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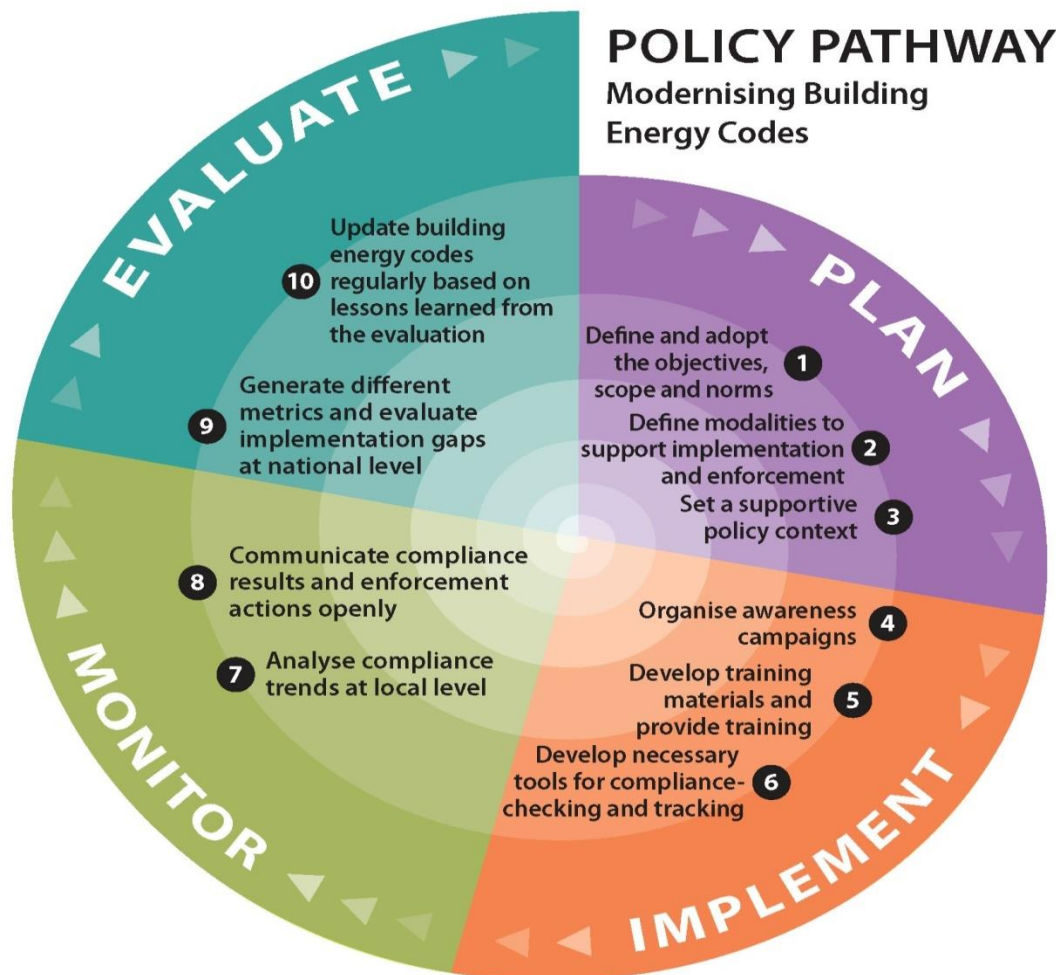
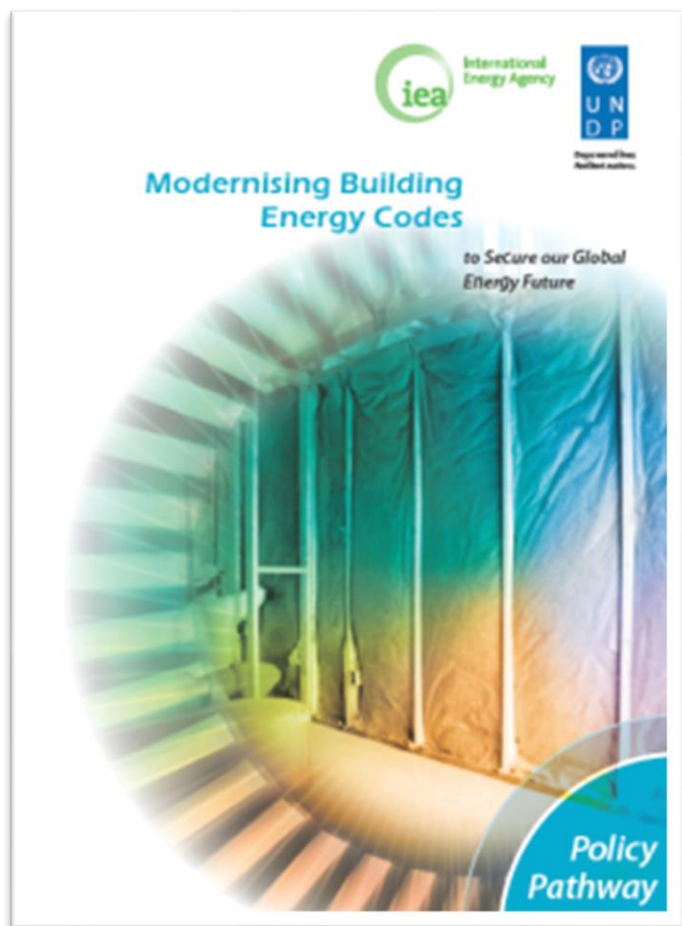
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Building Efficiency Accelerator Webinar Series

Understanding the process of creating codes

Building Energy Codes: *Modernising Building Energy Codes*



Building Energy Codes: 4-Part Governance

ASSESS, DEVELOP & IMPROVE

IMPLEMENT

- **Technical Lead:**
TBD
- **Policy Lead:**
TBD
- **Support:**
Stakeholders

1.
Plan
&
Development

2.
Adoption
&
Adaptation

- **Lead:**
Implementing jurisdiction
- **Technical Support:**
TBD
- **Policy Support:**
TBD

- **Lead:**
TBD
- **Support:**
Stakeholders

4.
Review
&
Update

3.
Enforcement
&
Certification

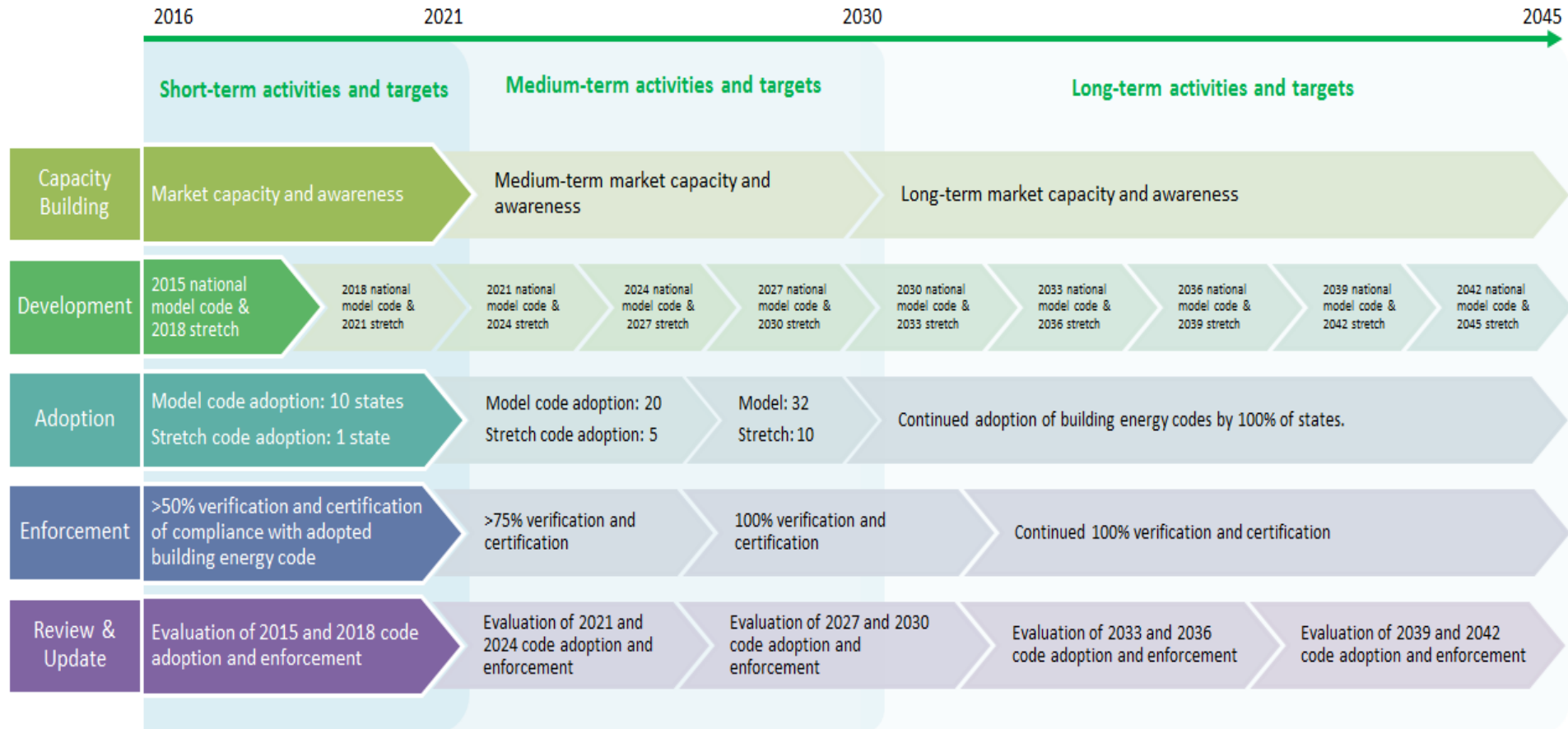
- **Lead:**
Implementing jurisdiction
- **Support:**
TBD

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Building Energy Codes:

Roadmaps are critical for harmonisation

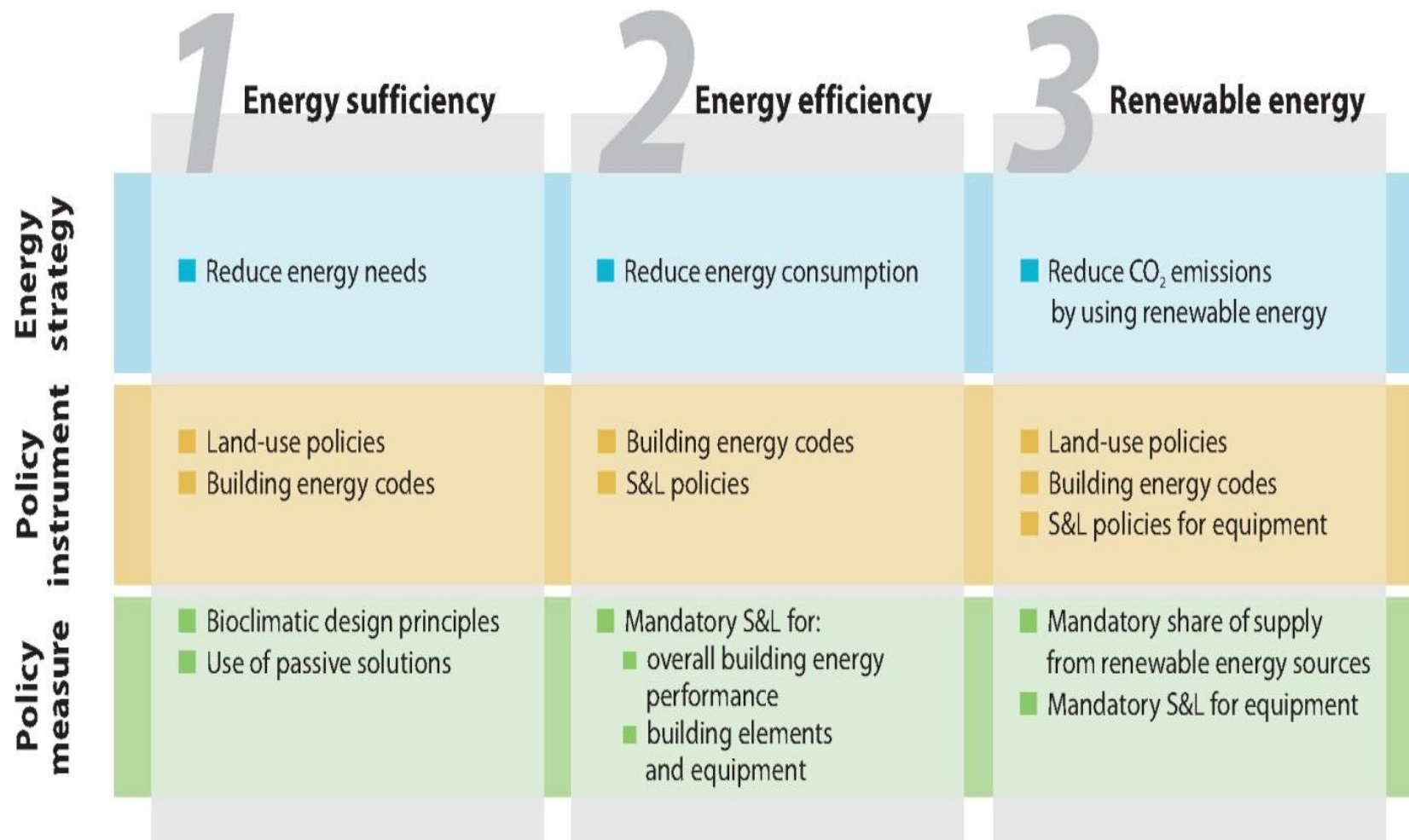
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Building Energy Codes: *Sufficiency, Efficiency, Renewable*

Items to consider in the Plan and Develop Stages



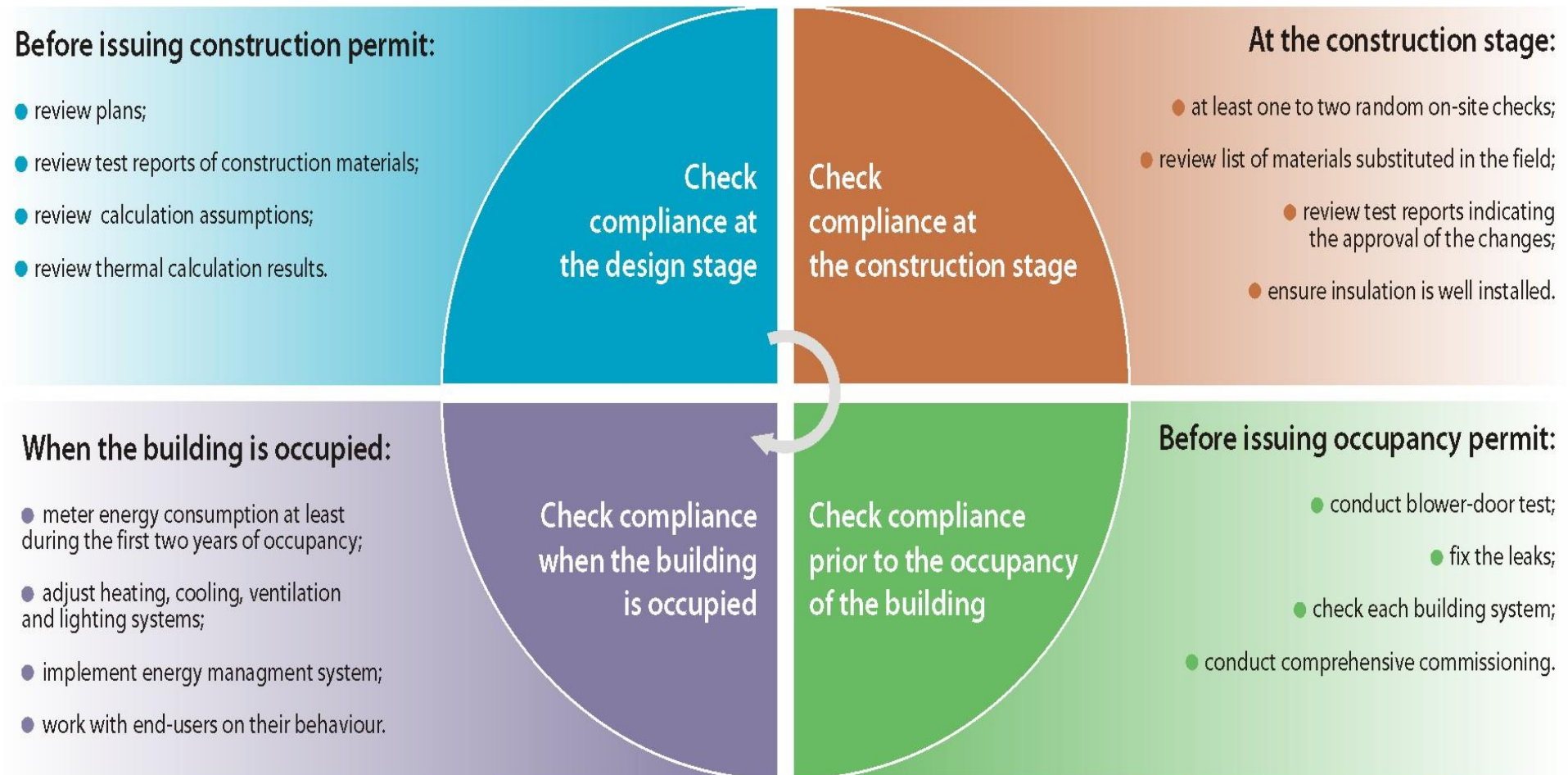
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Building Energy Codes

Most Effective Policy to Impact Construction

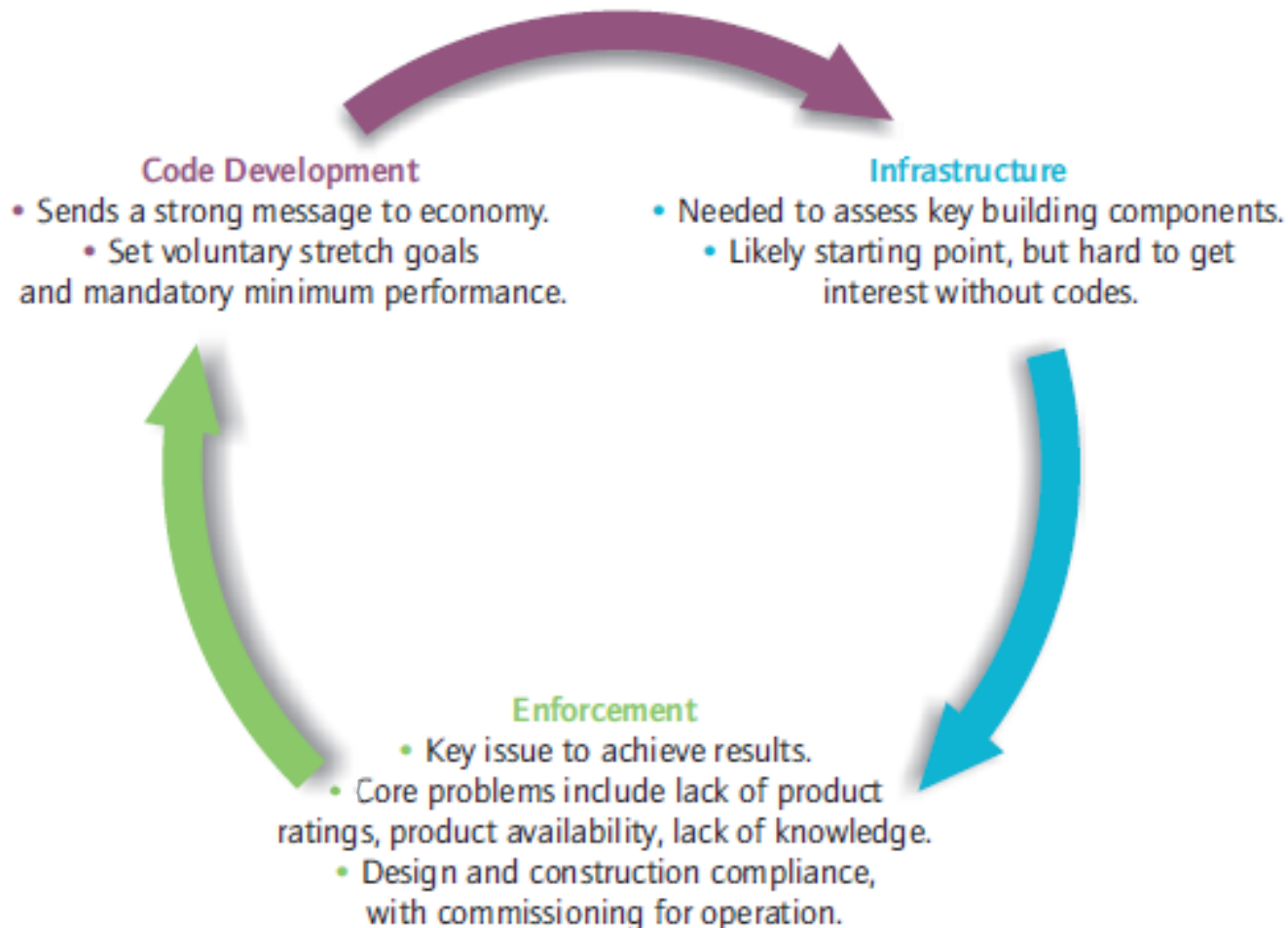
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Items to consider in the Implementation Stage



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Understand that these policies impact the economy





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*Reporting and reviewing progress through IEA's
Building Energy Efficiency Policy database*

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Addressing Climate Change Database

The Dealing with Climate Change policies and measures database provides information on energy-related policies and measures taken or planned to reduce greenhouse gas emissions.



IEA/IRENA Global Renewable Energy Policies and Measures Database

The IEA/IRENA Global Renewable Energy Policies and Measures Database provides information on policies and measures taken or planned to encourage the uptake of renewable energy in all IEA and IRENA Member countries and signatories.



Energy Efficiency Database

The Energy Efficiency Policies and Measures database provides information on policies and measures taken or planned to improve energy efficiency. The database further supports the IEA G8 Gleneagles Plan of Action mandate to "share best practice between participating governments", and the agreement by IEA Energy Ministers in 2009 to promote energy efficiency and close policy gaps.



Building Energy Efficiency Policies (BEEP) Database

The BEEP database was launched in 2012 as part of the work of the IEA's Sustainable Buildings Centre (SBC). It provides a detailed breakdown of policies for energy efficiency in buildings around the world, including those supporting buildings codes, labels, incentive schemes and zero-energy buildings.

PAMS database: Energy Efficiency Policies & Measures

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This map is without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

PAMS database: Energy Efficiency Policies & Measures

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Advanced search

Countries

- + Regions
- + Countries

25 Energy Efficiency Recommendations

- ☐ Appliances and equipment
- ☒ Buildings
- ☐ Cross-sectoral
- ☐ Energy Utilities
- ☐ Industry
- ☐ Lighting
- ☐ Transport

Policy Status

- ☐ Ended
- ☐ In Force
- ☐ Planned
- ☐ Superseded
- ☐ Under Review

☐ Search only recently updated policies

Policy Type

- + ☐ Economic Instruments
- + ☐ Information and Education
- + ☐ Policy Support
- + ☐ Regulatory Instruments
- + ☐ Research, Development and Deployment (RD&D)
- + ☐ Voluntary Approaches

Effective between

Select ▼ and Select ▼

Search by keyword(s)

Energy Efficiency Policy Targets

- + ☐ Buildings
- + ☐ Commercial/Industrial Equipment
- + ☐ Energy Utilities
- + ☐ Industry
- + ☐ Lighting
- + ☐ Residential Appliances
- + ☐ Transport

Jurisdiction

- ☐ International
- ☐ National
- ☐ State/Regional
- ☐ Municipal

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EE Policy Recommendations

Buildings

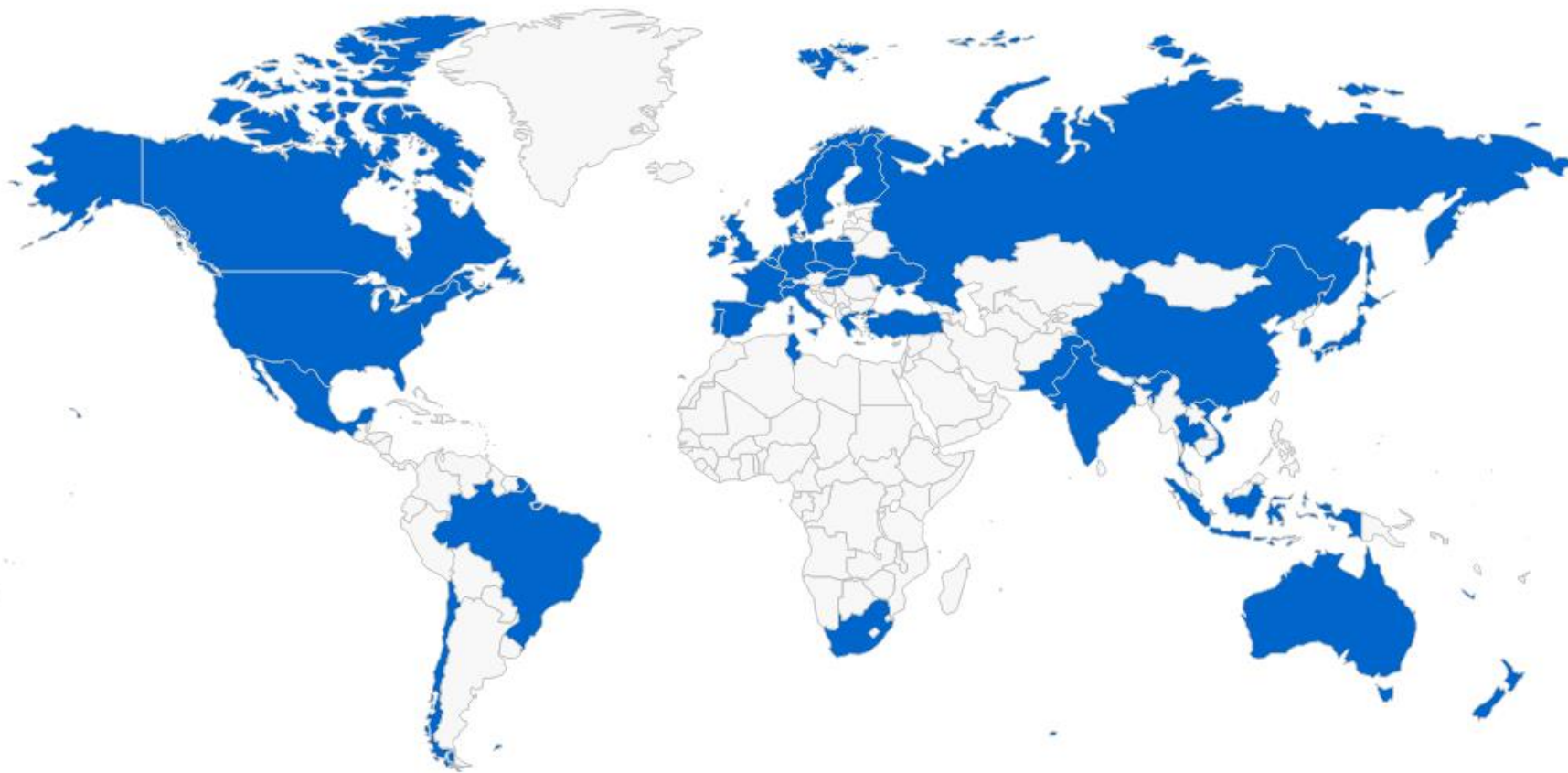
- 6** Mandatory building codes and MEPS
- 7** Net-zero energy consumption in buildings
- 8** Improved energy efficiency in existing buildings
- 9** Building energy labels or certificates
- 10** Energy performance of building components and systems

www.iea.org/topics/energyefficiency/publications/energyefficiencypolicyrecommendations

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+
-



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BEEP

Search policies

Country

- + ☐ Australia
- ☐ Austria
- + ☐ Belgium
- ☐ Brazil
- + ☐ Canada
- + ☐ China
- ☐ Czech Republic
- ☐ Denmark
- ☐ Finland
- ☐ France

Reset Search

Type

- ☐ Codes
- ☐ Incentive
- ☐ Labels

Building type

- ☐ New residential
- ☐ Existing residential
- ☐ New non-residential
- ☐ Existing non-residential

Requirement type

- ☐ Mandatory
- ☐ Model Code
- ☐ Voluntary

Search by keywords

Policies

Codes

Alberta Building Code 2011	New residential	Alberta
National Building Code of Canada 2010	New residential, New non-residential, Existing residential, Existing non-residential	Canada
National Energy Code of Canada for Buildings 2011	New residential, New non-residential	Canada
Ontario Supplementary Standard SB-10 2011	Existing non-residential, Existing residential, New non-residential, New residential	Ontario
Ontario Supplementary Standard SB-12 2011	Existing residential, New residential	Ontario
Quebec E-1.1 2012	New residential, Existing residential	Quebec

Labels

BOMA BEST (Building Environmental Standards) Version 2
 ENERGY STAR Portfolio Manager Benchmarking Tool
 LEED Canada (2009)
 LEED Canada (Existing Building: Operations & Maintenance)

Incentives

ecoENERGY Retrofit (2007)

Prescriptive Compliance path

Prescriptive Compliance Path

Prescriptive requirements apply to building envelope components, heating ventilating and air conditioning equipment, and potable water heating equipment.

Energy Requirements:

Insulation

Building assemblies above ground:

U-Values (W/m2.K)	Floors	Roofs, Attic	Roofs, Other	Walls
Climate zone 4	0.214	0.145	0.214	0.360
Climate zone 5	0.214	0.115	0.214	0.325
Climate zone 6	0.214	0.115	0.214	0.325
Climate zone 7A	0.199	0.096	0.199	0.325
Climate zone 7B	0.199	0.096	0.199	0.385
Climate zone 8	0.199	0.096	0.199	0.385

Building assemblies in contact / below the ground:

U-Values (W/m2.K)	Floors, heated	Floors, above the frost lint	Roof	Walls
Climate zone 4	0.431	0.510	0.510	0.503
Climate zone 5	0.431	0.510	0.510	0.336

Performance Compliance path

Energy Performance Compliance

Performance compliance calculations determines the annual energy consumption of a reference house and sets the minimum energy target for the proposed house to that level.

Energy Requirements:

Insulation

Reduction is limited by health and safety requirements.

Windows

Where fenestration and door to gross wall area is less than 17%, the reference house is set to 17%. Where fenestration and door to gross wall area is greater than 22%, the reference house is set to 22%.

Air Leakage

An assumed building airtightness of 2.5 air changes per hour (ACH) is applied to the reference house. The proposed can measure airtightness or use an assumed 2.5 ACH in the simulation.

Space Heating System

Reference house applies a prescriptive type system for the applicable fuel type

Space Cooling System

Reference house applies a prescriptive type system for the applicable fuel type

Water Heating System

Reference house applies a prescriptive type system for the applicable fuel type

Compliance Softwares:

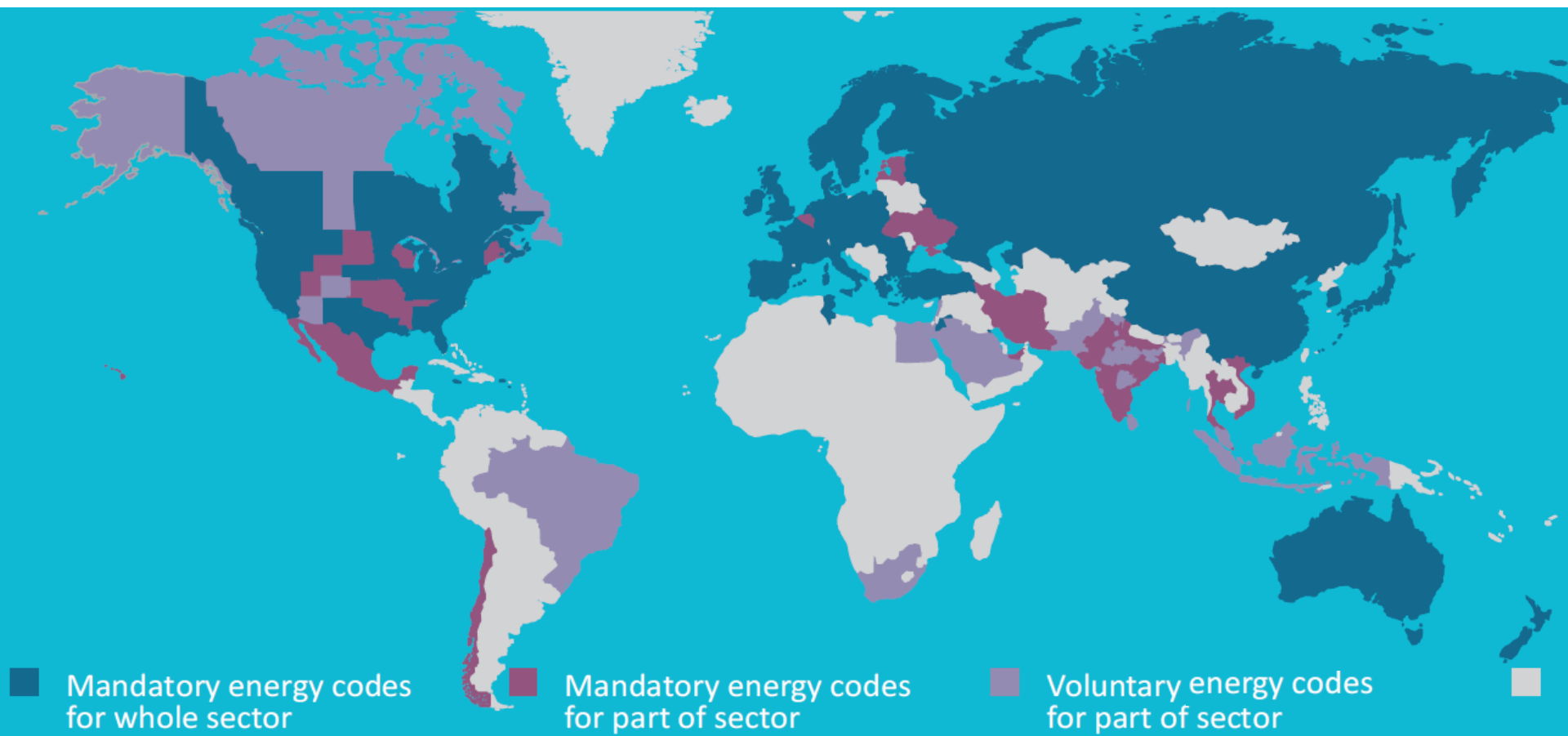
All energy modelling software used for code compliance calculations must conform to ANSI/ASHRAE 140, "Evaluation of Building Energy Analysis Computer Programs"

End-uses considered:

Space cooling, Space heating, Ventilation, Water heating

Building Energy Code Status

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Discussion

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Energy Efficiency Indicators Statistics: Country Practices Database

A supplement to the publication [Energy Efficiency Indicators: Fundamentals on Statistics](#), this database presents practices on collection of data for developing efficiency indicators from a variety of OECD Members and non-Members.

Practices are searchable by country and territory, sector, methodology and type of available documentation. By sharing these experiences, we hope to help countries and organisations to develop their own energy efficiency indicators programmes.

Countries and territories	Sector	Methodology	Available content
<input type="checkbox"/> Albania <input type="checkbox"/> Australia <input type="checkbox"/> Austria <input type="checkbox"/> Belgium <input type="checkbox"/> Bosnia and Herzegovina <input type="checkbox"/> Brazil <input type="checkbox"/> Bulgaria <input type="checkbox"/> Canada <input type="checkbox"/> China	<input type="checkbox"/> Industry <input type="checkbox"/> Residential <input type="checkbox"/> Services <input type="checkbox"/> Transport	<input type="checkbox"/> Administrative sources <input type="checkbox"/> Measuring <input type="checkbox"/> Modelling <input type="checkbox"/> Surveying	<input type="checkbox"/> methodology <input type="checkbox"/> project web site <input type="checkbox"/> questionnaire <input type="checkbox"/> report <input type="checkbox"/> results

Search by keywords

Reset Search