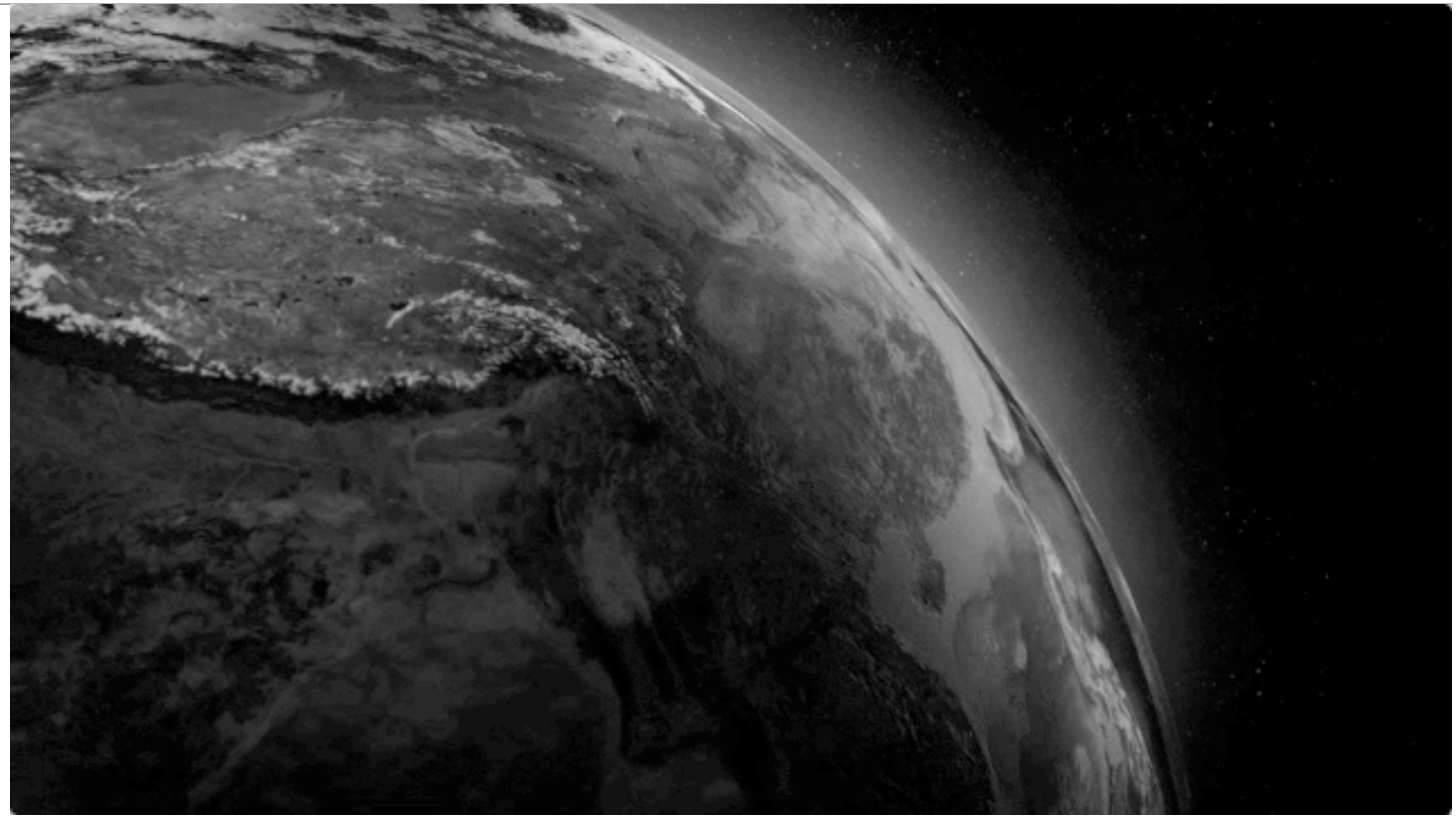


GCCA

GLOBAL CLEANTECH CLUSTER ASSOCIATION

Who We Are:
Global Cleantech Cluster Association

GCCA Video

http://youtu.be/zJbilCsBVDk

Many hats – EnergyFool, Evaporcool, GCCA, SEEA, BLT Sustainable Energy

We Are:
Global Cleantech Cluster Association

Mission

- The Global Cleantech Cluster Association creates momentum and moves the cleantech market by **investigating, screening, and advising** best in class Cleantech companies across the globe.
- GCCA guides cleantech companies from a compelling technology or service idea to **viable business models, sustainable jobs, and attractive Return on Investment (ROI)** for founders, incubators, and investors.
- GCCA is an **independent, reliable and credible voice** filtering out the noise in the Cleantech arena.

GCCA
GLOBAL CLEANTECH CLUSTER ASSOCIATION

30 Global Clusters =

>4,000 Cleantech Companies Worldwide

Who We Are:
Global Cleantech Cluster Association

Sample Cluster Members

GCCA
GLOBAL CLEANTECH CLUSTER ASSOCIATION

SWISS CLEANTECH

LAHTI SCIENCE AND BUSINESS PARK

OSKE CENTRE OF EXPERTISE PROGRAMME

CCIA Colorado Cleantech Industry Association

cleantech center

Écotech Québec

plus eco

An tSlí Ghlas THE GREEN WAY

green valley DEVELOPMENT

ecoConnect collaborate, innovate, invest, achieve

ClimateCircle

Cleantech Alliance Mid-Atlantic

frenchcleantech™ Cleantech Innovation Showcase

ECO WORLD STYRIA

Identifying The Global

"Best In Class"

Later Stage Clean Companies

GCCA
GLOBAL CLEANTECH CLUSTER ASSOCIATION

Who We Are:
Global Cleantech Cluster Association

Train is leaving the station

300 mph leaving from China

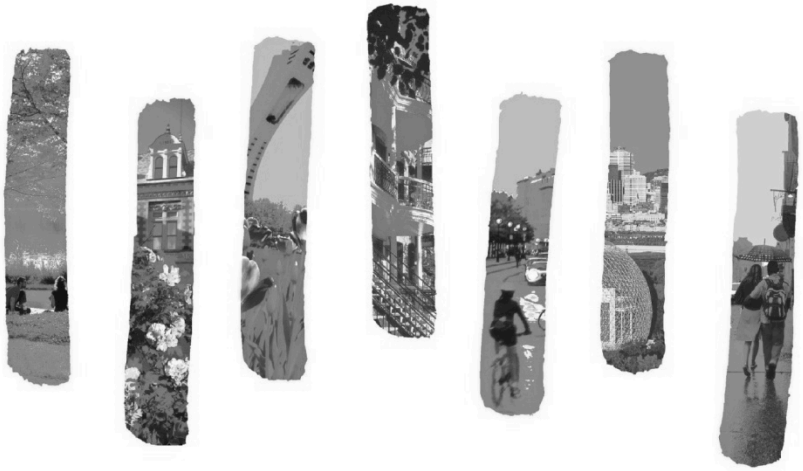
Spending $12 Million Per Hour on Clean Energy

10x United States

GCCA
GLOBAL CLEANTECH CLUSTER ASSOCIATION

Global Best of Class

August 22-26, 2011
Palais des congrès de Montréal, Canada



montréal2011
ecocity·écocité
WORLD SUMMIT SOMMET MONDIAL

Das Land Steiermark
FA19D Abfall- und Stoffflusswirtschaft

SFG
Im Auftrag des Wirtschaftslandesrates

STADT GRAZ WIRTSCHAFT

Investitionen in Ihre Zukunft
Kofinanziert von der Europäischen Union
Europäischer Fonds für Regionale Entwicklung (EFRE)

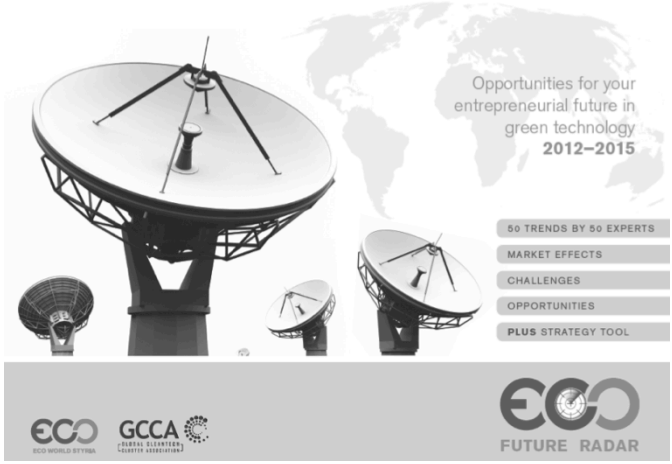
zukunft innovation Steiermark 2007-2013
Regionale Wettbewerbsfähigkeit

ECO Future Radar 2015 – Drivers of Green Tech Biz

Key Facts - ECO FUTURE RADAR

Green Tech world markets will double from now 1.500 **to 3.000 bn € in 2020**
esp. renewable energies, resource efficiency and energy efficiency

50 key drivers of cleantech biz
Prioritized developments shaping
green tech markets until 2015.
Including market effects, challenges and
opportunities as a unique strategy source.

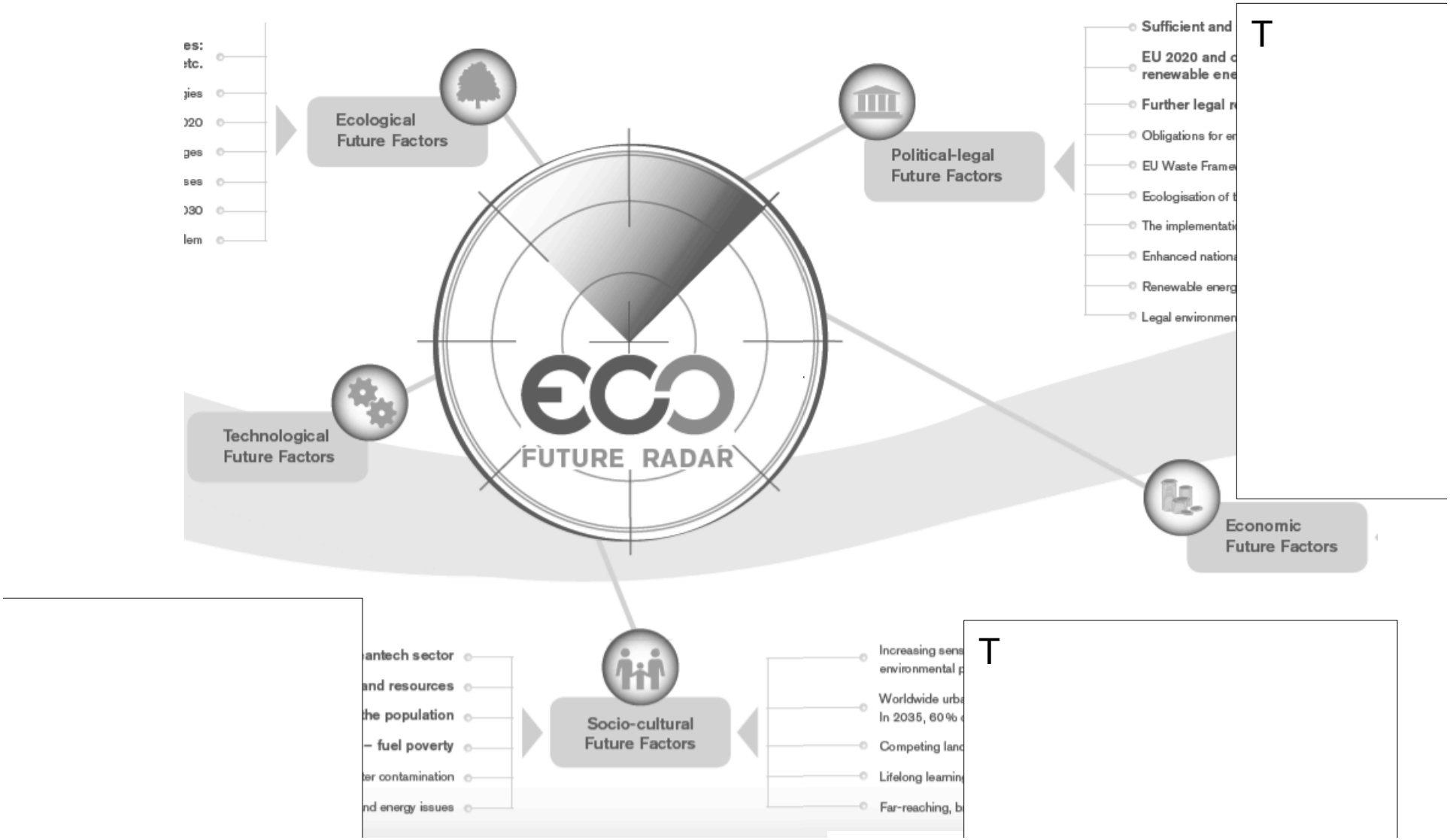


Edited by **ECO in cooperation with GCCA**

51 experts from 30 countries (companies, cluster, research, public, media)
Process: 1. Collection (850), 2. Prioritization (100), 3. Trends+Opportunities (50)

Target groups are companies (cleantech, not yet cleantech), investors, cluster
Third edition, August 2011, ISBN 978-3-9502755-2-0, **€ 290 excl. VAT**

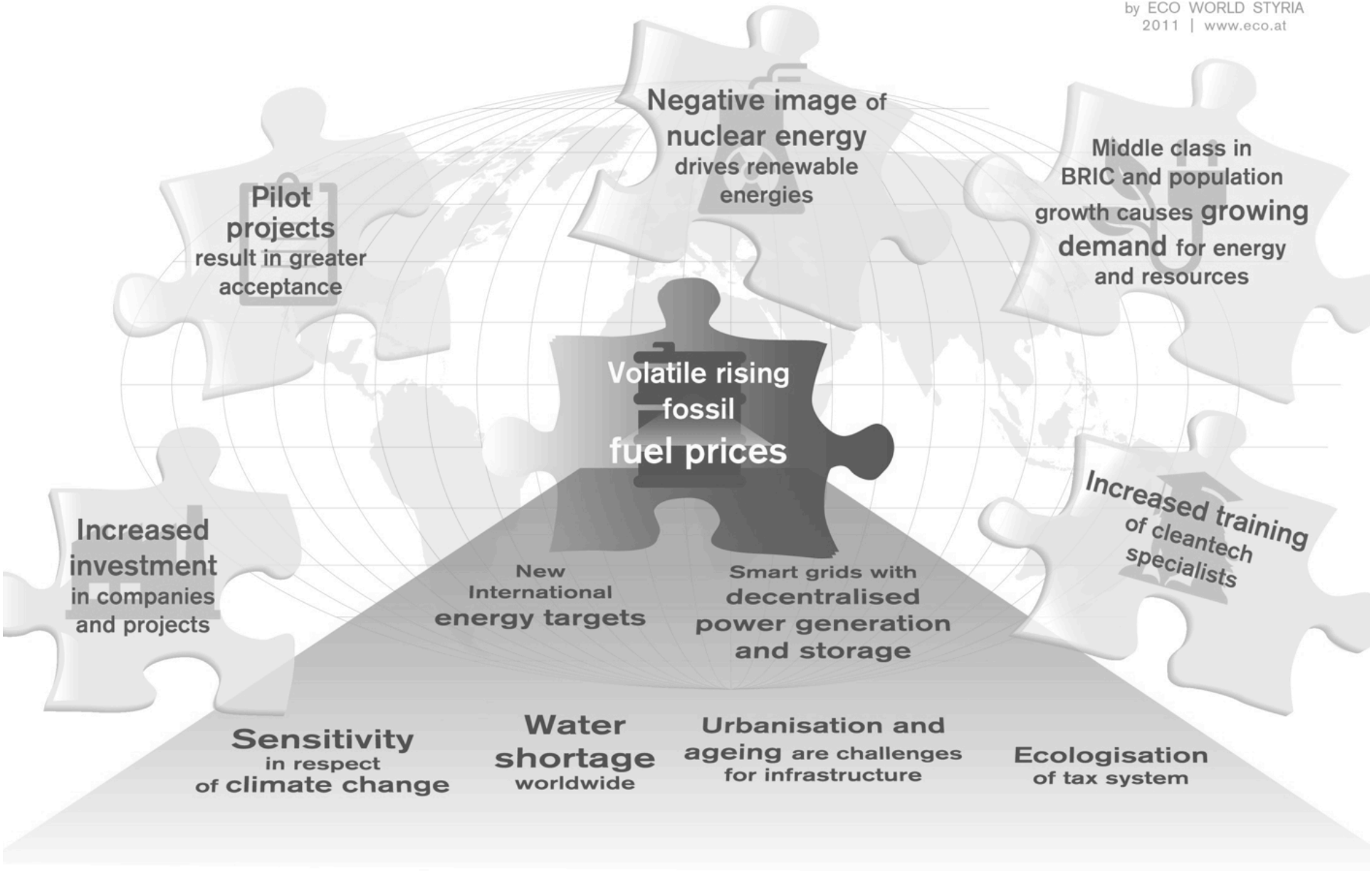
The Structure



Key Drivers of Green Tech Biz

7 Master-Trends (bottom) and 6 concrete business drivers until 2015

FUTURE RADAR
by ECO WORLD STYRIA
2011 | www.eco.at



Green Tech Biz Trends
By Origin of Experts

FUTURE RADAR
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North and South America

New financing systems for
renewable energies

Volatile rising fossil
fuel prices

Sufficient and secure
access to resources

Legal reduction of
building energy

Europe

Increased training
of cleantech specialists

New international
energy targets

Increased investment
in companies and projects

Smart grids with
decentralised power generation and storage

Asia and Australia

Volatile Rising fossil
fuel prices

New international
energy targets

Waste Framework
will open new markets

Obligations for
emission reduction

Green Tech Biz Trends By Occupation of Experts

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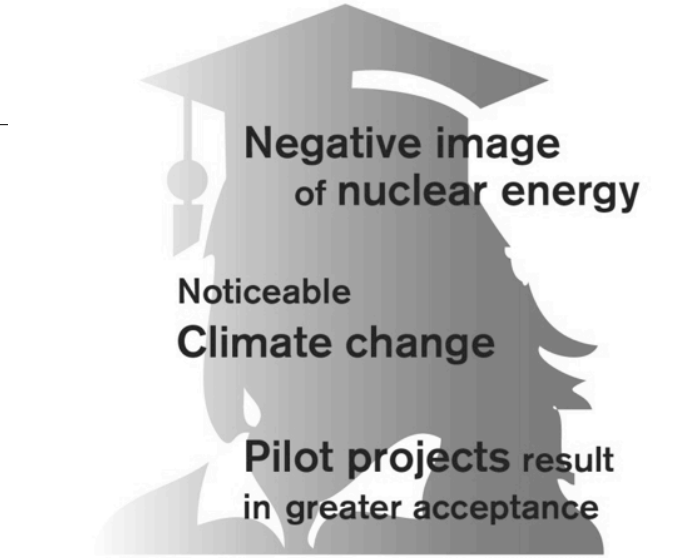
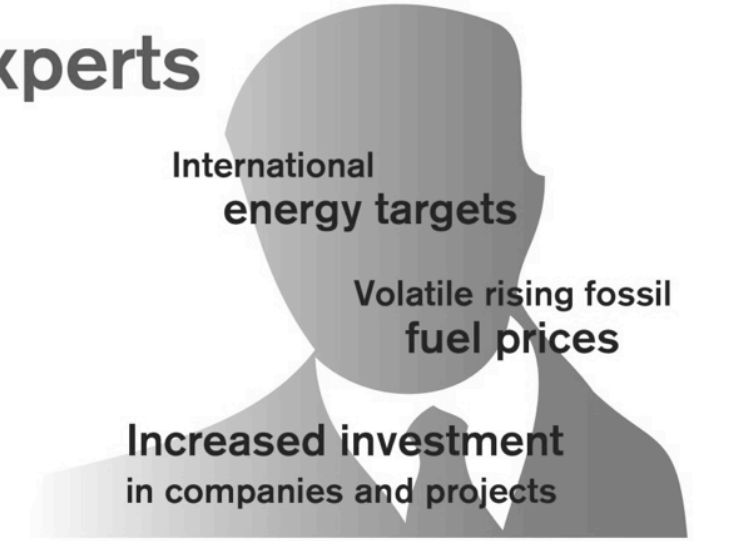
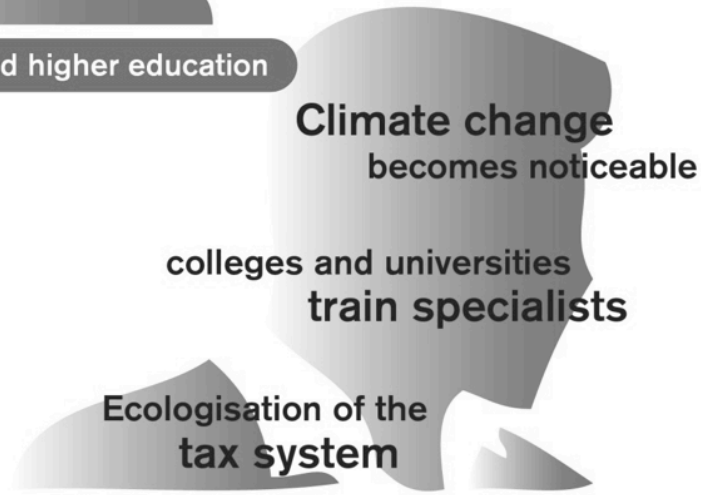


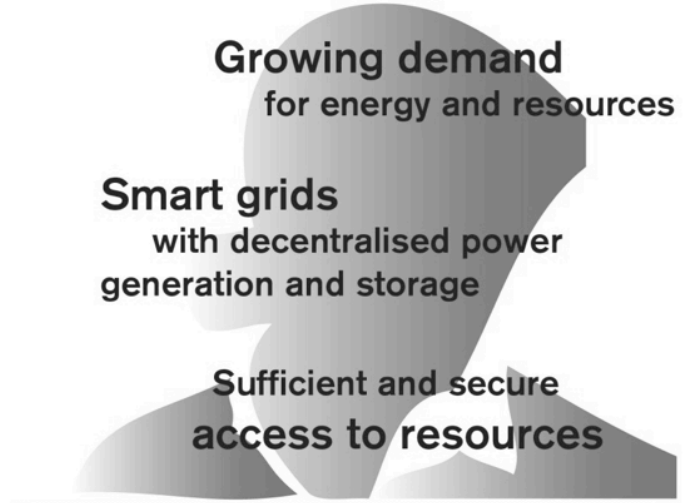
Experts from research and higher education



Experts from companies, investors and clusters



Experts from public authorities and politics



Experts from the media

Top trends for Ecocities are Ecocity-Related Top-50 Trends

1. Smart grids incl. decentralised power generation and storage
2. China and oil-exporting countries emerge as investors for Green Tech
3. Halve price batteries within 6 years support e-mobility and the integration into the power network
4. Sufficent solarthermal energy for buildings (active and passive house)
5. Double efficiency of PV within 10 years (integration into buildings)
6. More municipal waste and less landfill volume foster waste sorting and recycling technologies (urban mining)
7. Local district networks for building heating and building cooling
8. Smart meters and controls foster dynamic pricing regimes
9. Noise as health problem fosters silent mobility and construction
10. New storage systems for thermal energy (seasonal)

Green Tech Biz Illusions

Well known trends with surprisingly low Green Tech business impact until 2015

FUTURE RADAR
by ECO WORLD STYRIA
2011 | www.eco.at

"carbon-free" power sector in industrialised countries

True behavioural change of society

Shortage of skilled workers will become more severe

Carbon capture and storage

Tender procedures are environment-oriented

"Landfill mining" becomes profitable

Production of biodegradable synthetic materials

Sustainability is widely integrated

Cross-border feed-in compensation for renewable power

Alternative fossil sources (e.g. oil sands, ...) close the "oil gap"

Private Persons will trade "carbon credits"

Receding subventions for environmental technologies

Aquatic biomass for fuel production is marketable

Market Effects and Opportunities Inside

Relevance for companies 77 % | **Unanimity of evaluation** 71 %

China and countries exporting mineral oil emerge as investors in environmental technologies

By 2020, worldwide sales of environmental technologies will double from €1.5 trillion at present to more than €3 trillion.[14] In particular, China and oil exporting countries are investing heavily in the green technology of the future, such as wastewater treatment, waste recycling, air pollution control, renewable energy, and energy efficiency. China is said to invest about €230 million in ecological projects.[15]

Market effects:
Competition in cleantech industries will increase world-wide; Increased financial resources for the sector; Increased investment in environmental technologies at a global level; Market volume but also competition in these countries is growing; Market shares of existing companies will be reduced.

Challenges:
Strong research work in cleantech companies is required to compete; Geographical, linguistic and cultural distance; The focus of investors: continuous technology development or skimming off technologies to compete with local companies?; Adequate protection of intellectual property.

Opportunities:
Faster commercialisation path for good technologies and growth opportunities for companies with good technologies; Additional export destinations, spread of risk; Development of strategic partnerships; Sales of unusual mega-projects; Access to affordable supply parts and production capacities.

picture: iStockphoto.com/Rob_Ellis

Relevance for companies 76 % | **Unanimity of evaluation** 75 %

picture: iStockphoto.com/shotbydave

By 2035, global energy demand will increase by more than 50 %, a large part of which will still be met by fossil fuels

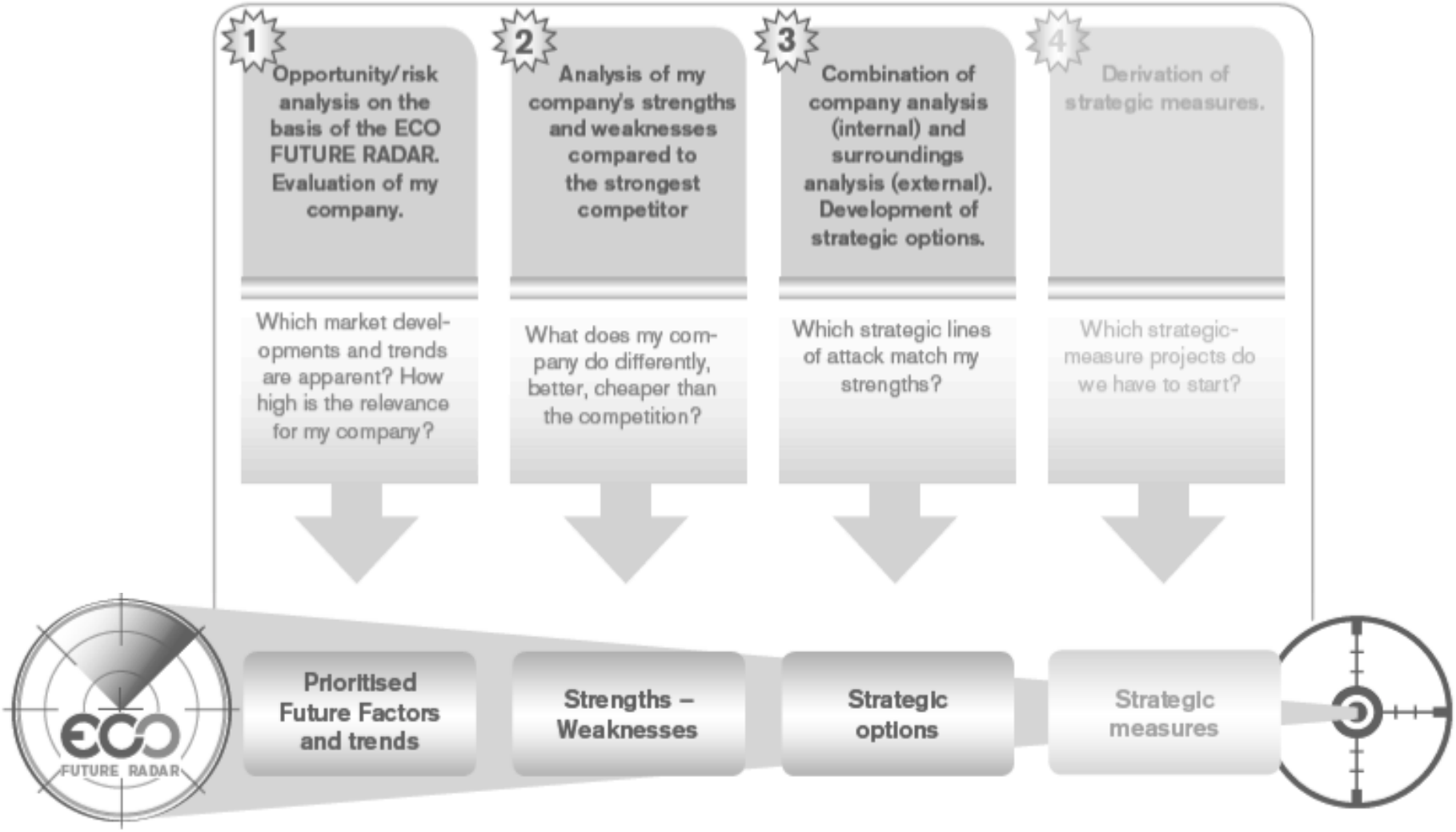
The IEA's New Policies Scenario puts the percentage increase in global primary energy demand by 2035 at 36 % – at least. Fossil fuels will still cover over 50 % of the increase in total primary energy demand. 93 % of the expected increase will come from non-OECD countries. 36 % of the growing global demand is predicted to come from China as a result of economic growth.[16]

Market effects:
High price of energy from fossil fuels; Reserves of fossil fuel will be on the verge of expiring; Additional increased energy costs through carbon taxes.

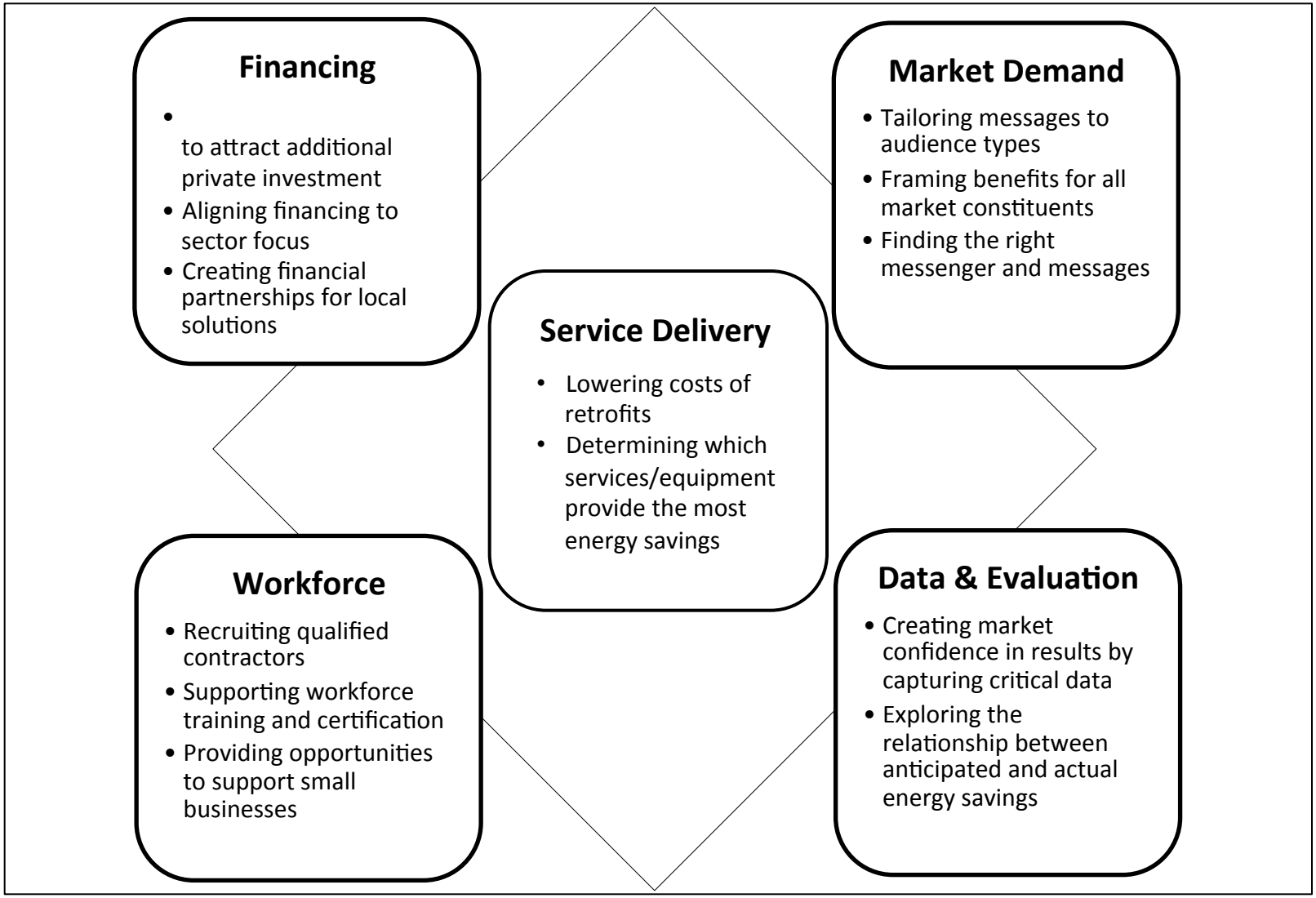
Challenges:
Alternative renewable resources will be in extreme demand; Poor people and countries with less financial resources will lose access to fossil fuel products; Capital investments to transform energy intensive processes to more sustainable levels; To use alternative and renewable energy.

Opportunities:
Distributed energy sources (e.g. renewables) make companies less reliant on external factors, such as energy price increases; New technologies of energy producing; High energy prices and new technologies lead to new business models for industrial enterprises as energy providers.

Plus: Strategy Tool



BetterBuildings is working to address market barriers and develop replicable business models



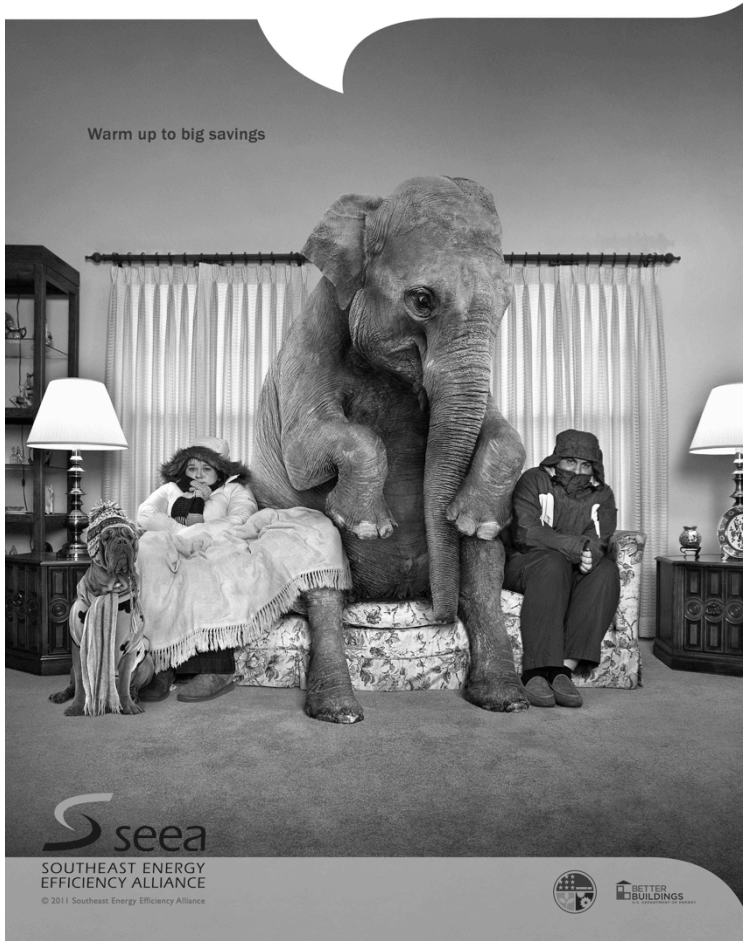
wise

Worthwhile Investments
Save Energy

wise™
Worthwhile Investments
Save Energy

You may try to ignore it, but it's always there, and it's making your whole family uncomfortable. The WISE program can help you identify opportunities to increase the comfort of your home and even save some money while you're at it. After a simple home energy assessment we will recommend ways to make every room in your house more enjoyable and energy efficient. We guide you through every step of the process, so it's easy and convenient. Make room for comfort.

Be Energy WISE.



Retrofit Targets

CITIES	GRANT YEAR 1	GRANT YEAR 2	GRANT YEAR 3	TOTAL
Atlanta GA	100	385	264	749
New Orleans LA	100	400	600	1100
Jacksonville FL	400	445	493	1338
Hampton Roads VA	100	400	600	1100
Charlottesville VA	165	330	640	490
Huntsville AL	100	200	300	600
U.S. Virgin Islands	5	20	35	60
Chapel Hill / Carrboro NC	32	60	60	152
Charleston SC	25	225	350	600
Decatur GA	18	45	75	138
Charlotte NC	20	400	400	820
Nashville TN	240	500	750	1490
TOTAL	**1,305**	**3,410**	**4,567**	**9,282**

Gathering extensive information to continually improve the program and build market confidence

Targeted data from recipients and partners

Building Information	Retrofit Information
• Energy types used • Energy audit data • Energy use data (pre and post retrofit)	• Installed measures/equipment • Estimated energy savings • Contractor qualifications • Cost
Financial Information	**Communication Strategies**
• Leveraged funds • Loan types and value • Underwriting criteria • Financial performance (e.g., payment history)	• Communication type • Messaging approach (Primary and Secondary Messages) • Outreach tactic

Contact:

Ben Taube

ben.taube@globalcleantech.org

GCCA, Chair

GCCA
GLOBAL CLEANTECH CLUSTER ASSOCIATION

Thank You