SPoD
Sustainable Building Policies in Developing Countries

Handbook of Sustainable Building Policies

A Policy-Formulation Support Tool

CENTER FOR CLIMATE CHANGE
AND SUSTAINABLE ENERGY POLICY

CENTRAL EUROPEAN UNIVERSITY

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Tools for Building Energy Efficiency: Resources for Policy Design
Building Efficiency Accelerator Webinar Series
March 31, 2016

About the Center for Climate and Sustainable Energy Policy (3CSEP)

3CSEP is the platform for academic, outreach and educational activities at Central European University (CEU) in the fields of climate change and buildings sustainability, whose mission is:

- ❑ to foster solutions to climate change and sustainable energy challenges;
- ❑ while advancing the implementation of development agendas.

See more at **3csep.ceu.edu**

Content of the presentation

❖ About the SPoD project

❖ The key SPoD Tool: the Handbook of Sustainable Building Policies (Handbook)
   ❑ Description
   ❑ Content

❖ How to formulate a policy strategy using the Handbook

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About the SPoD project

❖ **The main objective of SPoD was to develop, test, then promote and disseminate tools that can assist policy-makers in the selection and implementation of policy packages (policy instruments) allowing for the improvement of the environmental, social and economic sustainability of buildings**.

❖ Using the tools, local experts are assisted in the development of draft policy strategies for a more sustainable buildings sector.

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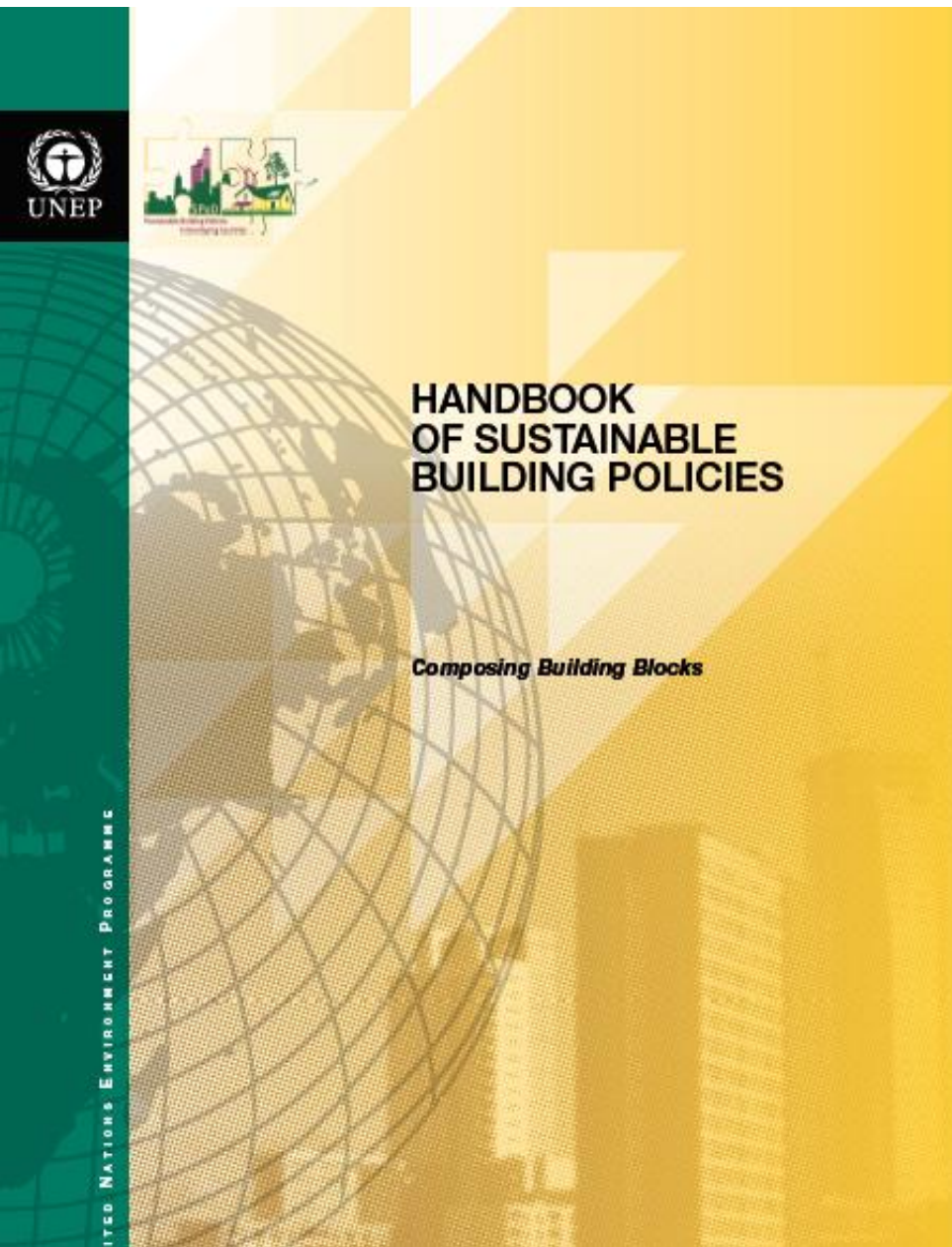
Handbook

Book-format to review prospective or existing policy instruments and/or to obtain guidance for their adequate inclusion as policy building blocks in a policy package.

SPoD

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HANDBOOK OF SUSTAINABLE BUILDING POLICIES

*Composing Building Blocks*

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Why policy building blocks?

❖ A single policy instrument rarely delivers long-term change, particularly when responding to <u>multiple and complex policy goals and barriers.</u>

❖ The Handbook considers each individual policy instrument as a <u>policy building block</u> which can be combined with others to successfully <u>constitute a policy package</u>.

❖ The appropriate combination of instruments into a <u>policy package</u> takes interactions between them (reinforcing, mitigating and neutral) into consideration in order to provide an enhanced response to a set of policy goals.

Scope of the SPoD tools

The Handbook covers 25 sustainable energy policies for the buildings sector reaching out to other sustainable policy areas, such as:

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Air pollution

Water resources

Sustainable energy policies

Construction materials

Social aspects

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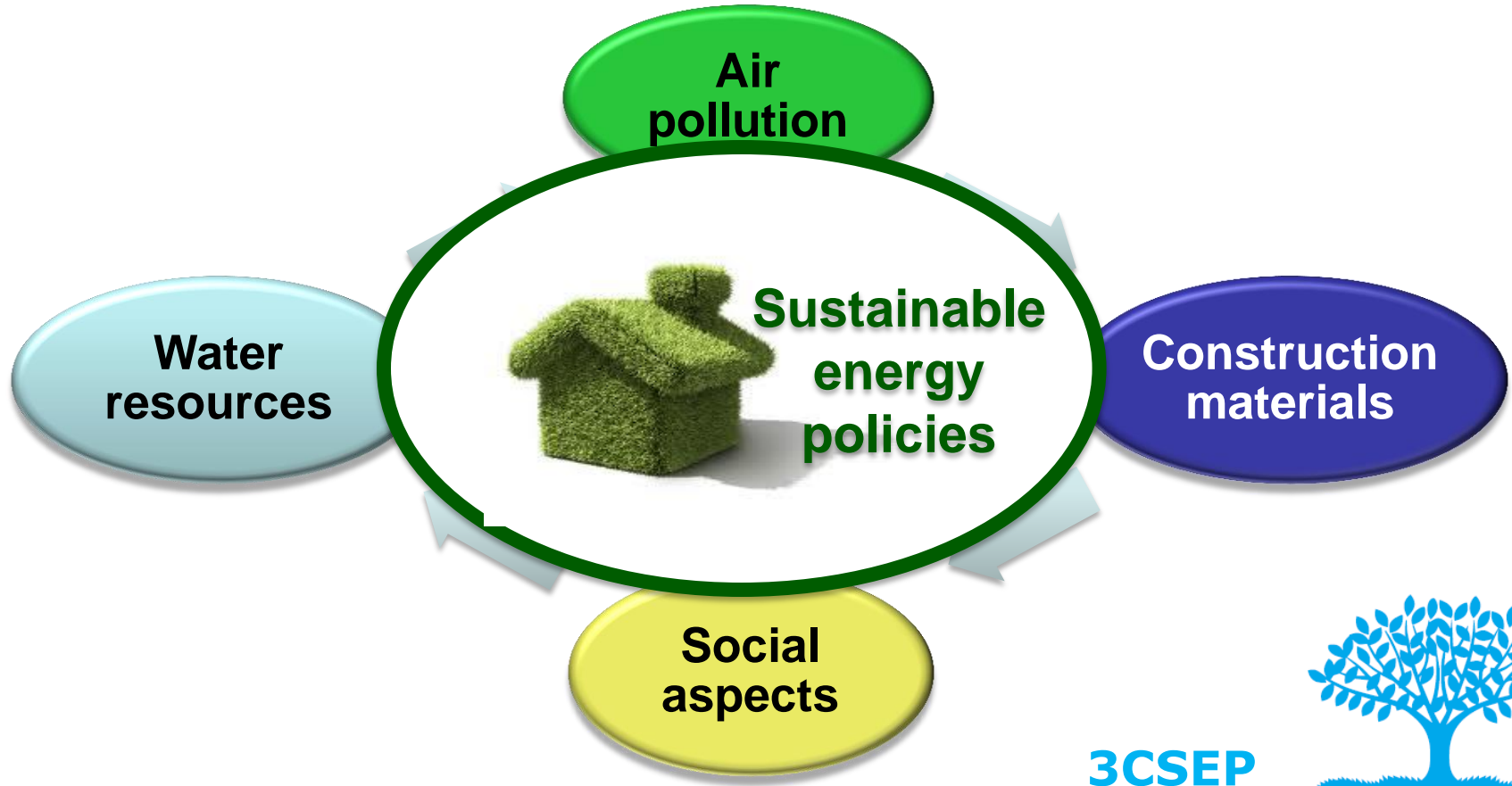
Structure of the Handbook

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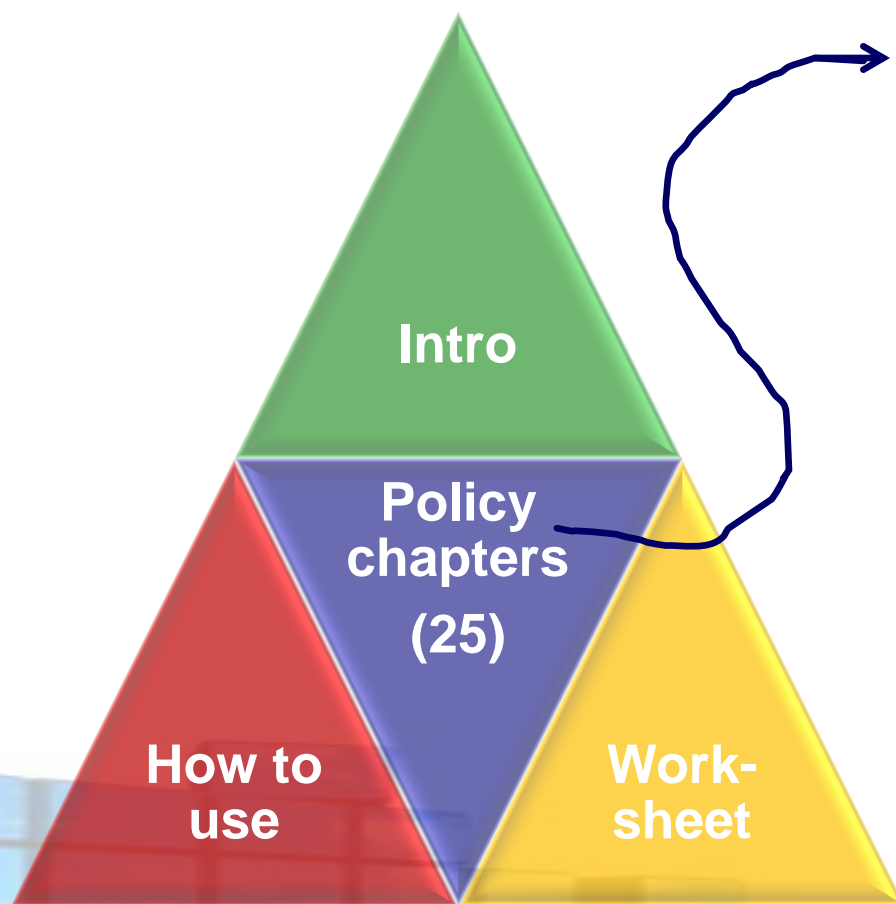
POLICY CHAPTERS
Overview:
   Objective, Definition, Variations

Relevance:
   Level of policy making; Target areas;
   Barriers; Policy goals

Preconditions and recommendations;

Implementation steps;

Combination with other policy building blocks.

Intro

Policy chapters (25)

How to use

Work-sheet

3. Policy instruments

3.1 Product standards

A chapter example: Product standards

| Energy efficiency | Renewable energy sources | Water demand | Construction materials | Air pollution | Social aspects |

A policy instrument chapter: **Preconditions and recommendations**

This section allows users to assess whether the conditions are adequate for the implementation of the instrument and if not, which correction measures, detailed as recommendations, should be introduced. The Worksheet enables Handbook users to summarise the presence or absence of the preconditions in their policy context and, if relevant, the recommended actions.

Preconditions	Score	Recommendations	
Existence of a legitimate, credible and capable leading organization that develops the scheme at national level.	🙂	Continue to the next precondition	
	☹	A government agency should be created or appointed to lead the process, which will need strong collaborative efforts with other agencies and the private sector.	If this is feasible, continue to the next precondition.
			If not, reconsider the introduction of the instrument.
Existence of a complete and coherent policy framework that permits the enactment of product standards (including brand registration and recognition, enforcement of border control and inspection of imported goods).	🙂	Continue to the next precondition.	
	☹	The instrument may not be appropriate given the current situation. Reconsider the introduction of the instrument.	
The leading government agency is able to develop a strong communication strategy, and to initiate an open, transparent and collaborative process with the industry.	🙂	Continue to the next precondition.	
	☹	It may be convenient to strengthen the capacity of the leading government agency through specialized training.	If this is feasible, continue to the next precondition.
			If not, reconsider the introduction of the instrument.
Successful experience(s) of cooperation between the private and public sector. Absence of a strong lobby opposing the program.	🙂	Continue to the next precondition.	
	☹	It may be convenient to introduce at a first stage a product labelling regime or voluntary agreements.	If this is feasible, continue to the next precondition.
			If not, reconsider the introduction of the instrument.
Existence of technical capacity (trained experts, facilities, etc.) to develop and update testing protocols, select products and enforce testing. Existing check and control capacity, preferably including a testing facility to monitor products.	🙂	Continue to the next precondition.	
	☹	A capacity building effort will be necessary. It may be convenient to check the availability of international collaboration for the design of the program. In all cases, regional cooperation is highly recommended.	If this is feasible, continue to the next precondition.
			If not, reconsider the introduction of the instrument.
Inspection capacity at public administration level: although requiring relatively limited technical capacity and man-hours, the instrument needs qualified experts to consistently monitor implementation and ensure correct enforcement.	🙂	Continue to implementation steps (section 4).	
	☹	If hiring and/or training the necessary personnel are not possible, consider introducing voluntary schemes (such as voluntary product labelling, voluntary agreements or a preliminary voluntary product standard) or test the standard on a limited number of products before a full-scale enforcement of product standards.	If this is feasible, continue to Implementation steps (section 4).
			If not, reconsider the introduction of the instrument.

🙂	The precondition exists, move to the next precondition.
☹	The precondition does not exist. If recommendations are provided, check whether it is possible to introduce them.

A policy instrument chapter: **Implementation steps**

3.1.4 Implementation steps

This section presents the general steps recommended for the introduction of the instrument. Users may summarize them in section 4.1. of the Worksheet.

1.	Communicate clearly on the objectives of this instrument and involve stakeholders	Stakeholders to be included are: government agencies, standardization institutes, certification and accreditation bodies, test laboratories, manufacturers and importers of equipment, consumer organizations and NGOs, technological research institutes and product distributors.
2.	Design the standard according to a robust analysis: select target products and areas for performance improvement	The standard should focus on selected products or product groups, identified as most relevant. The optimum efficiency level for the products should be carefully defined. In order to set the level of the performance requirements (in terms of technological improvements, efficiency level, or other ²), consider both: - The expected sustainability benefits (e.g. reduction of energy and/or water consumption, reduction of greenhouse gas emissions), and - The impacts of the standards' implementation on consumers and manufacturers (namely financial impacts related to a potential increase in production/purchasing costs and expected savings). Considering related experiences at the regional level and using international and regional collaboration can provide information to appropriately select target products and define required improvements.
3.	Introduce a legislative instrument to enforce the product standards	The legislative instrument should define the roles and mandates of government agencies in charge of program design, enforcement, testing, monitoring and verification, as well as the penalties for noncompliance. The implementation of the instrument should allow sufficient time for government and the industry to set up all procedures before full enforcement of product standards.
4.	Consider the combined introduction of a mandatory or voluntary labelling of products regime	A labelling regime can provide a transition to the enforcement of standards. Producers should be informed of the duration of this transition. It is also important to consider whether the labelling will remain in place after the introduction of the standard. The transition period while allowing for industry adaptation should not be too long, in order to avoid having out-of-date standard requirements.
5.	Develop testing infrastructure and monitoring methods	Facilities for testing regulated product classes should exist, to enable manufacturers to test their products before entering the market (i.e. **development testing**). Testing may be conducted by government agencies, or by commercial facilities (certified and accredited private laboratories). The procedures for monitoring compliance must also be defined. These should include **verification testing** (testing of marketed products conducted in testing facilities) and **in-store measurements**.
6.	Train government officials	Members of the implementing agencies should be trained on the use of the testing facilities, protocols, and monitoring procedures, either to enforce these procedures or to supervise their implementation by commercial agencies.
7.	Carry out testing and full enforcement	Enforcement should be conducted through the infrastructure and procedures developed (see step 5).
8.	Update product standards and verification procedures	The performance requirements should be continuously reviewed to account for technological improvements and innovation.
9.	Extend the product standards program	The product standard can be extended to target additional products, which should be selected following instructions in step 2.

A policy instrument chapter: **Combination with other building blocks**

3.1.5 Combination with other building blocks

This section presents the interactions between the reviewed instrument - as a policy building block - and other instruments. In particular, the following figure represents the interactions according to the sequence of implementation (from top to bottom) and the type of interaction (reinforcement or mitigation), which are further explained at the end of the section. Users may use this section to describe the interactions between building blocks in a pre-selected package and to organize the overall implementation steps of the package in question (sections 4.2 and 4.3 of the Worksheet).

Precursory building blocks	Public leadership programmes	Policy roadmaps and targets		
Core building blocks	Awareness raising, education and information campaigns	Voluntary labelling of products	Voluntary agreements	
	Mandatory labelling of products	**Product standards**	Financial support (grants, tax exemptions and reductions)	
Subsequent building blocks	Sustainable procure-ment regulations	Financial support (grants, tax exemptions and reductions)	Building codes	Energy efficiency obligations /White Certificates	Carbon trading projects

Colour code describing the interaction of each instrument with the reviewed one:

- Reviewed instrument
- Strong reinforcement
- Potential reinforcement
- Strong mitigation
- Potential mitigation

Policy instruments in the tools

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Regulatory-normative	1) Product standards 2) Building codes 3) Sustainable procurement regulations 4) Policy roadmaps and targets
Regulatory-informative	5) Mandatory certification of buildings 6) Certification & labelling of renewable energy solutions 7) Mandatory labelling of products 8) Mandatory audit programs 9) Smart meters roll-outs
Economic & market-based	10) ESCO market promotion 11) Energy efficiency obligations/white certificates 12) Carbon market project mechanisms 13) Net-metering (renewable energy)
Fiscal and incentives	14) Energy or carbon taxes 15) Tax exemptions and reductions 16) Public benefits charges 17) Grants; 18) Soft loans; 19) Preferential mortgages
Support, information, voluntary action	20) Voluntary certification of buildings 21) Voluntary agreements 22) Public leadership programs; 23) Feedback programs 24) Awareness raising; 25) Voluntary labeling of products

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How to use the Handbook

Assessing an individual building block

RELEVANCE

Level of policy making, target areas (Sections 2.1 and 2.2)
Does the building block have an impact on selected and relevant level of policy making, sector and technological target areas?

YES: list them in the worksheet	NO: the instrument has been selected for other attributes. Continue to the next step.

Barriers (Section 2.3)
Does the building block allow users to overcome some of the barriers to energy sustainability?

YES: list them in the worksheet	NO: the instrument has been selected for other attributes. Continue to the next step.

Policy goals (Section 2.4)
Does the building block address some of your policy goals?

YES: mark them in the worksheet	NO: the instrument has been selected for other attributes. Continue to the next step.

RECOMMENDATIONS

Preconditions and recommendations (Section 3)
Are the preconditions favourable?

YES	NO: are the recommendations in place or is it possible to introduce them?
	YES: list them in the worksheet. Continue to the next step. / **NO: if the preconditions are not verified and the recommendations cannot be implemented, reconsider the introduction of the instrument.**

The building block is relevant and applicable : confirm its inclusion in your package

Assessing the package

Repeat the steps above for each of the building blocks to be included in your package.
Are all the building blocks in the package relevant for your context?

YES	NO: review the composition of your package to select appropriate instruments.

Implementation steps (Section 4 & 5)
- Organize your building blocks according to the figure in **Section 5. Combinations with other policy building blocks**
- Assign an order of implementation for the different blocks
- Following the order of implementation decided, combine the implementation steps (section 4) in an implementation schedule (in the Worksheet)

The policy package is justified. Relevant information for its implementation is collected in the Worksheet.

The content in the completed worksheets can be reviewed by a group of experts and policy makers to choose the most relevant package for the policy context.

The Handbook Worksheet

❖ The **Worksheet** included in the Handbook can be used to compile the information gathered through the use of the Handbook about a policy package, thus enabling its comparison with alternative options and prepare a draft proposal for discussion/presentation to stakeholders.

❖ www.unep.org/sustainablebuildingpolicies/pdfs/SPoD-Handbook_final-Full.pdf

The Handbook Worksheet

1 OVERVIEW OF THE POLICY PACKAGE

Please, make sure that you read the sections Introduction and How to use this Handbook before starting to fill in this worksheet.

Constituted by the following policy instruments:

Policy building block 1. _____

Policy building block 2. _____

Policy building block 3. _____

Policy building block 4. _____

	Energy efficiency	Renewable energy sources	Water demand	Construction materials	Air pollution	Social aspects
Building block 1 _____ _____						
Building block 2 _____ _____						
Building block 3 _____ _____						
Building block 4 _____ _____						

2 RELEVANCE

The relevance of the package is assessed in the following sections based on the aptitude of each policy building block to meet the context and the political priorities regarding: level of policy making, targets, barriers and goals. The users are invited to use a qualifier in the column at the right, which may be a plus or a minus or a numeric scale, depending on their needs, to facilitate further analysis.

2.1 Level of policy making

The following table serves to summarize at what level of policy making the introduction of the package is feasible.

Level of policy making	Building block 1: _____ _____	Building block 2: _____ _____	Building block 3: _____ _____	Building block 4: _____ _____	Relevance in the policy context
National level (country or independent regional unit within/ with jurisdiction over the country)					
Local level (city or lower level)					

The Handbook Worksheet

2.2 Target areas

The following table serves to summarize the target areas that the package addresses. You may opt to assess all the areas presented or only those important in the policy context.

Technological areas	Building types according to use and ownership		Building block 1: ___ ___	Building block 2: ___ ___	Building block 3: ___ ___	Building block 4: ___ ___	Relevance in the policy context
Buildings	Existing buildings						
	New buildings						
	Public	Non-residential buildings					
		Residential buildings					
	Private	Non-residential buildings					
		Residential buildings					
Building systems (lighting, air-conditioning, heating)	Public	Non-residential buildings					
		Residential buildings					
	Private	Non-residential buildings					
		Residential buildings					
Products (appliances and equipment)	Public	Non-residential buildings					
		Residential buildings					
	Private	Non-residential buildings					

2.3 Barriers

The following table serves to summarize the barriers that the policy package helps overcome. You may opt to name all those presented or only those that are important in the policy context.

Type of barrier	Barrier	Building block 1: ___ ___	Building block 2: ___ ___	Building block 3: ___ ___	Building block 4: ___ ___	Relevance
Information barriers [1]	Cultural and behavioural barriers [2]					
	Insufficient information or awareness among target actors [3]					
	High rates of illiteracy among consumers					
Economic and market barriers	Efficient/sustainable technologies unavailable					
	High initial costs of sustainable solutions					
	Fragmented market structure [4]					
	Limitations in the typical building design process [5]					
	Split incentives [6]					
	High transaction costs [7]					
Regulatory capacity	Inadequate implementation, e.g. due to limited institutional capacity, including corruption					
	Utility theft or non-payment					

Information about sustainable building solutions and their implementation is often unavailable, incomplete, difficult to obtain and/or unreliable.
Cultural and behavioural barriers include unsustainable everyday practices, tendency to ignore opportunities for energy conservation.

The Handbook Worksheet

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2.4 Policy goals

The following table serves to summarize the policy goals that the policy package helps achieve. You may opt to check and cross all those presented or only those that are important in the policy context.

Policy goal		Building block 1: ___ ___	Building block 2: ___ ___	Building block 3: ___ ___	Building block 4: ___ ___	Relevance
Environment/ resources	Increasing energy efficiency					
	Reducing water demand					
	Reducing waste-water generation					
	Reducing energy peak demand					
	Increasing access to high quality water in buildings					
	Decarbonising the energy supply, increasing the utilization of renewable energy sources					
	Increasing the sustainability of local resource use					
	Limiting land use in urban areas (including indirect land use)					
	Reducing air pollution					
	Supporting climate change adaptation					
Social	Reducing utility costs for the population					

3 PRECONDITIONS AND RECOMMENDATIONS

This section allows users to assess whether the conditions are adequate for the implementation of these building blocks and otherwise, what mitigation measures, i.e. recommendations would need to be implemented. The following table serves to summarize the preconditions that should be in place, and in cases where they are not in place, whether a corrective measure is necessary, or whether it is preferable to reconsider the introduction of the package.

Building block 1: ___ ___	Building block 2: ___ ___	Building block 3: ___ ___	Building block 4: ___ ___
Preconditions which are in place			
Preconditions which are NOT in place. A corrective measure (recommended) will be necessary			

The Handbook Worksheet

SPoD

4 IMPLEMENTATION STEPS

This section begins with the different steps recommended for each policy building block. Subsequently, based on the sequence of introduction of the different building blocks in the package, users are invited to shuffle and merge the implementation steps to make a preliminary proposal of the necessary implementation steps of the package.

4.1 Adapted implementation steps for the each policy building block

The following table serves the purpose of gathering the implementation steps described in the Handbook for each policy instrument, after selecting and adapting them to the policy context by taking into consideration the notes taken in Section 3 (Preconditions and recommendations).

STEP	Building block 1: _____	STEP	Building block 2: _____	STEP	Building block 3: _____	STEP	Building block 4: _____
1.		1.		1.		1.	
2.		2.		2.		2.	
3.		3.		3.		3.	
4.		4.		4.		4.	
5.		5.		5.		5.	
6.		6.		6.		6.	
7.		7.		7.		7.	
8.		8.		8.		8.	

4.2 Implementation steps of the policy package (general)

Using section 5 (combination with other policy building blocks) of the relevant policy instrument chapters, it is possible to make a diagram describing the causal/temporal relations among the policy building blocks constituting the package. In addition, a brief justification can be added explaining the types of interactions between these instruments.

PRECURSORY BUILDING BLOCKS			
CORE BUILDING BLOCKS			
SUBSEQUENT BUILDING BLOCKS			

4.3 Implementation steps of the policy package (detailed)

Based on the scheme generated in 4.2, list the implementation steps that should be followed for the introduction of the policy package, following the recommended order of implementation.

STEP	Name of the step/ Short description	A step of the building block (-s)	Recommended period of implementation(month/year)
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			

Steps to develop a policy strategy

Consulting experts & decision-makers
- The users collect data, in particular: political priorities, state of the buildings, preconditions, existing policy instruments, etc.

Collection of policy instrument candidates
- The users use the data and information collected above to review possible policy instruments in the Handbook and select a few (up to 5-6) candidates.

Select the most appropriate policies
- Using sections 1, 2, 3 of the Worksheet, users explore the qualities of and requirements for the draft list of policy instruments and shortlist ca. 2-3 that work also in a package

Drafting policy strategy proposal
- Using the Worksheet (part 4) as a formula users develop a policy strategy proposal, including relevant reasoning/explanation

Existing policies — Policy roadmaps and targets, Public leadership programmes, Sustainable procurement regul... effective

Recommended policies — Introduce Product standards, Improve ESCO market promot..., Improve Building codes, Introduce Mandatory labelling

Building block 1:
Building block 2:
Building block...

Preconditions which are in place

4.3 Implementation steps of the policy packag...

Based on the scheme generated in 4.2, list the imple... for the introduction of the policy package, following th...

STEP	Name of the step/ Short description	A step of the building block...
1.		
2.		
3.		
4.		

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Thank you for your attention!

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benigna@greendependent.org
www.unep.org/sustainablebuildingpolicies/pdfs/SPoD-Handbook_final-Full.pdf