



Verification Testing: What are the current capacity and available resources in the APEC region?

Chris Evans
S2E4

In partnership with



Australian Government
Department of Industry



Copper Alliance™



PART 1 - ASSESSMENT OF VERIFICATION TESTING CAPACITY IN THE APEC REGION IDENTIFYING

PART 2 - TESTING OPTIONS AND APPROACHES TO REDUCE COSTS FOR VERIFICATION TESTING



The 2012 *Survey of Market Compliance Mechanisms for Energy Efficiency Programs in APEC Economies* identified the need for market surveillance officials in the APEC economies to improve their access to competent testing facilities...

The task of locating would-be suitable test laboratories in the APEC region has been undertaken.

An overview of testing facilities in the APEC region has been created and capacity for testing products for energy efficiency metrics has been identified.

There are thousands of test laboratories!

- It was necessary to prioritise on the most high-impact consumer products
- The products that were likely to be the focus of compliance (market surveillance/MV&E) were identified from the results of the 2012 study.

The final list of products for which test laboratories were to be located was...

Room air conditioners	
Lighting: (CFLs and/or LEDs)	Laboratories that can test these can often test other lighting products e.g. ballasts
Domestic refrigerators	Laboratories that can test these can often also test fridge freezers and freezers
Flat screen TVs	Laboratories that can test these can often also test other display products
Clothes washers	
Computers	Laboratories that can test these can often also test other ICT products

Potential test laboratories were located through...

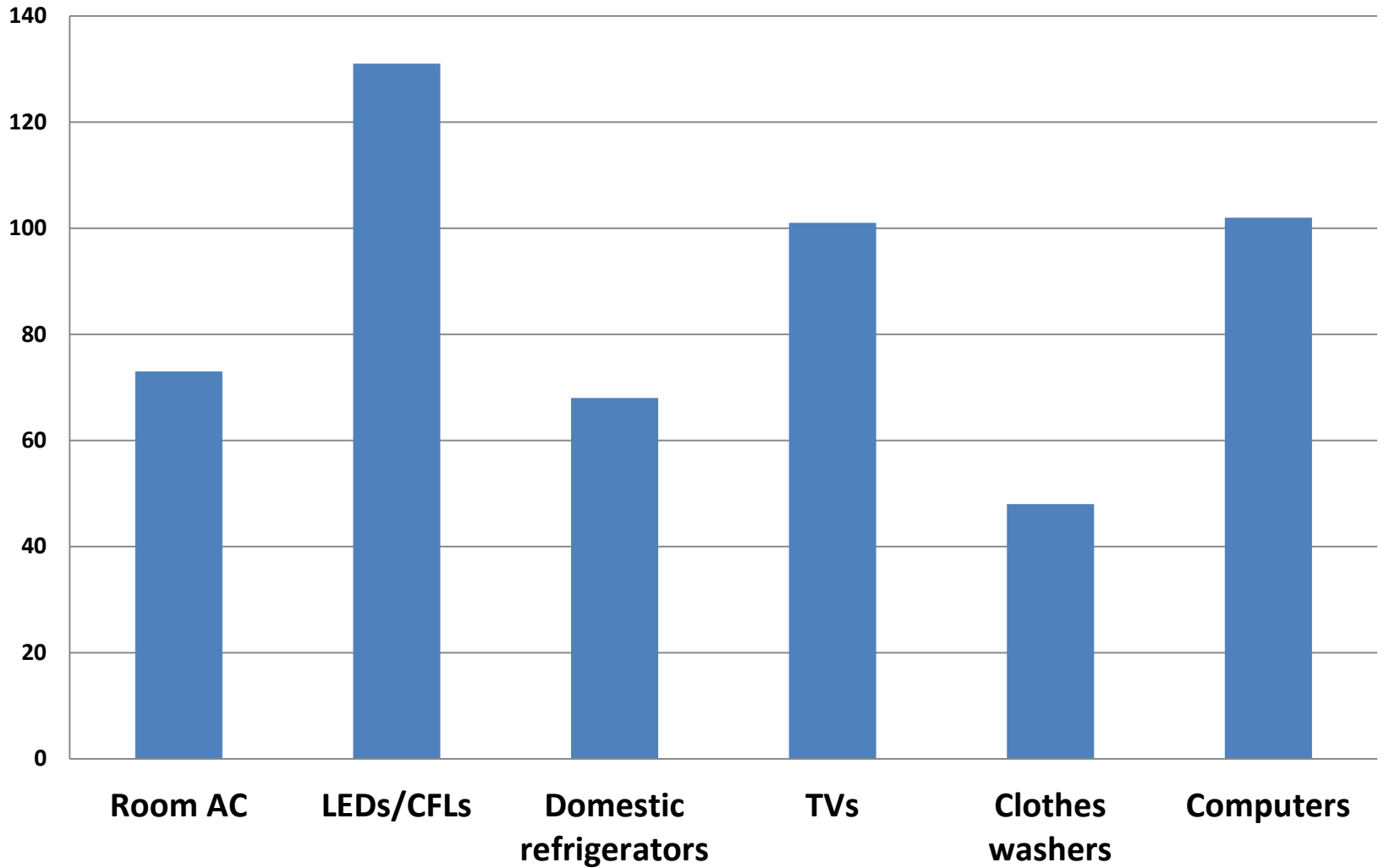
- Asking MV&E officials in the APEC economies to tell us about the test laboratories that they have used
- Checking existing databases such those maintained by:
 - Members of Asia Pacific Laboratory Accreditation Cooperation (APLAC)
 - Lists of “designated” test laboratories maintained by APEC economies and their agencies e.g. Vietnam’s on <http://nhannangluong.com>
 - IECEE listing of certification bodies

THE FINDINGS...

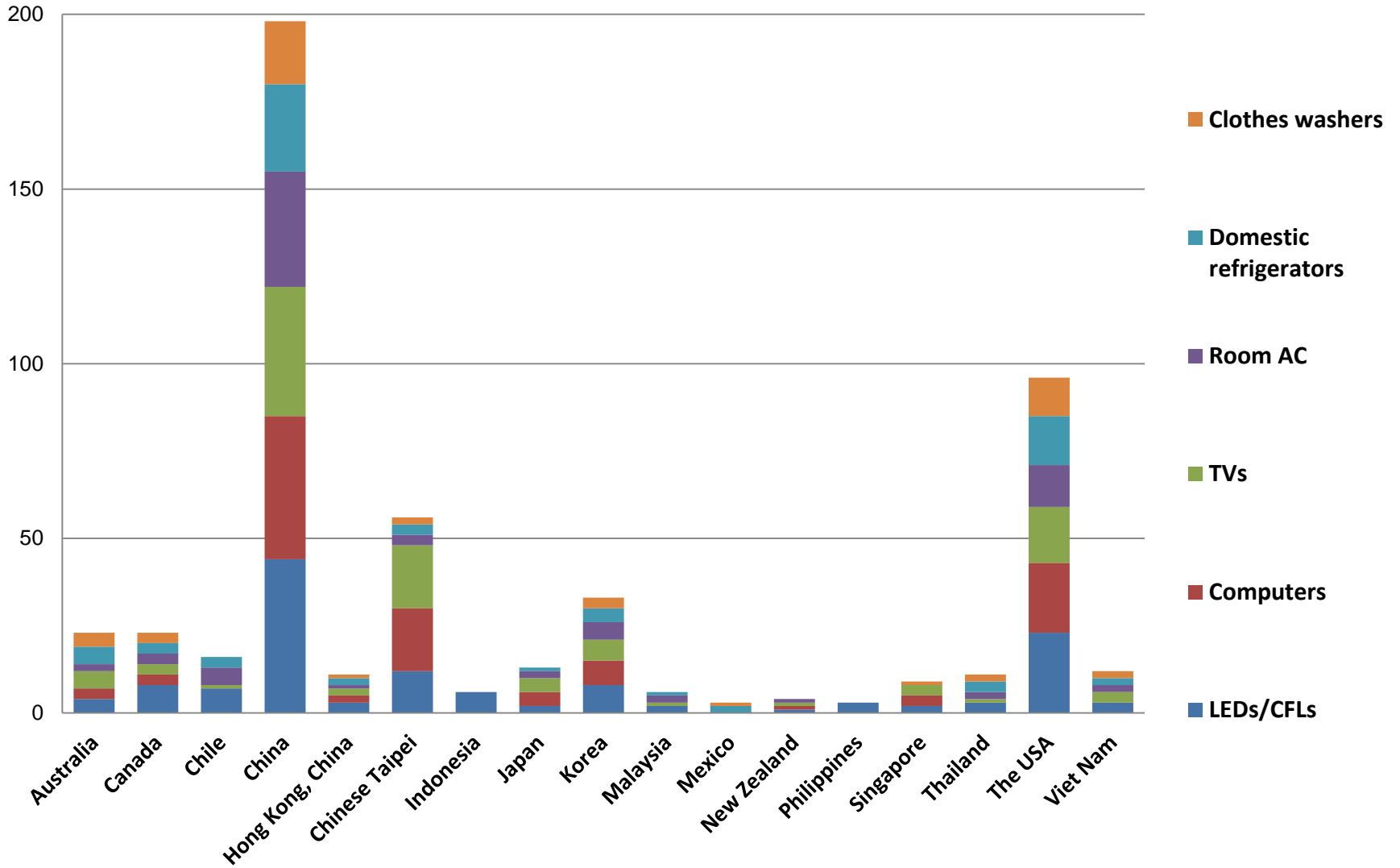
Some 250 laboratories were identified as having energy efficiency testing for one or more of the following products:

- Room air conditioners
- Lighting
- Refrigerators
- TVs
- Clothes washers
- Computers

Breakdown of what products the laboratories found can test



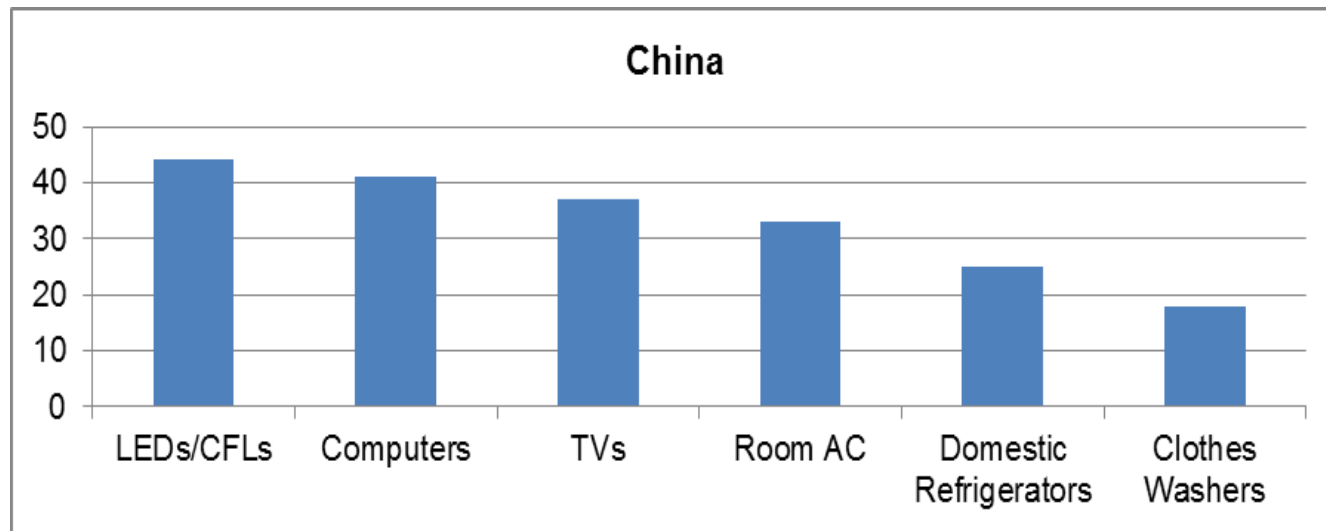
Breakdown of test laboratories by country and by product



The figures in the previous slide have been broken down for each economy where test laboratories were located.

An example is shown below.

NOTE: No laboratories were located in Brunei Darussalam, Papua New Guinea, Peru or Russia



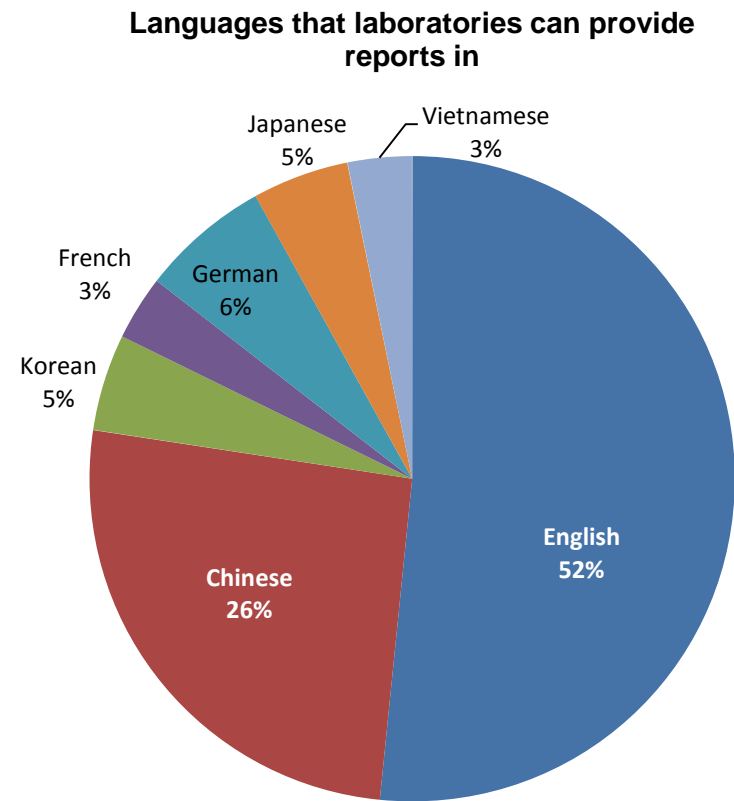
Some of Takeaways from the Surveys...

- **Where there is manufacturing, then there is testing capacity**
 - The majority of test laboratories are concentrated in a minority of APEC economies
 - Since majority of the test labs are commercial entities, so it is expected that they only exist where there is a market for their services.
- **Laboratory test capacity is limited in economies that have small or non-existent manufacturing capacity**
 - Where capacity exists but there is little or no corresponding manufacturing, then the capacity is largely coming from publically owned, rather than commercially owned, laboratories.

Additional Survey Results

For a limited number of test laboratories some additional information including:

- Whether the test laboratory was publically or privately owned
- The languages that they can provide reports in
- Whether they had plans to expand their activities (more were planning to expand lighting products testing)



Comparison of APEC economies' verification testing needs with available national testing capacity

APEC Economy	LEDs/CFLs	Computers	TVs	Room A/C	Domestic refrigerators	Clothes washers
Australia	Green	Green	Green	Green	Green	Green
Canada	Green	Green	Green	Green	Green	Green
Chile	Green	White	White	Green	Green	Red
China	Green	Green	Green	Green	Green	Green
Chinese Taipei	Green	Green	Green	Green	Green	Green
Hong Kong, China	Green	Green	Green	Green	Green	Green
Indonesia	Green	White	White	Red	Red	White
Japan	Green	Green	Green	Green	Green	White
Korea	Green	Green	Green	Green	Green	Green
Malaysia	Green	White	Green	Green	Green	White
Mexico	Red	White	White	Red	White	Green
New Zealand	Green	Green	Green	Green	Red	Red
Peru	White	White	White	White	White	White
Philippines	Green	White	White	Red	Red	White
Singapore	Green	White	Green	Red	Red	White
Thailand	Green	Red	Green	Green	Green	Green
United States	Green	Green	Green	Green	Green	Green
Viet Nam	Green	White	Green	Green	Green	Green
	Key:	Have S&L and some test capacity located	Have S&L but no test capacity located	No S&L		

The list of test laboratories so far located will
shortly be published at
CLASP's MV&E Publication Library
www.clasponline.org/Compliance

Any questions?

This is the end of the 1st part of the presentation

Part 2

IDENTIFYING TESTING OPTIONS AND APPROACHES TO REDUCE COSTS FOR VERIFICATION TESTING

The testing of products is an integral part of MV&E (corresponding to the “V” for verification) activities undertaken by market surveillance authorities.

Full procedure verification testing is costly. Most test laboratories charge fees (sometimes >\$1000s) for testing product samples.

Since budgets are always limited, MV&E authorities could develop strategies to reduce the cost of verification testing.

Broadly, these strategies fall into four main approaches:

Avoidance of Testing

Transfer of Cost

**Use of Reduced Testing
Procedures**

Sharing of Costs



Avoidance of Testing

Importantly, verification testing should be integrated into the overall market surveillance policy measure

- Testing should be preceded by lower cost examinations of document evidence (testing results conducted at the manufacturers'/importers' expense)
- But...
 - **Examination of documents requires expertise.** Product documentation can have a high level of technical content
 - **Such tasks may need to be done by independent experts, such as those at test laboratories.** Even so, the costs of employing such experts to perform these functions is usually far less than the cost of performing the tests themselves



Transfer of Cost

In this model, suppliers pay the costs of testing if their products are found non-compliant.

- **Transfer the cost of purchasing the sample(s):** Regulations in some countries enable MV&E authorities to take samples from their national markets at no initial cost.
- **Transfer of cost is a powerful tool for avoiding additional testing costs,** especially in countries that require further (replicate) samples to be tested when the first sample tested is found to be non-compliant.



Screening tests provide a reasonable indication of energy performance at a lower cost and more quickly than in a full verification test.

- Screening tests provide a preliminary assessment of products that are likely to fail a full verification test (to avoid the costs of conducting full tests on products likely to be found compliant).
- Sometimes it can be appropriate for the results of screening tests to be shared with suppliers as this could lead to the avoidance of further full procedural testing or the transfer of all further testing costs to the supplier.



Witness testing is a cost-effective alternative to purchasing and shipping large items to a test laboratory

- Manufacturers are required to supply the samples at their own cost and testing takes place in the manufacturer's own facility (but there is costs of commissioning a suitable expert)
- Saves sample purchase and shipping cost and avoids testing fees, but also provides a suitable laboratory in which to conduct the test procedures
- It can be difficult to pursue an enforcement action right through to prosecution based on witness test results



Conducting market surveillance activities in partnership with another MV&E authority enables them to share the costs of testing products that are commonly available in both countries.

- The full benefits of sharing the cost of testing (“joint testing”) can only be maximized under limited circumstances:
 - the **same products** are available in each market
 - very **similar test procedures**
 - the legal procedures on one country will **accord full recognition** to a test report from a laboratory in another country
- MV&E authorities can act as a buying consortium to get competitive testing rates

Any questions?

This is the end of the 2nd part of the presentation