How to Create and Operate a Lighting Product Registration System

Ari Reeves and Neha Dhingra
Outline

1. Introduction to Product Registration Systems
2. Developing a Product Registration System
3. Operation, Maintenance, and Costs
4. Examples of Best Practice
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What is a Product Registration System?

- Initial compliance gateway wherein manufacturers and importers register eligible products with the regulatory authority prior to market entry.

- Products registered with technical documentation to demonstrate product compliance.

- System can range from basic list of compliant products to comprehensive online searchable database.

- The system can:
  - Support MVE component of an energy efficiency programme.
  - Help track product performance to inform policy development.
  - Build consumers’ trust in the programme.
Types of Product Registration Systems

- Registration system can be regional, national, or both
- Data can be public or confidential
- Systems can be differentiated by policy type and implementer

<table>
<thead>
<tr>
<th>Policy Type</th>
<th>Implementer</th>
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<tbody>
<tr>
<td>Mandatory</td>
<td>Government</td>
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<tr>
<td>Australia, India</td>
<td>Australia, India, USA</td>
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<tr>
<td>Voluntary</td>
<td>Industry</td>
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<tr>
<td>ENERGY STAR, Vietnam</td>
<td>DesignLights Consortium</td>
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Benefits of a Regionally Harmonised Registration System

- Supports co-ordinated MVE planning and efficient use of resources when a regional market shares similar products
- Enables immediate sharing of information on test results and compliance related information between authorities
- Reduces cost, avoids duplication of efforts, facilitates global trade, and encourages product performance improvements
- Issues to be addressed before harmonisation is achieved
  - Legal requirements
  - Procedures and mechanism
  - Testing requirements
  - Performance requirements
  - Language

UNEP-lites.asia MVE webinar, 20 August 2015
Aspects of a Product Registration System

- Public record of registered products
- Public record of products complying with the energy efficiency programme or other legal requirements
- Contact database for notifications of regulatory changes
- Searchable internal database of products with confidential information
## Registration System User Types

<table>
<thead>
<tr>
<th>Role</th>
<th>Benefits</th>
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<tbody>
<tr>
<td>Policymakers</td>
<td>• Records of baseline data and support to decisions</td>
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<td></td>
<td>• Product prioritisation and revisions</td>
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<td></td>
<td>• Market surveillance</td>
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<tr>
<td>Manufacturers</td>
<td>• Platform for registration and reporting</td>
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<td></td>
<td>• Innovation in product design</td>
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<td></td>
<td>• Credibility and level playing field</td>
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<td>Consumers</td>
<td>• Product specific information in public domain</td>
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<td></td>
<td>• Advanced features</td>
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<tr>
<td>Distributors</td>
<td>• Check for compliance of individual models</td>
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<tr>
<td>Efficiency Programme</td>
<td>• Programme design, implementation and evaluation for incentive programmes</td>
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<tr>
<td>Sponsors</td>
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Process for Developing a Product Registration System

1. Assess the needs
2. Determine key steps and delegate responsibilities
3. Design and build the system
4. Launch the system
Assess the Needs

- Ensures the system satisfies current and future needs of different users and stakeholders

Steps include:

- Identify objectives, scope of the products, geographical coverage, users, data availability, funding, etc.
- Review policies and procedures
- Involve a range of stakeholders
- Consult existing registration systems
Determine Key Steps and Delegate Responsibilities

- Usually, part of the process of developing and maintaining a product registration system is outsourced.
- Depending on the scope and objective, draft terms of reference.
- If possible, refer to terms of reference developed by countries that adopt best practices.
- Hire an information technology specialty company to develop the registration system.
Design and Build the Registration System

- **User interfaces:** easy to use Excel workbooks, web based forms, web pages etc. or a mix of interfaces serving different purposes
- **Machine interfaces:** Application programming interfaces to pull data and interact with various users
- **System architecture:** Number of users, data storage, equipment available etc.
- **Security:** contains both public and private data, identify ways to maintain security
- Testing the system with users is essential
Launch the Registration System

- Communicate to intended users - key to successful launch of the system
- Notify users, provide user manual and instructions for using the system
- Provide training for users who will use the system frequently
- Provide training materials such as user guide or written guidance
  - Australia has developed a user guide accessible at: http://www.energyrating.gov.au/for-industry/
Process of Registration

**Step 1**: Apply for registration
- **Stakeholder**: Manufacturers or importer

**Step 2**: Assess the application
- **Stakeholder**: Policymaker or third party

**Step 3**: Approve or reject application
- **Stakeholder**: Policymaker

**Step 4**: Host approved model on the database
- **Stakeholder**: Policymaker or outsourced contractor

**Step 5**: Enter results of verification testing in the database
- **Stakeholder**: Policymaker
Prototype Registration System

- Being developed for sharing lamp performance and compliance information within and among ASEAN member countries
- Focused on lighting products, but could be applied to other products
- Based on best practices internationally
- Collaborative tool for increasing MVE infrastructure in the region
- Not a fully functional, ready-to-use registration system, but a prototype that illustrates:

<table>
<thead>
<tr>
<th>System Login</th>
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<tbody>
<tr>
<td>New Applicant and Product Registration</td>
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<tr>
<td>Administrator portal</td>
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<tr>
<td>Public portal</td>
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Operation and Maintenance

- Maintaining the records
  - Add and remove users
  - Modify user profiles
  - Communicate with users
  - Check compliance of registered products
- Maintaining the product listing
  - Review product registrations
  - Remove products from registration system
- Maintaining the IT infrastructure
  - Maintain server and renew domain names
  - Update software
  - Enhance security
- Providing technical support

Occasional activities:
- Upgrading the system for new features, products, bug fixes etc.
- Evaluating system performance
Costs

- Total cost of a registration system will vary depending on programme design, scope and market size.
- In Australia, maintaining the registration system accounts for approx. 55% of compliance programme costs.
- Sources of funding:
  - Government or funding agencies.
  - Partial/complete self-funding through registration, application and labelling fee.
  - For example, India collects a labelling fee on registered products.
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Existing Registration Systems

- **Australia and New Zealand** [E3 Energy Rating Label Tool](#)
- California [Appliance Efficiency Database](#)
- Canada [searchable product lists](#)
- China [Energy Label product database](#)
- Chinese Taipei [certified products database](#)
- Hong Kong [labelled products database](#)
- India [Star Label product database](#)
- Japan [product database](#)
- Philippines [labelled and certified product lists](#)
- Singapore [Database of Registered Goods](#)
- Thailand [Label No. 5 Products Database](#)
- US Department of Energy [Compliance Certification Database](#)
- **US Environmental Protection Agency** [ENERGY STAR Qualified Product Finder](#)
- US [Lighting Facts](#)
International Best Practice

- Profiles of three of the leading product registries
- Highlight key features of each of the systems
- Particular focus on registration systems where data can be shared between countries
- Using best practices and lessons learned can support development of new registration systems as well as modification or enhancement of existing systems
Equipment Energy Efficiency (E3) Programme

- Regional co-funded collaboration between the Australian Government, Australian State and Territory Governments and the New Zealand Government
  - All regulated products must be registered via the secure online E3 Comparison Tool before being offered for sale
  - Information on energy efficiency, MEPS and product star ratings
  - Supports the verification testing compliance programme
  - Around 18,000 registered products
  - Around 70,000 visitors a month
Trans-Tasman Mutual Recognition Arrangement (TTMRA)
- Harmonised efficiency standards and data sharing between Australia and New Zealand
- Funds to maintain the registration system are provided by both countries
- Joint training workshops

Mobile application for consumers to enable informed decision making
- Allows models to be compared and provides
- Running costs
ENERGY STAR Database
http://www.energystar.gov/productfinder/

- United States voluntary endorsement labelling programme
- Managed by Environmental Protection Agency

Special features
- Application Programming Interface
  - Publishes certified product data in machine readable format
  - Accessible to any application with a web connection
  - Mobile version of the product finder (web based tool) to enable consumers to look up products
ENERGY STAR Database
Special Features continued…

- **Product finder tool**
  - Public tool to provide list of registered products to stakeholders
  - Export options include Excel, .csv
  - Models searchable by brand, model name, number and additional information
  - Products can be sorted, filtered, and compared by key attributes

- **Advanced view features**
  - Create account to save and share work
  - Filter lists
  - Create visuals (pie charts, bar graphs etc.)
  - Embed filtered data or visual
  - Export data
Pilot Ecopliant Database
http://www.ecopliant.eu/

- No product registration system in place in the European Union
- Official EU ICSMS Database: Information and communication system for pan-European market surveillance on all product regulations - https://webgate.ec.europa.eu/icsms
- Group of MVE authorities launched Ecopliant to increase MVE cooperation and collaboration
  - Regional compliance project funded by the European Commission
  - On behalf of Ecodesign Administrative Cooperation (ADCO) group
  - Developed Ecopliant Database to expand on information available in ICSMS Database
    - Focusing solely on energy efficiency
    - Going beyond capabilities of ICSMS
Pilot Ecpliant Database continued…

- Ecpliant piloted as an EU-wide confidential registry to facilitate sharing of information between MVE authorities:
  - Exchange of experiences and best practices
  - Coordinating testing of products (and sharing test results)
  - Exchanging notifications of non-compliant products and enforcement action information

- The registry helps MVE authorities:
  - Identify common product model numbers
  - Identify new accredited test laboratories available for verification testing
  - Share testing plans
  - Share document testing, screen-testing, and verification testing results
  - Share relevant follow up actions to non-compliance
Summary and Recommendations

- Registration systems are a key component of energy efficiency programmes
- Follow a structured and planned approach to develop the registration system
- Put in place appropriate processes to ensure accuracy of data
- Maintain and upgrade the registration system to preserve programme integrity
- Communication is the key to a successful registration system
- Take advantage of international best practices
Thank you for your attention...

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