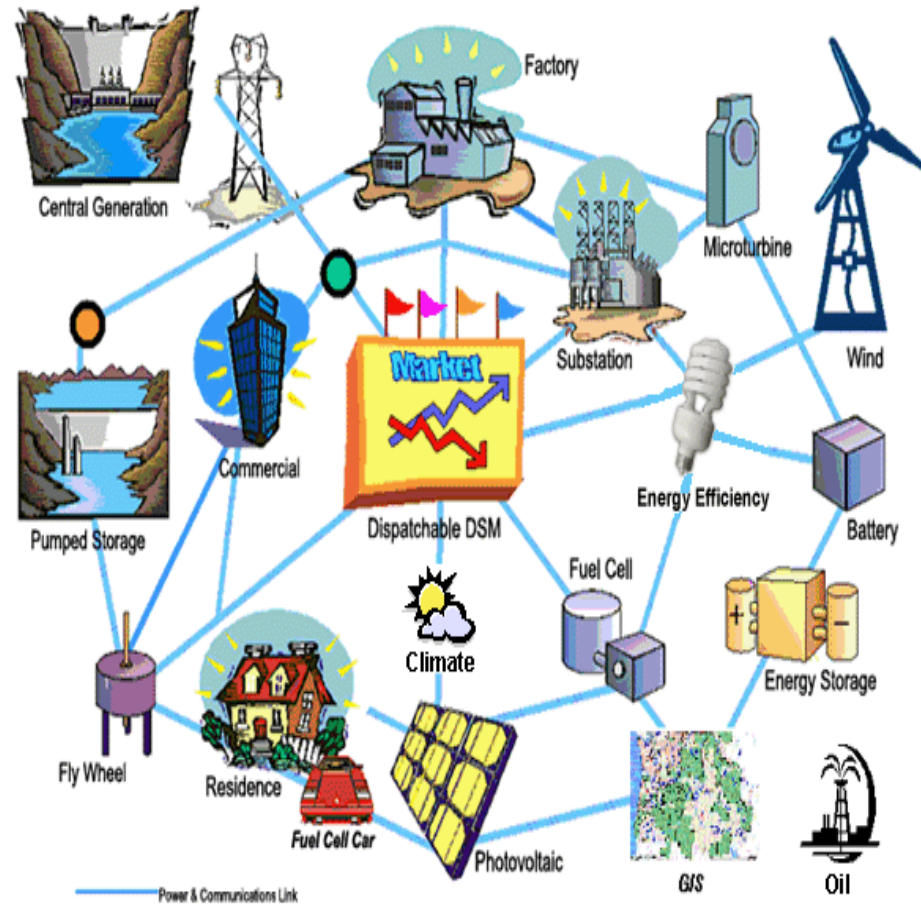
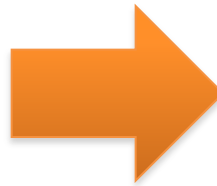
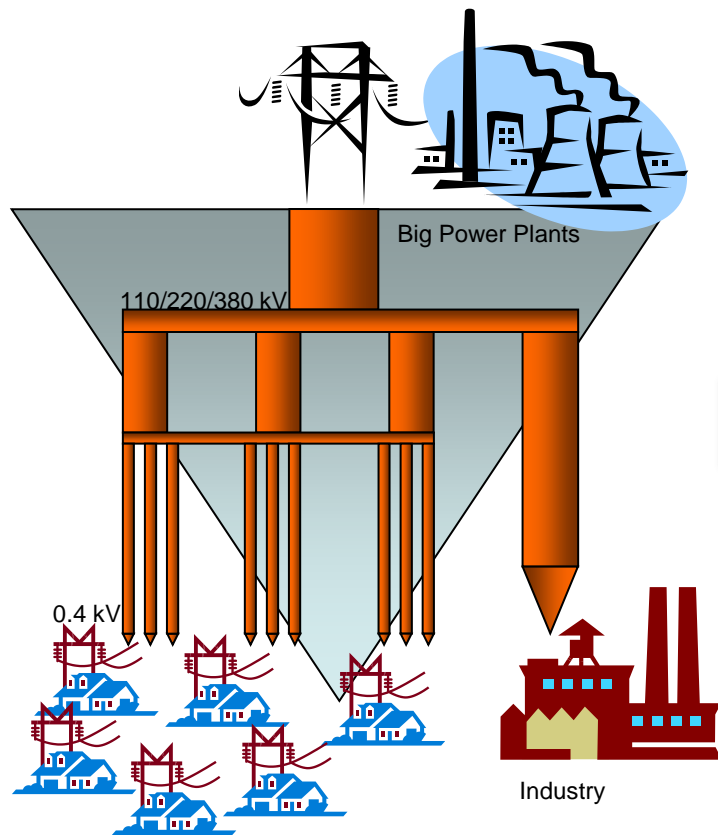
2012-05-18 - 21638.1 MW





2012-11-29 - 26370.0 MW





Source: EnergyWeb @2010,  
[www.bpa.gov](http://www.bpa.gov)

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**Thesis #1: current energy markets are subject of a transformation from a vertical structure into a horizontal structure.**

**Thesis #2: Clear targets for this transformation facilitate cooperation and communication**

# THE POWER OF TARGET SETTING

- 1) **demonstrates and communicates political will**, commitment, leadership and vision
- 2) **catalyzes change by streamlining** and providing an official mandate for action (mobilization of stakeholders)
- 3) helps **ensure a more efficient utilization and channeling** of technical, administrative, as well as financial resources
- 4) creates **investment security**



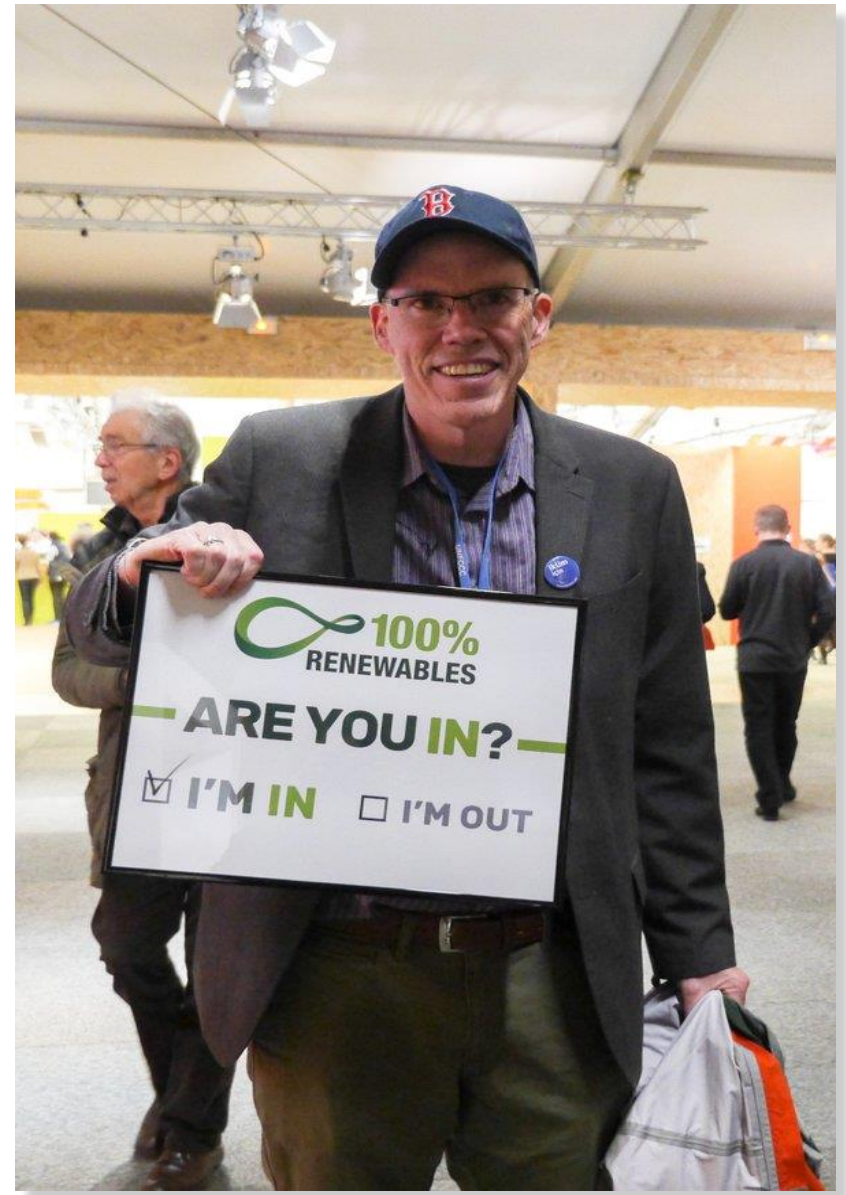


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**100% Renewable Energy to stay below 1.5°C**

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# 100% RENEWABLE ENERGY: A GLOBAL MOVEMENT

## **Countries with a 100% RE target**

Denmark, Sweden, Cape Verde, Costa Rica, Iceland

## **Small-Island States with 100% RE target**

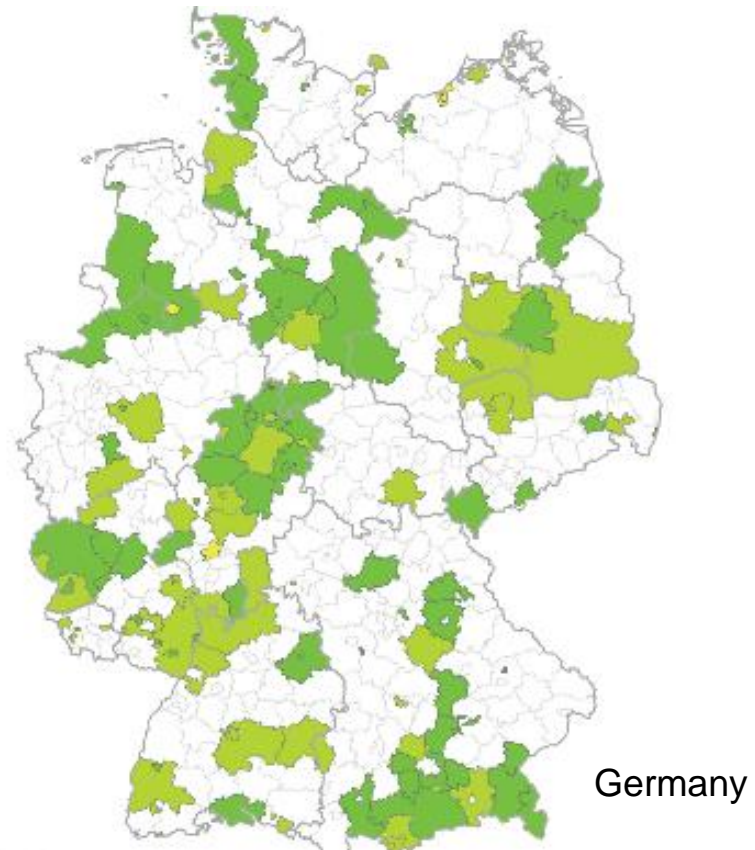
Islands of Tuvalu, Tokelau, Vanuatu, Maldives, Cook Islands, Samoa, Papua New Guinea...

## **Regions with a 100% RE target**

Scotland, Upper Austria, Fukushima Prefecture/ Japan, Jeju Province/ Korea, Kasese/ Uganda...

## **Cities with 100% RE target**

Frankfurt, Munich, Vancouver, San Francisco, Copenhagen, Malmö, Sydney, Masdar City...



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# FROM MARRAKESH TO THE WORLD: 48 DEVELOPING COUNTRIES AGREE TO GO 100% RENEWABLE ENERGY!

WE WILL  
MOVE AHEAD

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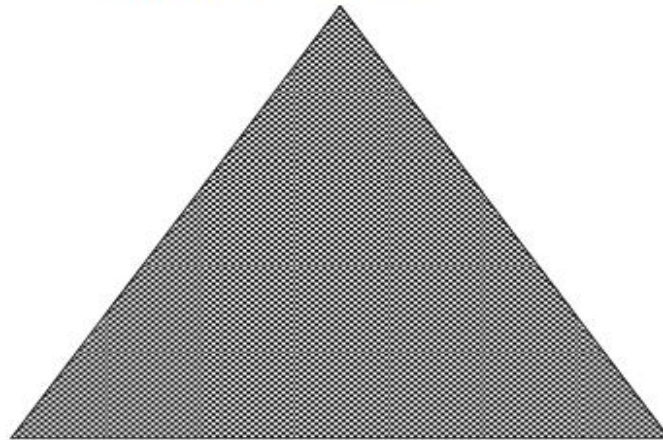
**Thesis #1: current energy markets are subject of a transformation from a vertical structure into a horizontal structure.**

**Thesis #2: Clear targets for this transformation facilitate cooperation and communication**

**Thesis #3: only a people centered approach will help to overcome barriers and increase acceptance**

### **Socio-political acceptance**

- Of technologies and policies
- By the public
- By key stakeholders
- By policy makers



### **Community acceptance**

- Procedural justice
- Distributional justice
- Trust

### **Market acceptance**

- Consumers
- Investors
- Intra-firm

Source: Rolf Wüstenhagen, Maarten Wolsinkb, Mary Jean Burer, 2007

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community

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Building Blocks for a  
Sustainable Transition towards  
100% Renewable Energy



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### **ACTIVATE LOCAL RESOURCE POTENTIAL**

*Mobilize Local Resources; Identify Programs for Support and Assistance; Perform Preliminary Assessments*

### **FORMALIZE AIMS AND FUNCTIONS**

*Fix Binding Targets; Set Comprehensive Legal and Regulatory Frameworks; Establish Relevant Institutionalized Bodies*

### **DEVELOP THE 100% RE BLUEPRINT**

*Define the 100% RE Target; Develop a 100% Renewable Energy Scenario Estimate the Potential Economic, Environmental and Social Benefits*

### **IDENTIFY FINANCIAL RESOURCES**

*Introduce Innovative and Alternative Financing Mechanisms; Implement New Mechanisms to Internalize Externalities; Establish Stable, Long-Term Support Schemes*

### **ENGAGE IN NETWORKS**

*Form and Engage in Local and Regional Networks; Participate in International Networks*

### **PROMOTE KNOWLEDGE GENERATION AND CAPACITY BUILDING**

*Generate and Disseminate Specific Knowledge; Make Knowledge and Data Accessible; Promote Capacity Building and Training*

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### **SUPPORT DECENTRALIZATION AND INCLUSION**

*Ensure Accountability and Transparency;  
Promote Inclusive Communication and Outreach; Empower a Decentralized and Diversified Energy Transition ; Safeguard a Socially Just Transition*

### **FOSTER VERTICAL AND HORIZONTAL COOPERATION**

*Further Vertical Cooperation; Cultivate Horizontal Cooperation*

### **PROMOTE ENERGY CONSERVATION AND EFFICIENCY**

*Change Human Behaviour; Retrofit Existing Built-Environments; Upgrade Infrastructures and Support New Technologies*

### **INCREASE AND INTEGRATE RE ACROSS SECTORS**

*Increase Renewable Electricity Generation; Tackle the Built Environment Challenge (heating/cooling); Tackle the Mobility and Transport Challenges; Modernize the Grid and Other Infrastructure*

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“Our future will hold greater prosperity and justice when we are free from the grip of fossil fuels. Now to get there, we must act. We must finally leave behind the inefficient technologies of another century and the business models that they have created.”

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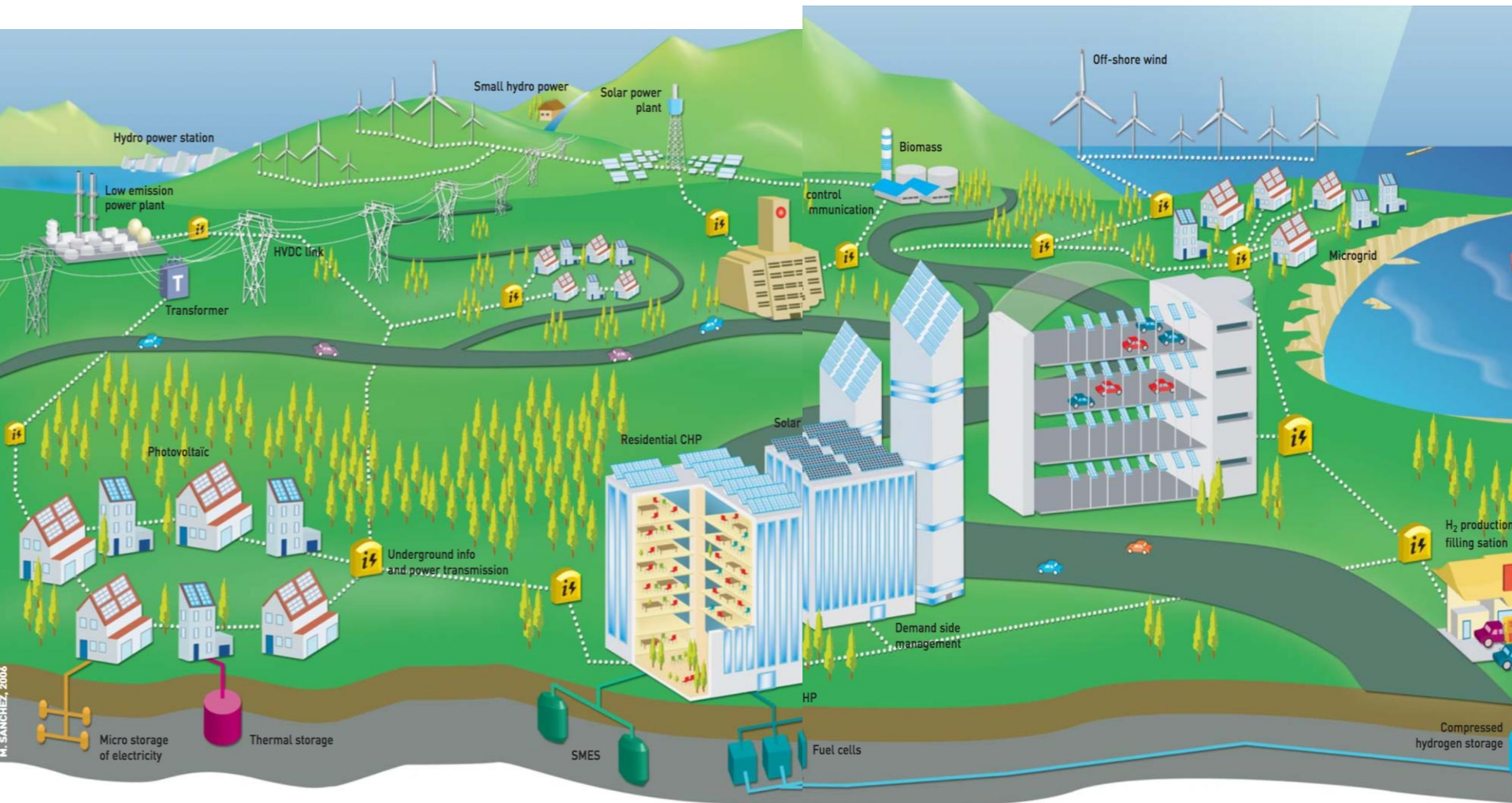
“So to all the mayors and governors in this room today, I implore you to join with your peers to commit to moving to no less than 100 percent [renewable energy](#) as soon as possible. Do not wait another day.

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ありがとうございます

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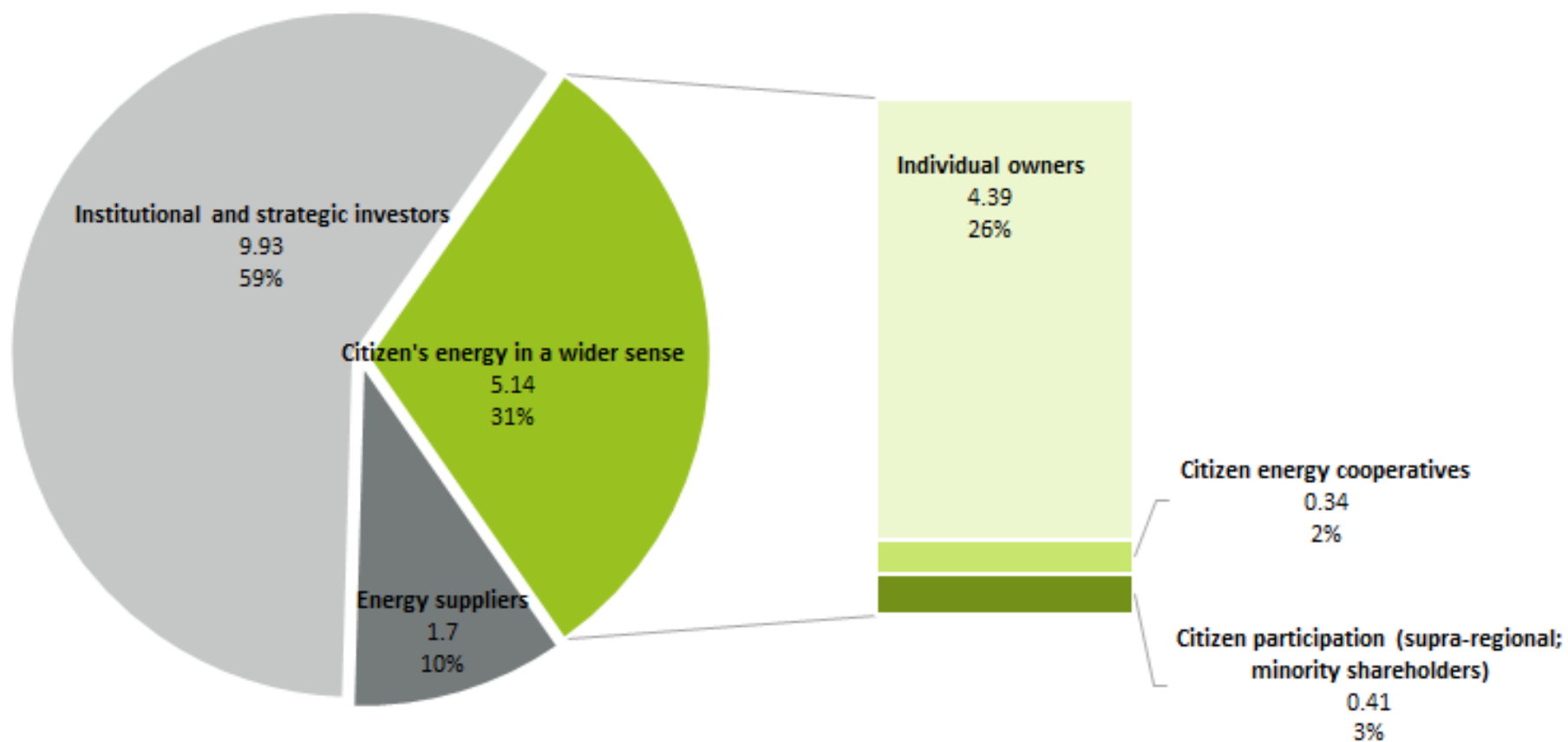




M. SANCHEZ, 2006

Source: European Commission/Community Research/[https://ec.europa.eu/research/energy/pdf/smartgrids\\_en.pdf](https://ec.europa.eu/research/energy/pdf/smartgrids_en.pdf)

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