



G8 Gleneagles Challenge: IEA Work Programme on Buildings

**Dr. Wolfgang Stinglwagner
Federal Ministry of Economics and Technology, Germany**

CERT/SLT Workshop
Energy Efficiency in Buildings
Meeting the G8 Gleneagles Challenge
International Energy Agency
Paris, 27-28 November 2006



G8 Summit Gleneagles 2005

- **"We agree to take forward a Dialogue on climate change, clean energy and sustainable development and invite other interested countries with significant energy needs to join us. We will**
 - **address the strategic challenge of transforming our energy systems to create a more secure and sustainable future,**
 - **monitor implementation of the commitments in the Gleneagles Plan of Action and explore how to build on this progress; and**
 - **share best practice between participating governments."**





G8 Summit Gleneagles 2005

- **“We welcome Japan’s offer to receive a report at the G8 summit in 2008.”**
- **General target: to continue this dialogue of G8+5 through Russian (2006) and German (2007) presidencies, culminate in Japan in 2008**





The Gleneagles Task for IEA (1)

- **G8 request to IEA: various tasks on energy efficiency, clean technology and climate policy**
- **Important elements:**
 - **Review of existing building standards and codes in developed and developing countries**
 - **Developing energy indicators to assess efficiency, and identify policy best practice**
 - **Study of existing global appliance standards and codes**
 - **Review of existing standards and codes for vehicle efficiency**





The Gleneagles Task for IEA (2)

- **Analysis of energy efficiency in industry**
- **To work with Carbon Sequestration Leadership Forum**
- **Further development of the IEA Implementing Agreements on renewable energy**
- **Work on varied aspects of electricity grids, intermittency, hydrogen, research and innovation**





The Gleneagles Task for IEA (3)

- **New approach:**

- **IEA was asked to develop recommendations for the G8, the rest of OECD countries, plus five and other developing countries**
- **special out reach activities for India, China, Brazil, Mexico and South Africa (plus 5).**



Gleneagles Plan of Action lists 38 action points concerning buildings, appliances, surface transport, aviation and industry.





Importance of the Building Sector

- **Buildings account for 40 % of the energy consumption**
- **Discussions in EEWP before 2005:**
 - **great interest in more analysis on energy efficient buildings**
 - **general background for all IEA member states: climate protection, trends of energy prices, security of supply**
 - **background for Europe: Buildings Directive**
 - **situation in developing and newly industrialising countries**



IEA Activities on Buildings

- **Development of indicators**
- **New buildings: Evaluation and identification of best practice, building codes, policies and measures**
- **Existing buildings: Policies and good practice for improvements, barriers, incentives**
- **Database on policies and best practices**
- **Outreach workshops – India, China, Brazil, Mexico or South Africa**
- **Various papers and studies**
- **Comprehensive end use assessment on buildings**



Papers and Studies

- **High rise building refurbishment**
- **North American buildings project**
- **Lessons learned for new buildings**
- **Barriers for energy efficiency in buildings**



Work on New Buildings – 2006/2007

- Study on building codes and standards in OECD, Russia, plus 5 and other developing countries
- Database on building codes (country level)
- Selection best/good practices for building codes
- Evaluation of building codes – incl. compliance and incentives
- Topics other than codes: low energy, Energy Star, passive houses, green buildings, zero energy
- Developing of specific recommendations (especially for individual countries and for G8)
- Paper “lessons learned and best practices”, first half of 2007



Best Practice in New Buildings

Main elements of upcoming study:

- **building codes comparison and/or evaluation**
- **low energy and passive houses, green buildings, zero energy buildings**

further considerations:

- **building codes are minimum requirements**
- **technology can do better – also under economic aspects**



Building Codes Comparisons: the Challenge

Problems in comparisons of energy performance of buildings and building codes (Jens Laustsen):

- **Climate**
- **Performance, trade off, frame, model building**
- **May include lighting, boiler efficiency, air-conditioning, pipes, ducts, automatics etc.**
- **Different codes for regions, states, residential / commercial**
- **More than 1000 different building codes**



Potentials in Existing Building Stock

Studies on the potential for savings:

- **European Commission**
 - **EURIMA in new and existing EU countries**
 - **IEA ongoing study on North America**
 - **Other organisations**
 - **In individual countries**
- ➡ **Results: large saving potentials, especially in residential buildings, typically up to 30-40% feasible savings short term, more than 50% in longer term**



2007: Work on Existing Buildings

- **Estimate of potentials on a world wide scale (at least OECD, Russia, the plus 5 countries)**
- **Including all major elements in energy efficiency in buildings**
- **Description of barriers for energy efficiency in buildings**
- **Selecting good policies and examples on best practices**
- **Database with information on policies at country level**
- **Communication with major interest groups and industry**
- **Recommendations on countries, to be delivered to the IEA governing board and for G8 summit and in Japan (interim paper Germany 2007)**



Barriers to Better Energy Performance of Buildings

- **Split incentives**
- **Many decision makers**
- **Lack of financing mechanisms**
- **Lack of knowledge by owners**
- **Lack of knowledge by installers, advisers and others**
- **Lack of capacity by installers**
- **Traditions and inertia**
- **Timing – after refurbishment it's too late**

(Jens Laustsen)



Deliverables on Buildings (1)

- **Information Paper: Compilation of building codes and standards - Lessons learned and best practice for new buildings**
 - Data development: completion December 2006
 - Evaluation methodology and criteria development: June 2006 – September 2007)
 - Testing of methodology and criteria on initial data set: October 2006)
 - Analysis: December 2006 to March 2007
 - Paper to be submitted to EEWP: April 2007



Deliverables on Buildings (2)

- **Information paper: Energy Consumption in the North American Building Stock**
- **Regional workshops on energy efficiency in buildings (2007).**
 - Planning began: October 2006
 - Workshops: between January 2007 and September 2007)
- **Workshop on Barriers to Energy Efficiency in Buildings**
 - Planning begins: December 2006
 - Planned date: March 2007



Deliverables on Buildings (3)

- **Workshop on Options for Financing Efficiency Buildings**
- **Information paper: Barriers to Energy Efficiency in Buildings**
- **Publication: Energy Efficiency in existing buildings: An End Use Assessment - including potentials, barriers, possible measures, best practices and policy recommendations.**



Deliverables on Buildings (4)

- **Information Paper: Identifying best practices to financing energy efficiency projects in the building sector**
- **Publication: Financing Options for Improving Energy Efficiency in Buildings (2008)**
 - Start analytical phase: April 2007 to April 2008
 - Drafting; April 2008 to September 2008
 - Presentation to EEWP: November 2008



Complete List of Deliverables

Secretariat will provide an updated list of all IEA work for G8 to the next SLT in December –

including the projects on buildings as well as all other projects, e.g. those on technology.



Outlook

- **IEA is prepared to provide input to G8+5**
 - **Documentation of the potentials for energy efficiency**
 - **Documentation of barriers**
 - **Best practices and policies**
 - **Recommendations for policies**
- **EEWP especially interested in IEA work on buildings**
- **Energy efficiency of buildings is a point of focal interest of the German presidency of EU and G8 in 2007 (note: Energy Efficiency Action Plan of EU Commission)**





Conclusion

**Climate Protection
is our Common Challenge**

**Saving Energy in Buildings
provides a big Potential**

Let's do it !