

# MARKET COMPLIANCE MECHANISMS FOR ENERGY EFFICIENCY PROGRAMS IN APEC ECONOMIES



Asia-Pacific  
Economic Cooperation

*APEC Expert Group on Energy Efficiency and Conservation (EGEE&C)*

*Under the APEC Energy Working Group*

# 2011-12 APEC ECEE&C PROJECT

- Survey of Energy Efficiency Market Compliance Strategies
- Publish a report on the results
- Conduct Workshop on Best Practice



**APEC**  
Asia-Pacific  
Economic Cooperation

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**PROVISIONAL AGENDA FOR 14 JUNE 2012**

**MARKET COMPLIANCE MECHANISMS FOR ENERGY EFFICIENCY PROGRAMS & PRODUCTS**  
14 JUNE 2012 ♦♦ PARK PLAZA BEIJING SCIENCE PARK



**SUMMARY**

**APEC**  
Asia-Pacific  
Economic Cooperation

**APEC Expert Group on Energy Efficiency and Conservation (EGEE&C)**  
Under the APEC Energy Working Group

**Survey of Market Compliance Mechanisms for Energy Efficiency Programs in APEC Economies**  
MAY 2012  
for the  
**EXPERT GROUP ON ENERGY EFFICIENCY & CONSERVATION**

**Executive Summary**

In many economies, energy efficiency initiatives represent the cornerstone of national policies designed to reduce energy consumption, tackle environmental issues such as climate change and improve energy security. Standards and labelling (S&L) programs for appliances and equipment are proven to deliver the largest quantity of energy savings at the lowest cost compared to most other types of energy efficiency programs. The ability to maintain and increase these achievements relies on the development of effective market compliance regimes to ensure that products perform as claimed and consumers receive the services they pay for. Achieving high rates of compliance has overall benefits for all stakeholders in the S&L process, as well as for the environment. Industry participants operate in a fair market that encourages investment and technological innovation, costs and businesses benefit from reduced energy security and economic policy objectives. This report forms part of a project undertaken by Mark Ellis and Associates, commissioned by the Asia-Pacific Economic Cooperation (APEC) in June 2011 under the auspices of the Expert Group on Energy Efficiency and Conservation (EGEE&C).

The project aims to compile and disseminate information on monitoring, verification and enforcement (MVAE) processes used by regulatory and enforcement agencies to ensure compliance in S&L programs within APEC economies. Within the APEC region there are a total of 32 energy labelling and 16 minimum energy efficiency standards programs operated by 18 economies. These include programs that have been running since 1978 to those that are in their infancy, programs covering up to 50 product types to those spanning only one or two. It is also relevant to note that the region includes some of the world's largest manufacturers of appliances and equipment supplying the global market, as well as economies that have little or no local manufacturing and rely upon the import of products. These factors suggest that there is considerable opportunity to develop regional initiatives that will improve the transfer of knowledge and experience amongst economies with respect to energy efficiency S&L programs and their MVAE regimes. The following eight recommendations are designed to address shortcomings in MVAE process in the APEC region and assist in the development of a culture of compliance.

**Participating Economies**

AUSTRALIA	CANADA	CHILE
PEOPLE'S REPUBLIC OF CHINA	CHINESE TAIPEI	HONG KONG, CHINA
INDONESIA	JAPAN	KOREA
MALAYSIA	MEXICO	NEW ZEALAND
PERU	PHILIPPINES	SINGAPORE
THAILAND	UNITED STATES	VIETNAM

1

# BACKGROUND TO THE APEC PROJECT

2008	IEA International <b>Conference</b> , Paris: “Meeting Energy Efficiency Goals: Enhancing Compliance, Monitoring and Evaluation”
2009/10	<b>Survey</b> of EU Member States
2010	<b>Survey</b> of G20 countries +Tunisia & Chile
2010	Compliance Counts: A Practitioner’s <b>Guidebook</b> on Best Practice Monitoring, Verification, and Enforcement for Appliance Standards & Labeling
2010	IEA <b>Policy Pathways</b>
2010	4E London <b>Conference</b> “Saving More Energy Through Compliance”
2011/12	<b>Survey</b> of APEC economies
2012	APEC <b>Workshop</b> , Beijing

# SURVEY



## Survey of Market Compliance Mechanisms for Energy Efficiency Programs in APEC economies

APEC ENERGY WORKING GROUP  
EXPERT GROUP ON ENERGY EFFICIENCY &  
CONSERVATION  
MAY 2012

- Survey Report Covers:
  - *Context, Methodology, Best Practice*
  - *Summaries of compliance regimes by economy (18)*
  - *Survey findings across all participating APEC economies*
  - *Comparison with previous surveys in other regions*
  - *Conclusions & observations*
  - *Recommendations*
- Available from APEC (APEC#212-RE-01.2)  
[http://publications.apec.org/publication-detail.php?pub\\_id=1285](http://publications.apec.org/publication-detail.php?pub_id=1285)
- Summary also produced

# APEC S&L PROGRAMS

## Characteristics

APEC Economies with S&L energy efficiency programs

18

Energy labelling programs

32

Minimum Energy Performance Standards

16

Longest running program

USA (1978)

Youngest

Vietnam/Indonesia  
(under development)

Largest coverage

50+ (USA/China)

Smallest product coverage

≤ 3 (several)

# CONSUMER INFORMATION IN APEC

中華民國  
能源效率標示  
每年耗電量  
約 XXX 度  
本產品能源效率為第 1 級

名稱 電燈泡  
型號 00-000000  
規格 XXX 瓦特  
型號 XXX-000-000  
型號 XXX-000-000

GARANTÍA DE AHORRO  
fide  
FIDE COMISO PARA EL AHORRO  
DE ENERGÍA ELÉCTRICA



中国能效标识  
CHINA ENERGY LABEL

生产年份 2010  
规格型号 ABA-1000

耗电量 1 2 3 4 5

能效比 3.20

输入功率 (瓦) 1000  
制冷量 (瓦) 3200

能效标识号: GB 12021.3-2004

ENERGUIDE  
Energy consumption / Consommation énergétique

125 kWh  
per year / par année

25 kWh 400 kWh

Use least energy / Consommez le moins d'énergie  
Use most energy / Consommez le plus d'énergie

Standard / Ordinaire

Energy Consumption kWh per year  
Full load (100%) 1.20  
Part load (60%) 0.80

Cooling Capacity: 1.72 kW  
Model Number: 0000

ENERGY EFFICIENCY RATING  
EXCELLENT

Energy Consumption kWh per year  
Full load (100%) 1.20  
Part load (60%) 0.80

Cooling Capacity: 1.72 kW  
Model Number: ABC ABC123456



ENERGY LABEL  
能源標識

More efficient 節能優良  
Less efficient 節能不良

Annual Energy Consumption (kWh) 1106  
Cooling Capacity (kW) 2.54  
Refrigerant (kg) R22

Annual Air Conditioner Run Time (hours) 2000  
Model Reference Number (Model No.) ABC

機電工程會 EMSD

Energía

A B C D E F G

XY00 Lumen  
XYZ Watt  
XZ00 h

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機電工程會 EMSD



ENERGY RATING

The more stars the more energy efficient

Energy consumption  
317 kWh per year

For more information, refer to www.energyrating.gov.au

Energía  
MODO EN ESPERA

Más eficiente A  
Menos eficiente E

CONSUMO modo de espera (kwh/mes) 0,338

Norma Chilena Oficial Nch3107.Of 2008



TIẾT KIỂM NĂNG LƯỢNG

2010年度  
この商品の省エネ性能は?

省エネ率 154%  
年間消費電力 330 kWh/年

7,260円

Energy Efficient  
5  
Cekap Tenaga

Energy  
ENERGY STAR

90 lumen/watt  
Tingkat Hemat  
Energi

SEMAKIN BANYAK BINTANG SEMAKIN HEMAT  
MODEL PRODUK  
NO. REG

에너지소비효율등급  
1  
38.9 kWh/년  
CO<sub>2</sub> 23 kg/년

모델명: A-07130  
공정량: 7.14L  
에너지효율등급 1등급

PENGUNAAN TENAGA  
ENERGY CONSUMPTION

Lebih Banyak Bintang Lebih Zaman Tenaga More Energy Saving

Penggunaan Tenaga Purata Setahun  
Average Energy Consumption Per Year  
628 kWh

Produk ini Menggunakan Tenaga Purata This Product Has An Average Energy Consumption

EFICIENCIA ENERGÉTICA  
Consumo de energía

Determinado como se establece en la NOM-015-ENER-2002

Marca (s): Frostek Tipo: Refrigerador congelador  
Modelo (s): 95R-A Capacidad: 425 dm<sup>3</sup>  
Operación: Automático

Límite de Consumo de Energía (kWh/año): 659  
Consumo de Energía (kWh/año): 560

Compare el consumo de energía de este equipo con otros similares antes de comprar

Ahorro de energía de este producto 15%

0% 5% 10% 15% 20% 25% 30% 35% 40% 45% 50%

Menor Ahorro Mayor Ahorro

IMPORTANTE  
El consumo de energía efectivo dependerá de los hábitos de uso y localización del producto.  
La etiqueta no debe retirarse del producto hasta que haya sido adquirido por el consumidor final.

Based on standard test condition  
BALLAST EFFICACY FACTOR  
2.6

dti  
DEPARTMENT OF TRADE AND INDUSTRY  
PHILIPPINES  
0017-345678

Important: HIGHER BEF means HIGHER SAVINGS

Energy  
ENERGY STAR  
Most Efficient 2011  
Les plus éconergétiques

# CHARACTERISTICS OF APEC REGION

- Large variation scale and experience in S&L programs across APEC region
- Evolution: Lots of programs expanding scope, starting, improving
- Region includes some of largest global suppliers of electrical appliances and equipment
- Also some major importer economies

**Considerable opportunity to develop regional initiatives to transfer knowledge and experience amongst economies**

# RECOMMENDATIONS

- **8 Key areas of recommendations covering:**
  - *Awareness Raising*
  - *Planning and Resources*
  - *Operational Guidelines*
  - *Communication*
  - *Access to Competent Laboratories*
  - *Verification Testing*
  - *Industry Engagement*
  - *Regional Network*
- **Many practical projects – discussed at the workshop**



# APEC COMPLIANCE SURVEY WORKSHOP BEIJING 14-15 JUNE 2012



# GREAT SUPPORT FROM SPONSORS

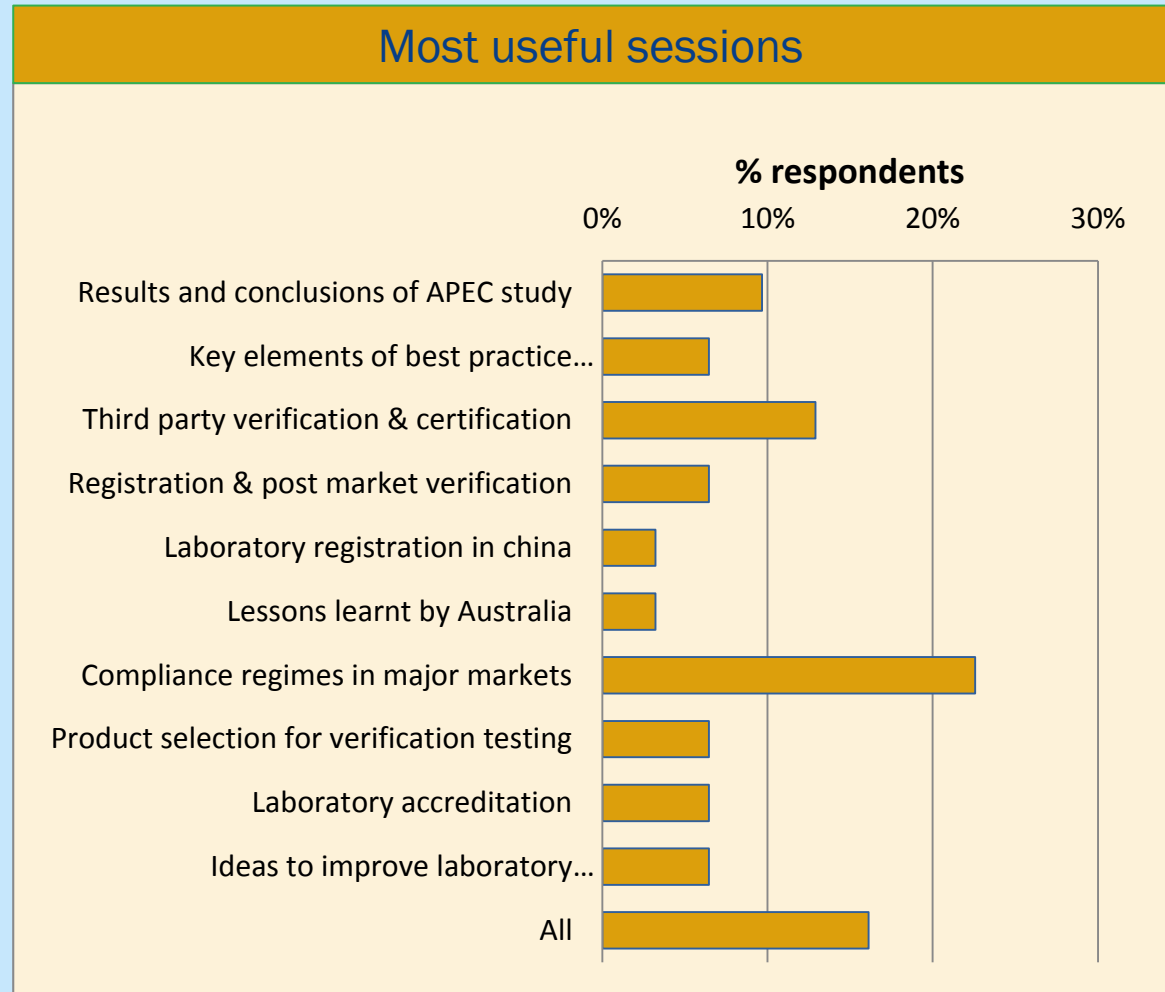


Australian Government  
Department of Climate Change  
and Energy Efficiency



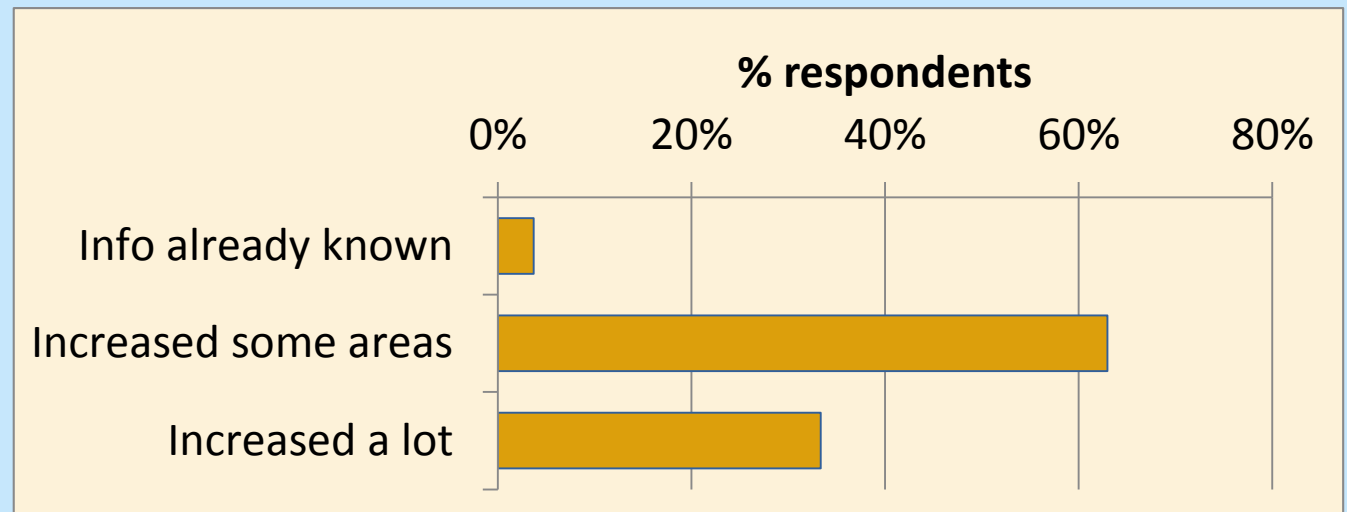
# WORKSHOP OVERVIEW

- 80 participants from 13 APEC economies
- Governments, manufacturers, test authorities & NGOs
- Day 1 focused on discussions amongst governments
- Day 2 was designed to encourage dialogue between governments and industry
- 22 separate sessions



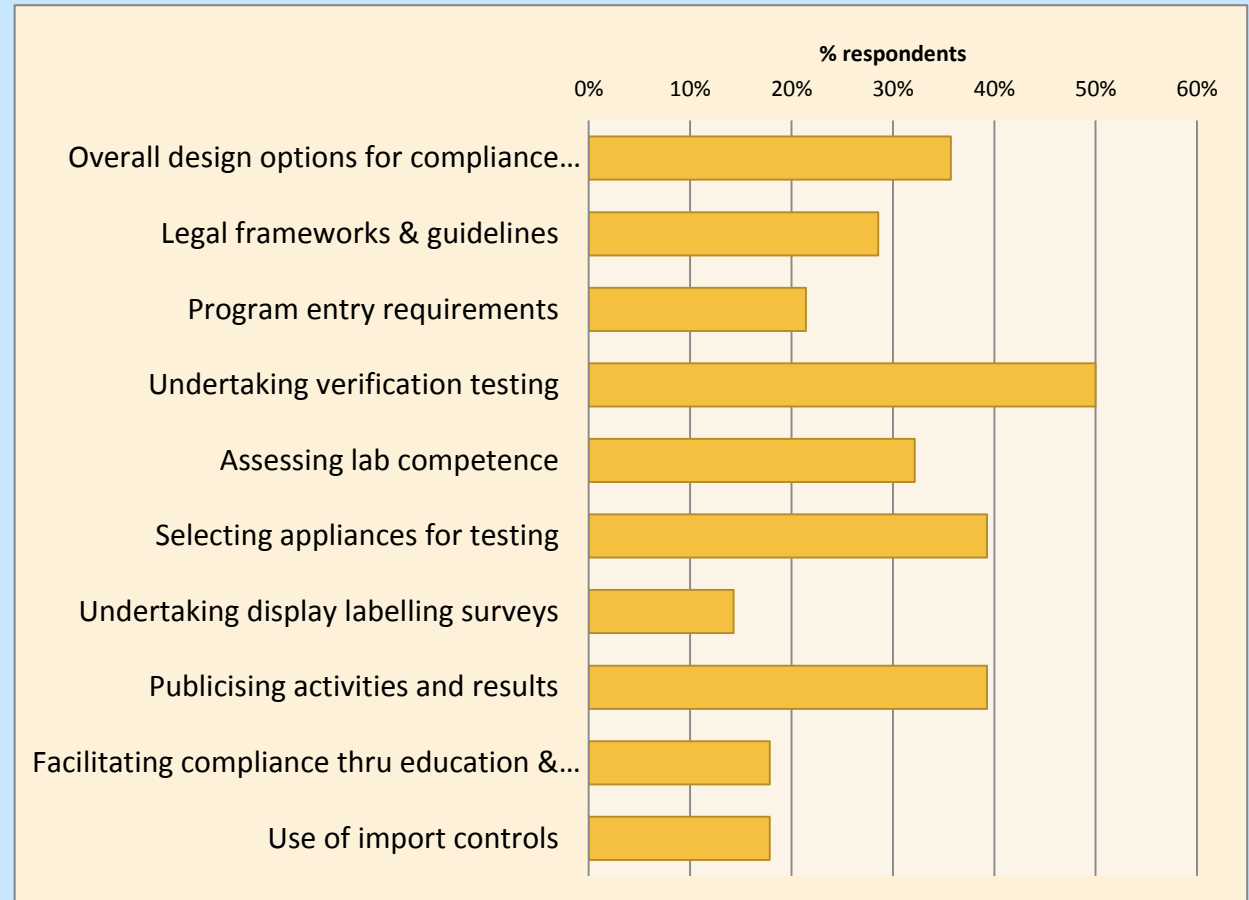
# FEEDBACK FROM PARTICIPANTS

- 93% said the workshop had met their expectations
- 96% said the workshop had improved their understanding of compliance issues
- 33% said that their understanding had been improve by a large amount
- *An overall endorsement of the event's success!*



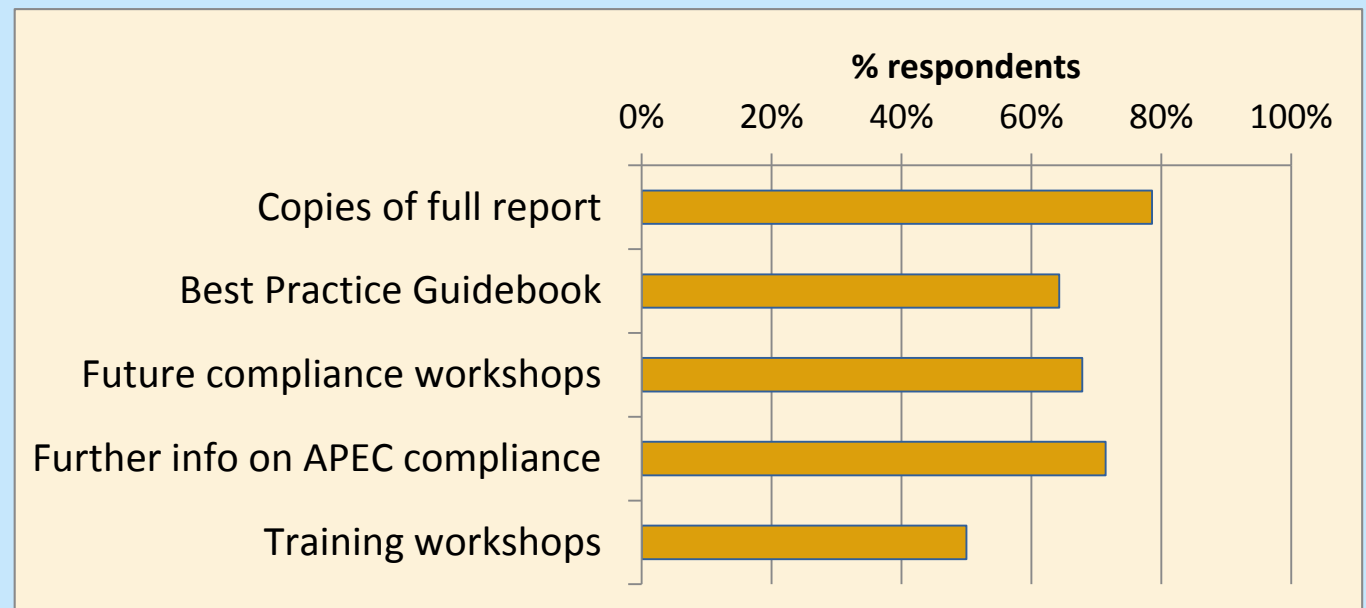
# TOPICS OF FURTHER INTEREST

- Time was limited and a lot covered
- Participants were interested to learn more about a range of topics



# SUPPORT FOR FOLLOW-UP ACTION

- 80% supported follow-up action



- All Reports, Agendas and Presentations publicly available on:

<http://www.clasponline.org/en/ResourcesTools/Resources/SLHeadlines/APEC-Compliance-Workshop>

# WORKSHOP CONCLUSIONS

Policy makers acknowledged that there is no “one size fits all” approach for achieving higher rates of compliance.

However, many expressed commitments to the following recommendations that emerged from the workshop:

- Making risks of non-compliance obvious to stakeholders through increased communication & raising the profile of MV&E;
- Using cooperative and creative approaches in to minimize the cost of testing (e.g. mutual recognition of test reports);
- Engaging with industry participants to develop effective MV&E approaches (e.g. industry certification schemes;
- Developing a regional MV&E network, similar to Europe’s model, through the APEC EGEE&C working group or other regional bodies.