What are the steps:
Set targets and develop policies

Buildings: Session 7

#energyefficientworld
1. **Where to start**: Understanding energy use in buildings
2. **Where to start**: Energy efficiency potential in buildings
3. **Toolkit**: Energy efficient building design
4. **Toolkit**: Energy efficient building technologies
   Where do I get help? IEA’s Technology Collaboration Programmes
5. **Toolkit**: Enabling investment with energy efficiency policies
6. **What are the steps**: Building energy codes and standards
   Site Visit: Ministry of Public Works and Housing
7. **What are the steps**: Set targets and develop policies
8. **Did it work**: Evaluating the multiple benefits of energy efficiency
9. **Did it work**: Tracking progress with energy efficiency indicators
   Where do I get help? International and regional energy efficiency initiatives
10. **Energy Efficiency Quiz**: Understanding energy efficiency in buildings
7. What are the steps: Set targets and develop policies

Trainers: Brian Dean and Autif Sayyed

Session: 1 hour

Purpose: To teach the fundamentals of how energy efficiency targets and policies can be used in tandem to reduce energy use in buildings and meet energy and development goals.

Scenario: There has been a change of government and the incoming government wants a range of options for interventions to rapidly increase energy efficiency. How do you identify, prioritise and quantify these policy options?
Target Setting

Targets matter

Using roadmaps

National targets
Targets Matter – What is committed (and visible), gets managed

Of over 3,000 respondents from 10 countries....

Source: Johnson Controls, 2013 Energy Efficiency Indicator Survey
Target setting: Using roadmaps

Global Policy Priorities

NZEB Roadmaps: Eastern EU

Rating & Disclosure: USA

Comparing Building Energy Performance Measurement
A framework for international energy efficiency assessment systems

Source: GBPN

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Cronograma de la Hoja de Ruta hacia 2050

2015
- Fortalecimiento
- Desarrollo: Código modelo nacional 2015
  - Adopción estatal del código: 5
  - Adopción local del código: 10
  - Adopción del código avanzado: 1 ciudad
- Aplicación: >50% verificación de cumplimiento del código de energía adoptado

2021
- Mediano Plazo
  - Capacitación adicional para funcionarios locales y constructores en códigos de energía para edificaciones, etiqueta energética y ejecutar pilotos de edificios cero emisiones
  - Adopción estatal: 10
  - Adopción local: 20
  - Adopción código avanzado: 10
  - >75% verificación

2030
- Largo Plazo
  - Programas de capacitación de funcionarios locales y constructores sobre edificios cero emisiones y últimos avances en eficiencia energética y edificios con sistemas de energía renovable integrados
  - Adopción estatal: 30
  - Adopción local: 80
  - Adopción código avanzado: 20
  - >75% verificación
  - >95% verificación
  - 100% verificación

2050
- Largo Plazo
  - Adopción del código modelo por el 100% de estados y municipios
  - Adopción del código avanzado en 40 ciudades

Source: www.gob.mx/documentos/marco-programatico?idiom=es
Target setting: example in Jakarta, Indonesia

To be
The Center of Excellence of
Green Building implementation in
Indonesia.

100% new buildings
and
60% existing buildings
meet Jakarta Green Building compliance in 2030

3.785 GWh
energy saving

2.4 billion liters
water saving

3.37 million tons
CO$_2$e
CO$_2$e emission reduction

Source: http://greenbuilding.jakarta.go.id/index-en.html
Target setting: Building code targets in the United States

- In 2007, US Congress directed US DOE to support efforts to reduce energy use in new buildings by at least 30% by 2010.

- In October 2010, final voting confirmed code improvements that resulted in 32% energy savings.

2007 Target: resulted in 32% improvement. More energy savings than any period since 1975.

Source: US DOE and IEA Energy Efficiency Market Report
Target setting: national targets in the EU

Europe Energy Performance of Buildings Directive

- Moving toward new and retrofitted nearly-zero energy buildings by 2020 (2018 in the case of public buildings)
- Application of a cost-optimal methodology for setting minimum requirements for both the envelope and the technical systems

Europe Energy Efficiency Directive

- The 2012 Energy Efficiency Directive established a set of binding measures to help the EU reach its 20% energy efficiency target by 2020.
- Individual country level regulations and targets
Policy Making

Stakeholders

Group exercise
Who: Stakeholders involved in governance of buildings

Source: WRI, 2016, Accelerating Building Efficiency: Eight Actions for Urban Leaders
### Who: Stakeholders influence action across building lifecycle

<table>
<thead>
<tr>
<th>NEW BUILDINGS</th>
<th>EXISTING BUILDINGS</th>
<th>RETROFIT</th>
<th>DEMOLITION &amp; DECONSTRUCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Use/Planning</td>
<td>Design</td>
<td>Construction</td>
<td>Sale or Lease</td>
</tr>
<tr>
<td>Local governments</td>
<td>Design &amp; construction professionals</td>
<td>Design &amp; construction professionals</td>
<td>Buildings owners and managers</td>
</tr>
<tr>
<td>Developers and self-help builders</td>
<td>National and provincial governments</td>
<td>Building investors</td>
<td>Developers and self-help builders</td>
</tr>
<tr>
<td></td>
<td>Local governments</td>
<td>Suppliers &amp; manufacturers</td>
<td>Building occupants</td>
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<tr>
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</tr>
</tbody>
</table>

**Source:** WRI, 2016, Accelerating Building Efficiency: Eight Actions for Urban Leaders
Group discussion and exercise

Scenario:

There has been a change of government and the incoming government wants a range of options for interventions to rapidly increase energy efficiency.

How do you identify, prioritise and quantify these policy options?

Group Exercise:

- You have the opportunity to consult with key stakeholders on prioritising energy efficiency policies for buildings.
- We will use a platform created to engage stakeholders on energy efficiency.
Stakeholder engagement: hands on tool for policy assessment

Roles: (pick your color based on where you are working)

- Asia (excluding Indonesia)
- Indonesia (excluding Jakarta)
- Jakarta

Typically we set roles by stakeholder type (such as consumers, industry, government), but today we will do it based on the geographic representation in the room.

Source: Institute for Building Efficiency, WRI
Stakeholder engagement: hands on tool for policy assessment

Sample

Building energy codes require minimum thresholds for energy efficiency and serve as a common policy instrument for improving the efficiency of new buildings. Within this category, we include whole building design and construction requirements, performance requirements, as well as appliance, equipment and lighting efficiency requirements.

<table>
<thead>
<tr>
<th>Current Status</th>
<th>No policy or planning currently in place (1)</th>
<th>Planning to pilot or implement policy (2)</th>
<th>Piloting the policy on a limited basis (3)</th>
<th>Limited or sub-national level implementation (4)</th>
<th>Comprehensive national level implementation (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desired State</td>
<td>Short Term (2 years)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Long Term (10 years)</td>
<td></td>
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</tr>
</tbody>
</table>

Source: Institute for Building Efficiency, WRI
Stakeholder engagement: hands on tool for policy assessment

Building Energy Codes

Building energy codes require minimum thresholds for energy efficiency and serve as a common policy instrument for improving the efficiency of new buildings. Within this category we include whole building design and construction requirements, performance requirements, as well as appliance, equipment and lighting efficiency requirements.

Source: Institute for Building Efficiency, WRI
Stakeholder engagement: hands on tool for policy assessment

Policy map

Source: Institute for Building Efficiency, WRI