The bigEE Initiative:
why, who, what, how, and for whom

Dr. Stefan Thomas| Workshop on bigEE Initiative
for Energy Efficiency in Buildings and Appliances
Delhi, 17 November 2016

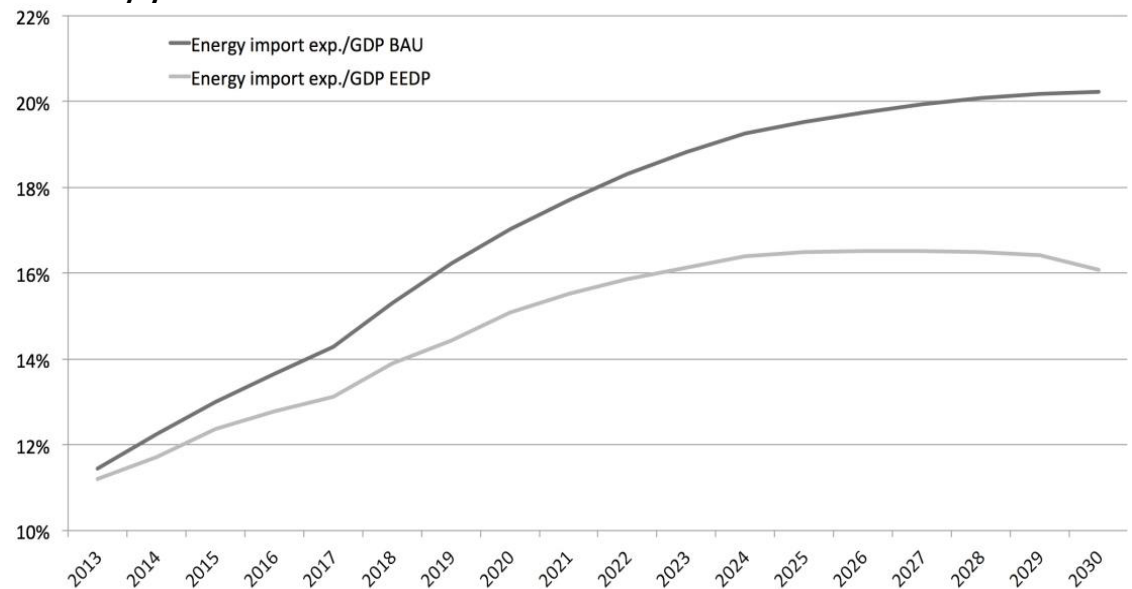# Energy Efficiency – key to comfort, productivity, and affordable energy bills

- Findings by the IEA (2014) for large-scale energy efficiency programmes (able to achieve e.g. 1.5 % of energy savings per year):

  - GDP: growth rate + 0.25 to 1.1% per year

  - Employment: 8 to 27 job years per EUR 1 million invested: decentralised, **local** employment and development

  - Public budgets: EE in buildings in the EU could bring revenues and savings of EUR 67 to 128 billion to public budgets

  - Health and well-being impacts: may quadruple economic savings compared to energy cost savings alone

  - Productivity improvements: may by worth 2.5 times the energy cost savings alone

  - Energy poverty alleviation, etc.

Macroeconomic benefits, e.g. Thailand

- Target of the Thai EE Development Plan (EEDP): Reduce energy intensity by 25 % 2010 -> 2030
  Impacts for 2030 found in Wuppertal Institute analysis for GIZ:
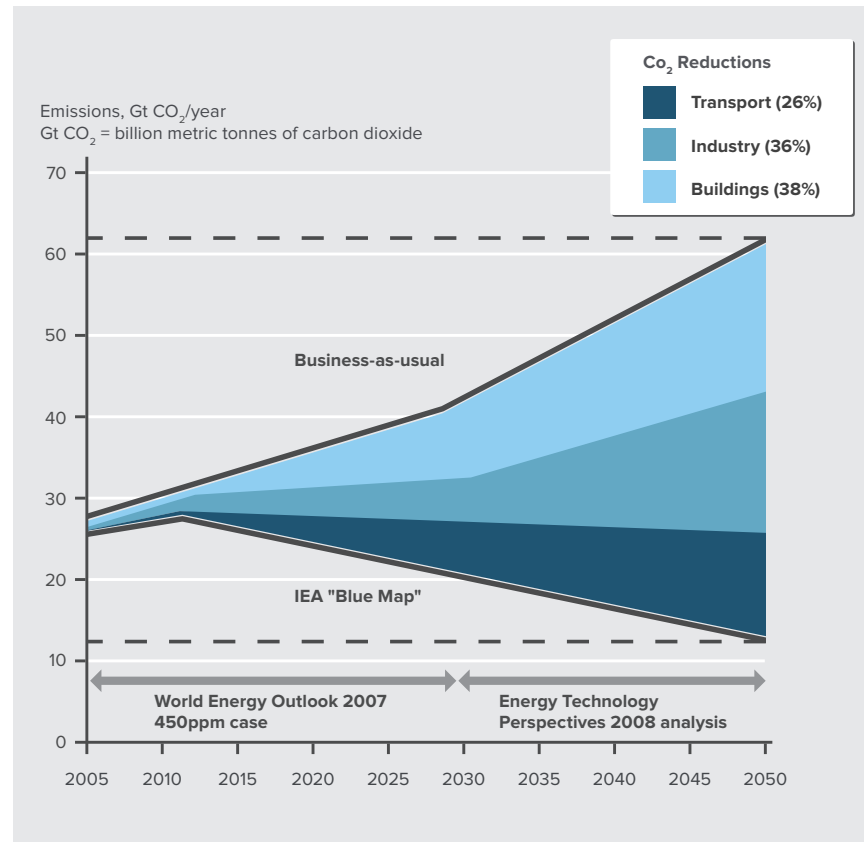
  - Energy cost savings for consumers 37.7 bn EUR/yr

  - Savings on energy import costs 25.5 bn EUR/yr, limiting share of GDP to 16% (see graph)

  - Induced energy efficiency investment: 4.86 bn EUR/yr

  - Employment: additional 335,000 jobs

  - Public budgets: plus 0.22 bn EUR/yr

  - CO_2 emissions: minus 133 Mt/yr

Source: Wuppertal Institut (2015)

Legend:
— Energy import exp./GDP BAU
— Energy import exp./GDP EEDP

bigEE
Your guide to energy efficiency in buildings

3

The global knowledge and implementation gap needs to be closed

Buildings have to contribute with 38% to CO_2 reduction in 2050

Emissions, Gt CO_2/year
Gt CO_2 = billion metric tonnes of carbon dioxide

Co$_2$ Reductions
- Transport (26%)
- Industry (36%)
- Buildings (38%)

Business-as-usual

IEA "Blue Map"

World Energy Outlook 2007 450ppm case

Energy Technology Perspectives 2008 analysis

- **This will only happen, if innovative policies and measures are used**

  Because: the sector has complex structures and lots of barriers

- **Knowledge exists but is not easily available („closing the knowledge gap")**

  In particular: for emerging economies and developing countries

  Source: bigEE after IEA (2008)

What is bigEE?

- bigEE is an international initiative by research institutes for technical and policy advice and public agencies in the field of energy and climate, co-ordinated by the Wuppertal Institute (Germany).

Supported by:

Federal Ministry for the
Environment, Nature Conservation,
Building and Nuclear Safety

based on a decision of the German Bundestag

Objectives

- **Raise greater awareness and attention**...

  ... for the variety of benefits of increased energy efficiency in new and existing buildings.

- **Close the gaps of scattered information and material on energy efficiency** ...

  ... by providing latest know-how in a target group oriented, consistent, comprehensive, easily accessible, and transparent way.

- **Manage and communicate available knowledge** ...

  ... especially for emerging economies

Four Target Groups

Decision-makers and opinion leaders worldwide:

- Investors
- Policy-Makers
- Staff involved in policy implementation
- Consultants and research community

… and in **3 emerging economies, with partners**

Partners

- China

- India

- South Africa

- Germany

Scope and Structure of the Platform

The bigEE web platform covers
- residential buildings
- commercial / public buildings
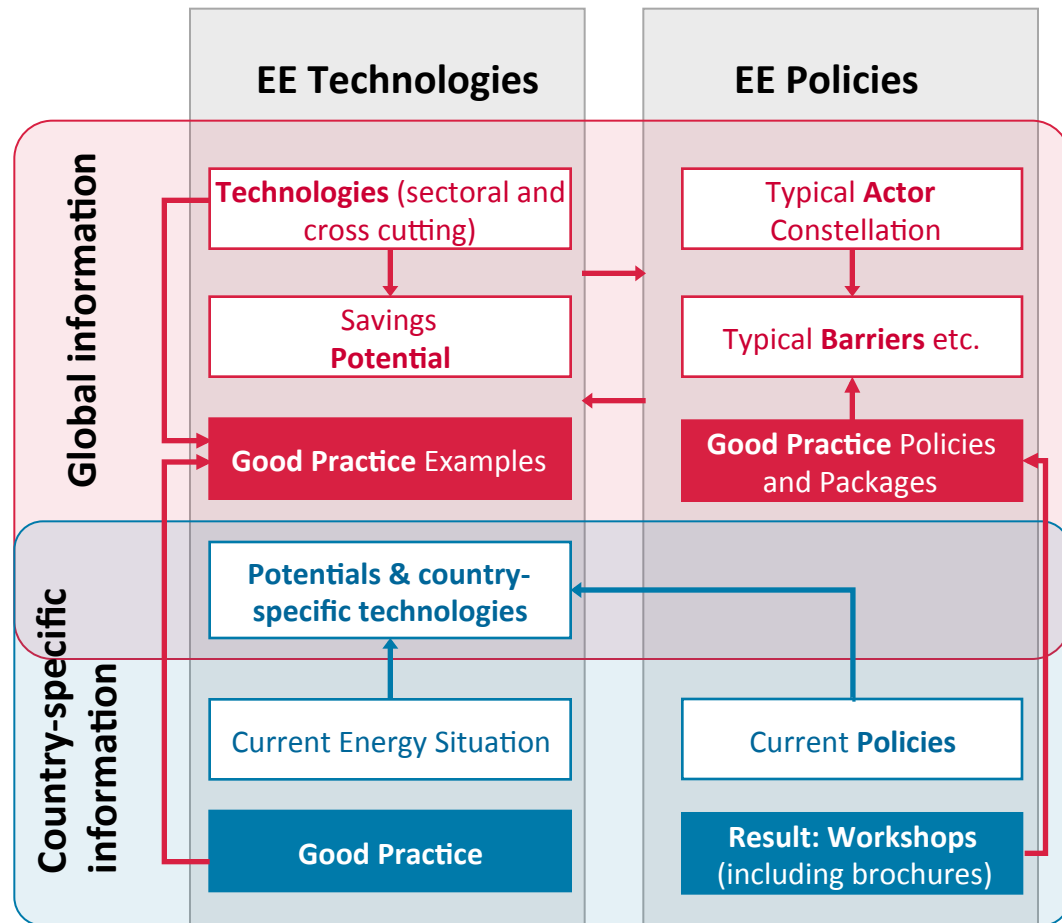- industry sector related building technologies
- appliances

in four main climate zones

and includes information on
- technologies
- economic potentials
- policies and measures
- good practice

on
- international and
- national level.

EE Technologies	EE Policies

Global information

- Technologies (sectoral and cross cutting)
- Savings Potential
- Good Practice Examples
- Typical Actor Constellation
- Typical Barriers etc.
- Good Practice Policies and Packages

Country-specific information

- Potentials & country-specific technologies
- Current Energy Situation
- Good Practice
- Current Policies
- Result: Workshops (including brochures)

Example: The Policy Guide
(for buildings and appliances)

There are two more:

The Buildings Guide

The Appliances Guide

Point of departure: Barriers and incentives

All members of the value chain must act in the same direction, or else the energy efficiency chain will break

→ The specific barriers and incentives must be analysed to understand why the actors often do not implement energy efficiency
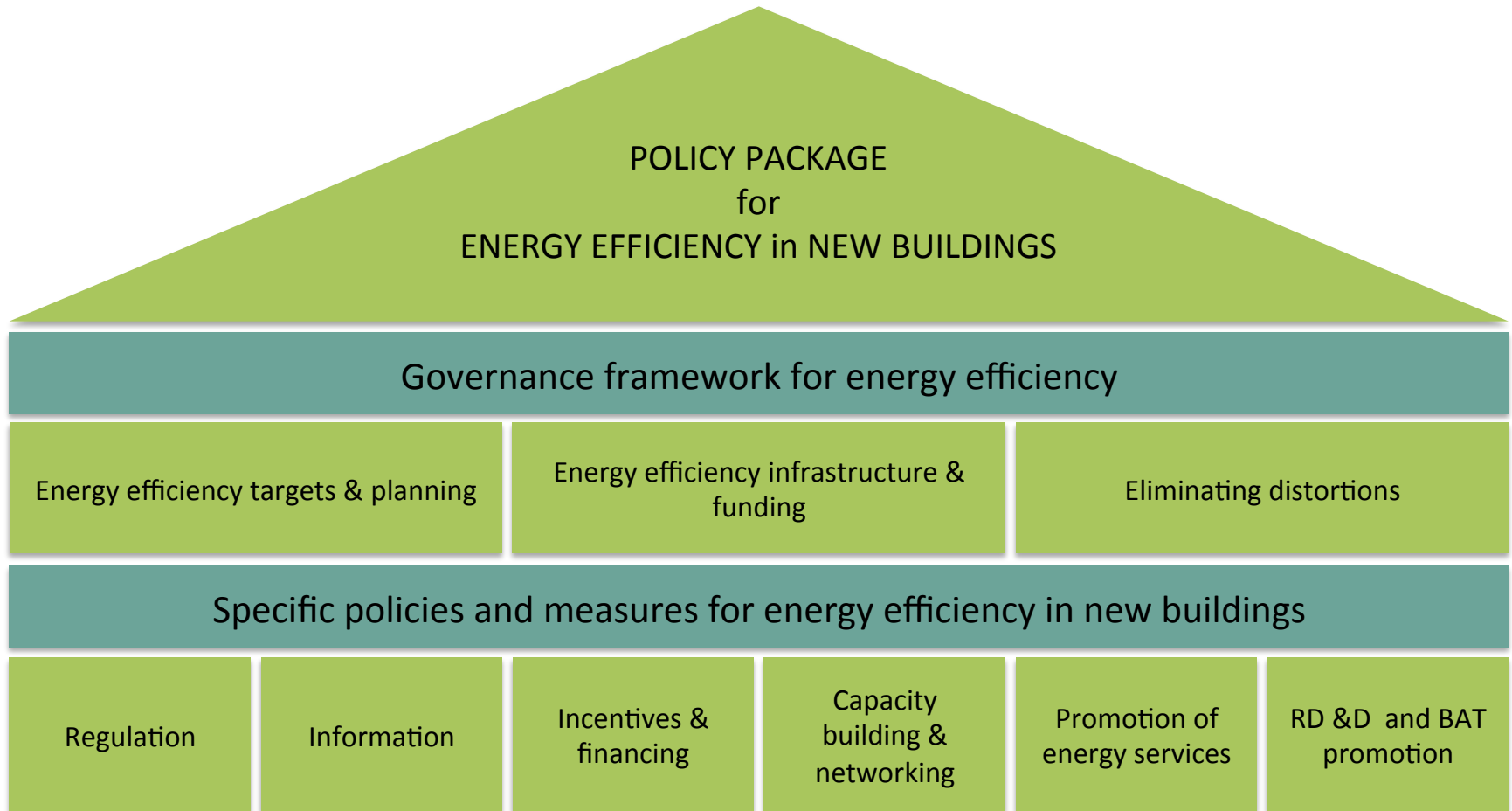
Goal:
Tailored policy packages to remove the barriers and strengthen the incentives identified
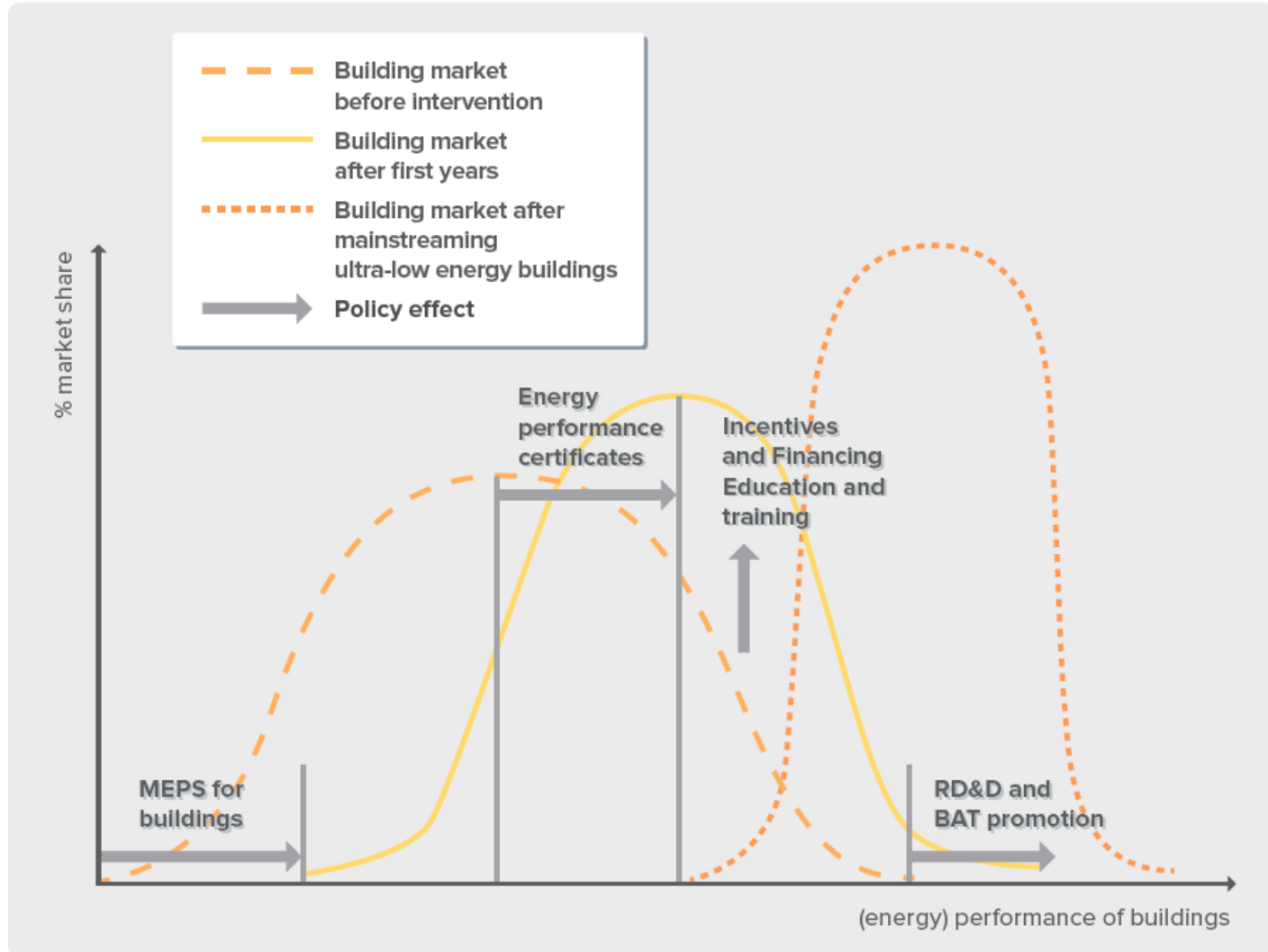
Consequently:
The focus of the Policy Guide are Policy Packages

POLICY PACKAGE
for
ENERGY EFFICIENCY in NEW BUILDINGS

Governance framework for energy efficiency

Energy efficiency targets & planning	Energy efficiency infrastructure & funding	Eliminating distortions

Specific policies and measures for energy efficiency in new buildings

Regulation	Information	Incentives & financing	Capacity building & networking	Promotion of energy services	RD &D and BAT promotion

Policy package for new buildings

Legend:
- Building market before intervention
- Building market after first years
- Building market after mainstreaming ultra-low energy buildings
- Policy effect

Axis: % market share (vertical), (energy) performance of buildings (horizontal)

Labels: MEPS for buildings; Energy performance certificates; Incentives and Financing Education and training; RD&D and BAT promotion
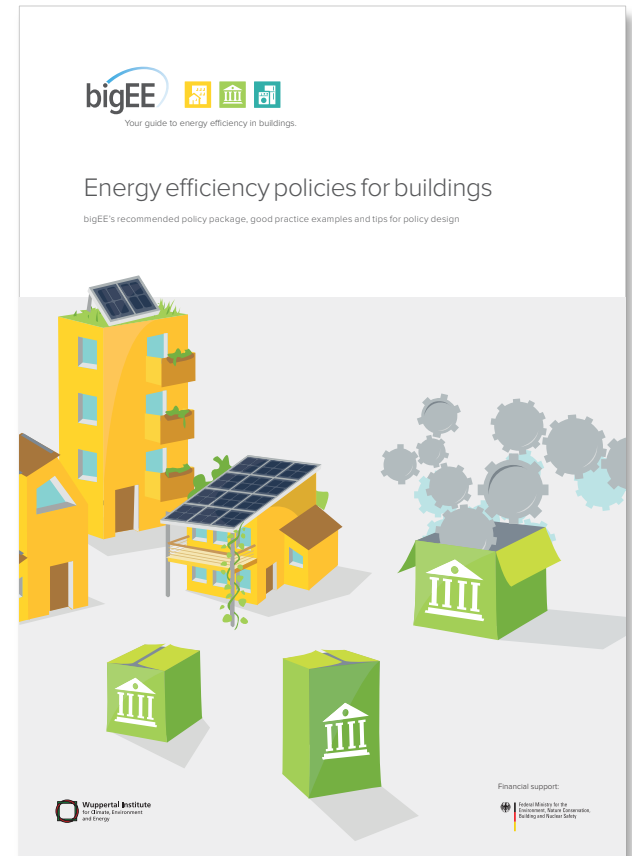
Overview Material

PRINT

- **Summary reports (Brochures)**
    - Policies for energy efficiency in buildings
    - Policies for energy efficiency in appliances

- **Flyer** (English & Chinese)

- **Minicards** (English & Chinese)

- **Teaser and project flyer** (English & Chinese)

bigEE
Your guide to energy efficiency in buildings.

Energy efficiency policies for buildings
bigEE's recommended policy package, good practice examples and tips for policy design

Wuppertal Institute
for Climate, Environment
and Energy

Financial support:
Federal Ministry for the
Environment, Nature Conservation,
Building and Nuclear Safety

Options for getting updates

ONLINE

- bigEE News Section
  - All the latest news on one page
  - Immediate information
  - Clear and simple
  - bigEE news are available on http://www.bigee.net/en/about/news/

- Periodical Newsletter on:
  - What's new on bigee.net?
  - Conferences, Workshops etc. with bigEE Input
  - New co-operations
  - available here: http://www.bigee.net/en/about/newsletter/

- Twitter
  - available here: @bigEE_Network

Country Project: India

bigEE Partnership for India

- Project Partners:
  - TERI: managing data gathering

  - BEE: dissemination, supporting data gathering

- Scope: Buildings and Appliances; Technologies and Policies

bigEE – Achievements at a glance

3 worldwide guides (buildings, appliances, policy)

First consistent design guide to Ultra-Low-Energy Buildings
for 4 major climate zones worldwide

Recommendations for 411 cases (residential) plus 392 cases (offices)

Worldwide savings potential plus 11 regions for major appliances

3 recommended policy packages, detailed tips for 58 policy types, over
45 detailed good practice packages and policies

3 partner countries working on adaptation of bigEE design
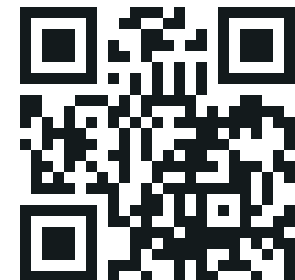guide and dissemination

bigEE

Your guide to energy efficiency in buildings.

Start now

bigee.net

Wuppertal Institut