

# Energy Working Group Update

Meetings of the APEC Expert Groups on  
Energy Efficiency and Conservation and  
New and Renewable Energy Technology

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# APEC Growth Strategy

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- ◉ Balanced, **Inclusive**, Innovative, **Secure**, and **Sustainable**
  - Enhance energy security
  - Promote energy efficiency, low-carbon policies
  - Assess potential for reducing energy intensity beyond the 25 percent aspirational goal
  - Improve access for environmental goods, services
  - Promote green jobs, education and training
  - Promote private investment in green industries and production processes

# Energy Ministers in Fukui

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- Energy efficient **buildings, appliances**
- Potential savings from electrification of the **transport** sector, energy efficient freight, transit-oriented development
- **Smart grid** technologies to integrate renewables, boost efficient energy use
- **Low-carbon communities** to manage energy consumption in urban areas

# Energy Smart Communities

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- Smart transport
- Smart buildings
- Smart grids
- Smart jobs

# Smart Transport

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- Energy-efficient **urban transport**
  - Transit-oriented development
  - Bus rapid transit (BRT)
- Energy-efficient **freight transport**
  - Intermodal (rail and ships as well as trucks)
  - Logistical (higher load factors for trucks, jets)
- Alternative **transport fuels**
  - Biofuel transportation/distribution infrastructure
  - Electric vehicle charging infrastructure

# Smart Buildings

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## ◎ Low-energy buildings

- New buildings with 50% less energy use
- Retrofit of old buildings with 25% savings

## ◎ Building materials testing and rating

- Performance data on cool roofs, windows and insulation to boost markets and trade

## ◎ Demonstration projects

- Cost and performance data on cool roofs and windows to accelerate market adoption

# Smart Grids

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- APEC Smart Grid Initiative (ASGI)
  - Show boost to renewables, energy efficiency
  - **Road map** for technology development
  - **Test beds** to prove costs and performance
  - Common standards for **interoperability**

# Smart Jobs and Education

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## ◎ **Training curricula** for smart jobs

- Conducting energy audits
- Installing energy-efficient appliances, equipment, insulation and energy management systems

## ◎ **School curricula** for smart consumers

- Identify, translate and exchange energy efficiency curricula for elementary and secondary schools to develop an information base for best practices
- Sister schools program for interested economies



# Energy Efficiency Best Practices

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- Cooperative Energy Efficiency Design for Sustainability (**CEEDS**): **Transport**
- **Cool Roofs**: Experience, Best Practices
- Energy-Saving Windows Programs
- Street and **Outdoor LED Lighting**
- Energy, Transport and Environmental Benefits of Intermodal Freight, Transit-Oriented Development, Bus Rapid Transit
- Peer Review on Energy Efficiency (**PREE**)

# Peer Review of Energy Efficiency

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## ○ PREE Objectives:

- Energy efficiency performance
- Policies and measures to improve EE
- EE goals and action plans for economies
- Recommendations for implementing plans
- Monitoring progress towards EE goals

## ○ PREE Compendium 2009, 2010, 2011

## ○ PREE 2009: Chile, NZ, Thailand, Viet Nam

## ○ PREE 2010: Malaysia, Peru, Chinese Taipei

## ○ PREE 2011: Indonesia and two others

## ○ Follow-up PREE: Viet Nam premiere

# Standards and Testing Methods

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- ◉ **Mapping** Exercise for EE Products
- ◉ Market **Compliance** Mechanisms
- ◉ Indoor **Light-Emitting Diodes**
- ◉ **Demand Response** in Air Conditioners
- ◉ Energy Performance Evaluation Methods
- ◉ Energy Management Standardization
- ◉ Sustainability in Building Construction  
(commercial buildings)

# Energy Intensity Reduction

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- Leaders called for 25% reduction in energy intensity in Sydney in 2007.
- Leaders and energy ministers have asked to explore a more ambitious goal.
- APERC says we'll reach 38% in BAU.
- A 50% reduction is needed to stabilize atmospheric greenhouse gas at 450 ppm.
- Most APEC economies have signed on to a 450 ppm goal through the UNFCCC.

# APEC USA 2011

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- SOM -1 Washington DC
  - EGEEC
  - EGNRET
  - Green Buildings Workshop
  - Subcommittee On Standards and Conformance
  - APEC Automotive Dialogue
- SOM-2 in Big Sky, Montana: trade focus
- SOM-3 in San Francisco: transport focus
- Leaders in Honolulu

# Energy and Transport

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- © **Organized on the margins of the Third Senior Officials Meeting in San Francisco, September.**
- © Welcome reception, California Academy of Sciences (**Monday, September 12**).
- © **Full day of public-private** dialogue on key themes – including Ministers, senior officials, industry and NGOs, FedEx reception at Oakland Airport (**Tuesday, September 13**).
- © **Suggested action items** reported to Ministers (Wednesday, September 14).
- © **CEEDS Phase III – Transport (September 15-16)**.

# Energy & Transport Themes

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- ◎ Transportation in a Clean Energy Future
- ◎ Energy and Transport Systems for Livable Low-Carbon Communities
- ◎ Low-Carbon Transport Fuels – Electricity and Second-Generation Biofuels
- ◎ Greening the Supply Chain: Energy Efficient Freight Transport

# Transporting People: Livable Communities

- Establish Network of Livable Low-Carbon Communities
  - Build upon EWG Low-Carbon Model Towns Task Force.
  - Set up system to document energy and carbon savings.
- Best Practices for Livable Low-Carbon Communities
  - Document strategies to reduce towns' carbon footprint, assess energy and carbon savings, share strategies with greatest savings potential, share steps for success in implementing these strategies.
- Agree to paths to encourage increased use of electric drive and alternative fuelled vehicle systems
  - Light and heavy duty vehicles, transit, freight rail all included.
  - Study appropriate notional targets for expanding each such use.
- Agree to paths for low-carbon transport
  - System efficiencies of intelligent transportation systems (ITS), low-speed urban maglev systems, extension of smart grids and metering, engine technology harmonization, walking and biking, multimodal transport, congestion management.
- More efficient air traffic management technologies



# Transporting Freight

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- ◎ APEC Network of Efficient Freight Transporters
  - Businesses set voluntary goals to reduce energy use.
  - Set up system to document energy and carbon savings.
- ◎ Best practices for energy efficient freight transport
  - Document company strategies to reduce energy use
    - Shifting to less energy-intensive modes (intermodal freight).
    - Logistical planning to reduce trips, improve load factors.
    - Use of more efficient fleet vehicles (trucks, planes).
    - Use of innovative fleet vehicles (electric freight movers, trucks).
  - Assess energy and carbon savings from strategies.
    - Recommend those strategies with greatest savings potential.
    - Recommend steps for implementing high-potential strategies.

# Alternative Transport Fuels

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- ◎ **Best practices to encourage increased use of electric drive vehicles and biofuels.**
- ◎ Best practices for expansion of electric vehicle charging infrastructure and biofuel distribution infrastructure.
- ◎ **Goals to increase use of electric drive for vehicles, transit, freight rail, ships.**
- ◎ Develop supply of sustainable alternative aviation fuels at key airports in the region.

# Transportation's Role in a Clean Energy Future

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- ◎ Study a reduction in transport energy use per unit of GDP (percentage)
- ◎ Study a reduction in carbon emissions from transport (percentage)
- ◎ Endorse aspirational goals for CO<sub>2</sub> emissions from international aviation.

# Your Participation and Ideas are Welcome

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- *Energy Smart Communities Initiative*
- *Energy and Transport Conference*
- *EGEEC and EGNRET Projects*