

DRIVING TRANSFORMATION TO ENERGY EFFICIENT BUILDINGS

Policies and Actions: 2nd Edition

Building Efficiency Policy Assessment Tool

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Business Council for Sustainable Energy, Center for Clean Air Policy,
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FOREWORD

Current projections indicate that 70 percent of the world's population will live in cities by 2050. Buildings form the fabric of these rapidly growing urban landscapes. Sustainable development objectives can only be met if we increase the energy and resource efficiency of our buildings, aligning economic, social, and environmental objectives

The UN Sustainable Energy for All initiative aims to double the global rate of improvement in energy efficiency by 2030. This goal is achievable; however, the scale and pace of current actions around the world are insufficient to transform buildings into engines of the sustainable, energy efficient economy. Government policies can accelerate the rate of growth in energy efficiency in buildings.

This report reviews policy options that can accelerate those energy efficiency improvements and introduces a building efficiency policy assessment tool that provides a simple framework to help decision-makers set policy priorities through dialogue and input from key stakeholders.

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BUILDING EFFICIENCY POLICY ASSESSMENT TOOL

Facilitators Guide

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Output Charts



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BUILDING EFFICIENCY POLICY ASSESSMENT TOOL: FACILITATORS GUIDE

Designing a strategy to transform the built environment to be more energy efficient is not a simple process. No single government policy can drive the transformation on its own, but the right combination of policies can help transform buildings to be far more energy efficient over time. The Building Efficiency Policy Assessment Tool presented in this section provides a simple framework to help policymakers begin to design a policy strategy that will achieve transformation in the built environment.

The tool will be most effective when used to assess policy options and priorities for one market segment at a time, such as residential new construction or existing commercial buildings. Market segments might be selected based on potential energy savings, economic impact, or other factors.

The tool provides a framework for structuring discussions in a workshop setting with key stakeholders from across the building efficiency market, including government, civil society, and the private-sector. Stakeholders that might be involved include national, sub-national and municipal governments, architecture and engineering firms, energy service companies, building equipment/appliance/controls manufacturers, building materials manufacturers, energy service providers, financial institutions, real estate management companies, and non-governmental organizations (NGOs). The recommended workshop agenda includes three activities – visioning, assessment, and action planning.

THE BUILDING EFFICIENCY POLICY WORKSHOP

The most important step in organizing a policy workshop is inviting the right set of stakeholders. The goal should be to have balanced representation from all key stakeholder groups – public sector, private sector, and NGO. Participants should have a comparable and complementary level of knowledge of market conditions and opportunities. If the differences in experience or position are too large, it will be difficult to maintain engagement and build consensus around specific strategies. Workshops that include 15–30 diverse stakeholders will be large enough to facilitate active collaboration without being so large as to inhibit discussion. Figure 1 provides an overview of the flow of a workshop.



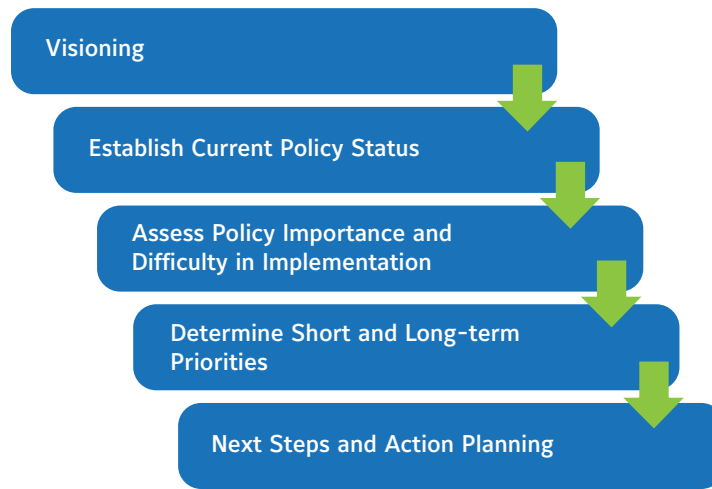
The right combination of policies can help transform buildings to be far more energy efficient over time.

The policy assessment tool provides a simple framework to help policymakers to set policy priorities with input from stakeholders.

The assessment tool supports a collaborative process for exploring building efficiency policy options based on local importance and difficulty, as well as current policy status and the desired suite of policies for implementation.

The tool includes a facilitators guide for how to run a workshop, templates and analysis tools. The workshop is designed to support consensus-based, multi-stakeholder collaboration and uses visual tools to build consensus and prioritize building efficiency policy options and strategies.

Figure 1.
Flow of Building Efficiency Policy Workshop



Source: Institute for Building Efficiency, Johnson Controls Inc. (2012)

The policy workshop has been designed around a nominal half-day format but can be easily expanded or shortened to meet any time frame. The workshop space should ideally include a U-shaped seating area for facilitated discussion and plenty of wall space for hanging flip chart paper and policy assessment sheets. Necessary materials include tent-style name cards, flip chart paper, masking tape, flip chart markers, sticky notes, thin-point markers, sheets of small colored sticky dots (three colors), and the building efficiency policy assessment sheets.

WORKSHOP FACILITATOR'S GUIDE

The workshop should open with a welcome from the sponsoring organization and short introductions from each participant. Tent cards should be used to identify each participant's name and organization. Each participant gets a pad of sticky notes, a thin-point marker and a sheet of small colored sticky dots with the colors assigned to specific stakeholder groups (e.g., green for government, blue for private sector, red for NGO)

VISIONING

The first exercise is a visioning exercise to get the participants thinking positively about how policy can enhance the efficiency of the built environment. The facilitator asks the following:

"If we transported ourselves ten years into the future and were interviewed by a reporter, what would we like to say we had accomplished because of enacting new building efficiency policies?"

Every participant writes a couple of future accomplishments or desired outcomes on individual sticky notes. The facilitator then asks for volunteers to share one of their ideas with the group while grouping the sticky notes into categories on flip chart paper. When all ideas are shared, the flip charts are hung on the wall and the first assessment exercise begins.

ASSESSMENT

Step 1 – Current Policy Status

Have all participants stand near the 10 policy assessment sheets, which have been taped individually to the top of a sheet of flip chart paper and placed along a large wall. The policy assessment sheets include 10 policy options that are included as priorities in the Private Sector Role and Perspectives section of this report. A spreadsheet containing the 10 standard assessment sheets is available in a spreadsheet format in English at <http://bit.ly/K8CDNP>, and in Spanish at <http://bit.ly/Lp59H4>. The assessment sheets can be translated into other languages, and additional ones can be created depending on the needs of the workshop.

The first exercise involves establishing the current state of policy in the region of interest (national, sub-national or municipality). Using the building efficiency policy assessments sheets, each participant assesses what he or she believes the current state of the policy is for the selected sector in the given region by placing one of the colored dots in one of the five areas of each sheet labeled Step 1 - Current Status. The categories are:

- No policy or planning currently in place
- Planning to pilot or implement policy
- Piloting the policy on a limited basis
- Limited or sub-national level implementation
- Comprehensive national level implementation

The participants should be encouraged to ignore the other participants' votes and rely on their first impressions. After everyone has voted, the facilitator should discuss the results of each policy and encourage participants who voted outside of the norm to explain (not defend) why they did so.

Step 2 – Policy Importance and Difficulty of Implementation

The next exercise assesses the relative importance and difficulty in implementing each policy for the specified sector. The assessment sheet includes a 5x5 grid that allows participants to place a colored dot in one of 25 locations, indicating a rating for both importance (ranging from "not at all important" to "extremely important") and difficulty (ranging from "not at all difficult" to "extremely difficult"). The facilitator needs to clearly define both importance and difficulty with the help of the participants so that everyone is using a consistent set of assessment criteria. Building efficiency policies often involve various government ministries, agencies and departments at many levels of jurisdiction at the national, sub-national and municipal levels. The assessment criteria and workshop participation need to be matched to the sector, region and jurisdiction of interest.

The *importance* of each building efficiency policy depends on its potential to:

- Generate energy and carbon reductions
- Reduce energy costs for home and building owners
- Drive economic development
- Attract private capital

The *difficulty* of implementing each building efficiency policy depends on having the requisite:

- Capacity to implement
- Capability to implement
- Readiness to implement
- Willingness to implement

After everyone has voted once on each sheet, the facilitator should discuss the results for each policy and encourage participants who voted outside of the norm to explain (not defend) why they did so. Policies with a large concentration of dots in the lower right hand corner are relatively high in importance and relatively low in difficulty. These would be good options for short-term priorities. Similarly, policies with a large concentration of dots in the upper right hand corner are relatively high in importance and relatively high in difficulty, making them candidates for longer-term priorities.

A helpful next exercise is to have the participants identify the key barriers and challenges facing implementation of each policy (e.g., why implementation is difficult). The facilitator can capture these on the flip chart page located under each assessment sheet. Next, the facilitator should list ideas that participants contribute to address the barriers and challenges and reduce the difficulty of implementation. This is a good time to share examples, case studies and best practices from the *Driving Transformation to Energy Efficient Buildings* report and other sources.

Step 3 – Desired Short-Term and Long-Term Policy States

The next exercise uses the remaining area of the policy assessment sheet to define the desired future states of each policy in the short and long term. It is important that the facilitator define short and long term so that all participants are using the same criteria. If the policy workshop is focused on policies at a national level, then longer time frames are probably appropriate (such as five years for short-term and 10 years for long-term). If the policy workshop is focused on a state or city policy in a specific sector, then two years for short-term and five years long-term may be preferable.

The participants should be encouraged to review the consensus input on current policy status, importance and difficulty before making their selections for desired short-term and long-term states. After everyone has voted, the facilitator should discuss the results for each policy and encourage participants who voted outside of the norm to explain (not defend) why they did so.

The final exercise in the assessment activity is to facilitate a discussion about which policies should be implemented in combination, in both the short and long term, in order to maximize the beneficial impact and improve the chances of success. Many of the policies have natural

complements, such as building codes, performance disclosure and green building rating systems, that should be considered as a group.


NEXT STEPS AND ACTION PLANNING

After the assessment exercises are complete, the facilitator should lead a discussion on the next steps and actions the group should take to maintain interest and momentum in the transformation process. The first priority should be to schedule a time for the group to get back together to review the results of the workshop and develop a strategy and detailed action plan – the who, what, when and where – to gain support and sponsorship for the selected strategies and policy initiatives. This meeting may include additional stakeholders who were not involved in the policy workshop as a way to begin broadening the education, outreach and support for the initiative. The facilitator should be responsible for preparing a report that summarizes the activities of the workshop, including visual output and analysis of the assessment input. A spreadsheet-based report generator has been included in English at <http://bit.ly/K8CDNP>, and in Spanish at <http://bit.ly/Lp59H4> to assist in creating standard charts using input from the assessment sheets.

POLICY ASSESSMENT SHEET

Figure 2 is an example policy assessment sheet included in the Building Efficiency Policy Navigator toolkit.

Figure 2.
Sample Policy Assessment Sheet

		No policy or planning currently in place	Planning to pilot or implement policy	Piloting the policy on a limited basis	Limited or sub-national level implementation	Comprehensive national level implementation
STEP 1	Current Status					
	STEP 3 Desired State	Short Term				
Long Term						
STEP 2	Extremely Difficult					
	Very Difficult					
	Difficult					
	Somewhat Difficult					
	Not at All Difficult					
		Not at All Important	Somewhat Important	Important	Very Important	Extremely Important

Building Efficiency Policy Assessment Tool

Copyright 2012-Johnson Controls, Inc.

Source: Institute for Building Efficiency, Johnson Controls Inc.(2012)

SAMPLE REPORT GENERATOR OUTPUT

Figure 4 is an example of a policy importance vs. difficulty map:

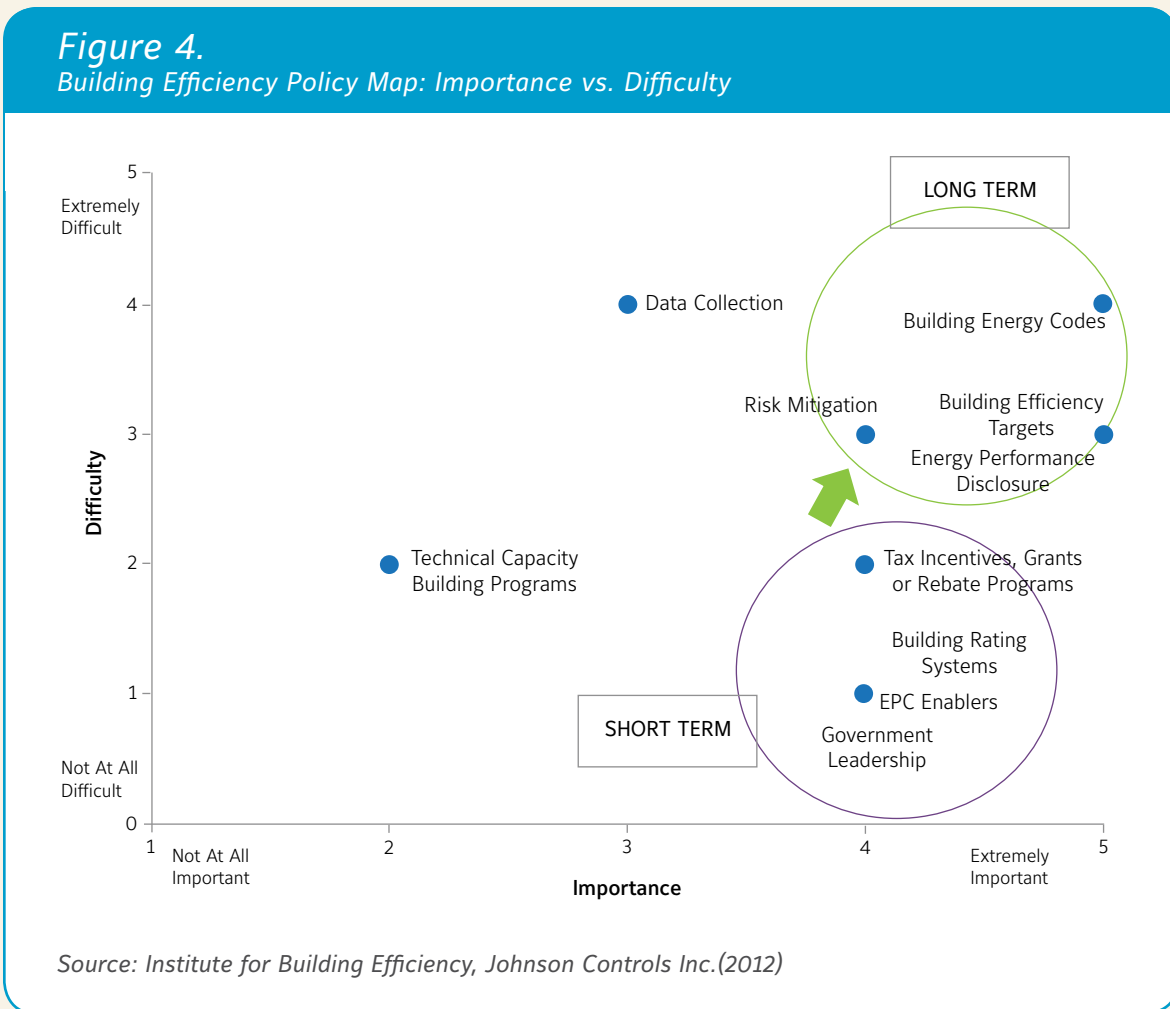
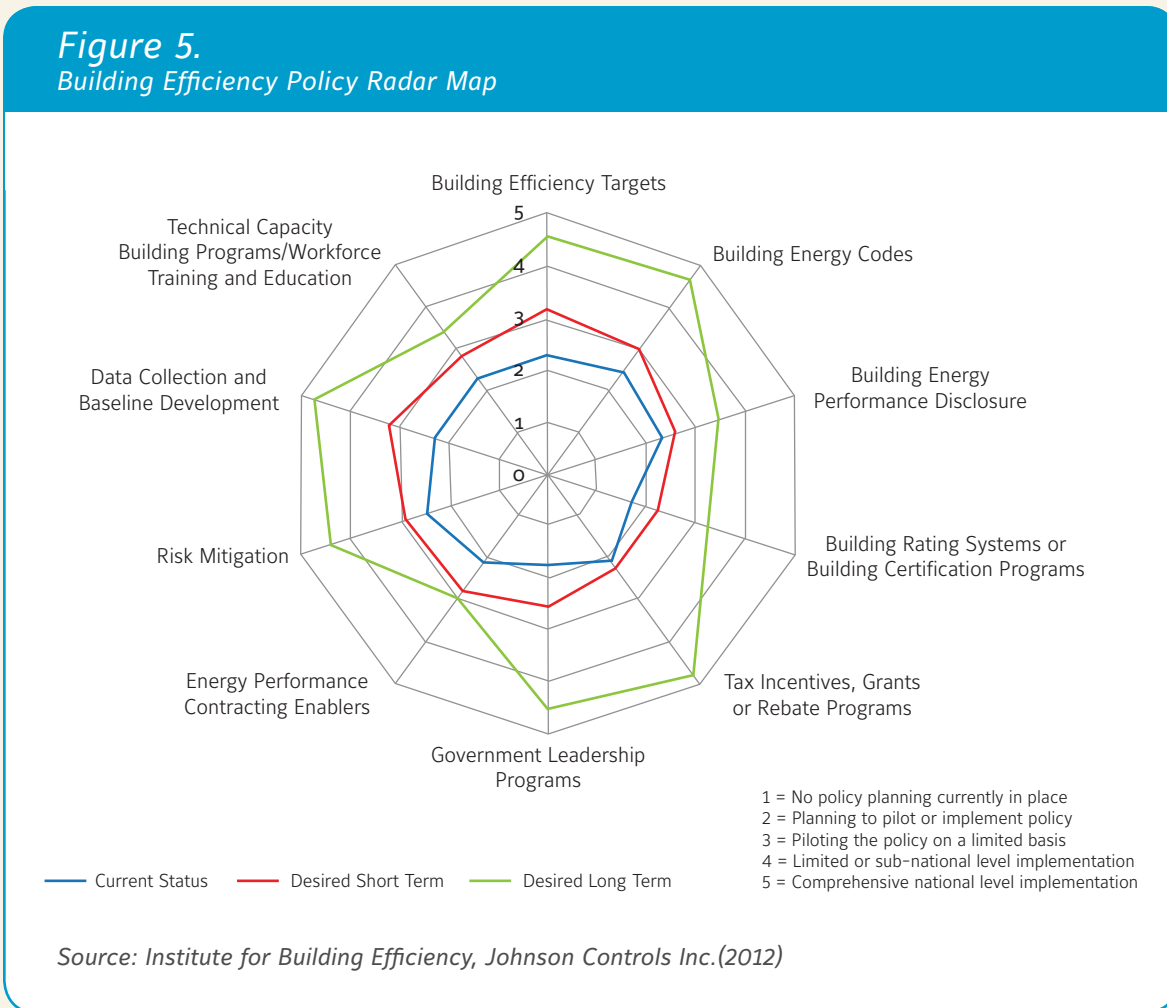


Figure 5 is an example of a policy current and desired status map:



ADAPTING THE TOOL FOR MULTIPLE PURPOSES

The simple framework presented here can be adapted as needed to serve different purposes and audiences. For example, a different version of the tool might be adapted by local policymakers to guide decisions at different levels of government – one tool might focus more on making political assessments, while another might focus on technical questions. The tool also can be adapted to cover additional policy categories and sub-categories as well as to consider additional assessment factors that may be of interest to the stakeholders. We hope the tool and workshop format described in this chapter can help guide and accelerate collaborative, multi-stakeholder efforts to make that critical first step toward transforming the built environment through strategic policymaking.

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BLANK POLICY ASSESSMENT SHEETS

Building Efficiency Targets							
Overarching efficiency targets for the commercial building sector at the local, regional, or national level. Energy efficiency goals, energy efficiency resource standards (EERS) and energy efficiency trading schemes (white certificates) are examples of efficiency targets.							
		No policy or planning currently in place	Planning to pilot or implement policy	Piloting the policy on a limited basis	Limited or sub-national level implementation	Comprehensive national level implementation	
STEP 1	Current Status						
	STEP 3	Desired State					
Short Term							
STEP 2		Long Term					
	Extremely Difficult						
	Very Difficult						
	Difficult						
	Somewhat Difficult						
	Not at All Difficult						
			Not at All Important	Somewhat Important	Important	Very Important	Extremely Important

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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.

		No policy or planning currently in place	Planning to pilot or implement policy	Piloting the policy on a limited basis	Limited or sub-national level implementation	Comprehensive national level implementation
STEP 1	Current Status					
STEP 3	Desired State					
	Short Term					
	Long Term					
STEP 2	Extremely Difficult					
	Very Difficult					
	Difficult					
	Somewhat Difficult					
	Not at All Difficult					
		Not at All Important	Somewhat Important	Important	Very Important	Extremely Important


Building Energy Performance Disclosure

Building performance disclosure requirements give building owners and users information on the energy consumption and carbon emissions of a building and incentivize efficiency improvements.

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STEP 1	Current Status					
	STEP 3	Desired State				
Short Term						
	Long Term					
STEP 2	Extremely Difficult					
	Very Difficult					
	Difficult					
	Somewhat Difficult					
	Not at All Difficult					
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Building Rating Systems or Certification Programs

National or international rating systems for sustainable buildings help to generate a strong market for green and energy efficient products and services.

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STEP 1	Current Status					
	STEP 3	Desired State				
Short Term						
STEP 2	Long Term					
	Extremely Difficult					
	Very Difficult					
	Difficult					
	Somewhat Difficult					
	Not at All Difficult					
		Not at All Important	Somewhat Important	Important	Very Important	Extremely Important


Tax Incentives, Grants or Rebate Programs

Tax credits, incentives, grants and rebate programs can be used to incentivize a range of measures, from purchasing energy efficiency equipment and products to whole building upgrades.

		No policy or planning currently in place	Planning to pilot or implement policy	Piloting the policy on a limited basis	Limited or sub-national level implementation	Comprehensive national level implementation
STEP 1	Current Status					
	STEP 3	Desired State				
Short Term						
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STEP 2	Extremely Difficult					
	Very Difficult					
	Difficult					
	Somewhat Difficult					
	Not at All Difficult					
		Not at All Important	Somewhat Important	Important	Very Important	Extremely Important


Government Leadership Programs

Government adoption of energy efficiency or sustainable building standards for government-owned or leased spaces as well as the procurement of appliances, equipment and IT equipment.

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STEP 1	Current Status					
	STEP 3	Desired State				
Short Term						
	Long Term					
STEP 2	Extremely Difficult					
	Very Difficult					
	Difficult					
	Somewhat Difficult					
	Not at All Difficult					
		Not at All Important	Somewhat Important	Important	Very Important	Extremely Important


Energy Performance Contracting Enablers

Policies that standardize and streamline the energy performance contracting (EPC) process enable more EPC's to be used. EPC's enable up-front energy efficiency investments to be repaid through guaranteed energy savings over time.

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STEP 1	Current Status					
	STEP 3 Desired State	Short Term				
Long Term						
STEP 2	Extremely Difficult					
	Very Difficult					
	Difficult					
	Somewhat Difficult					
	Not at All Difficult					
		Not at All Important	Somewhat Important	Important	Very Important	Extremely Important


Risk Mitigation

Risk mitigation programs spur lending for energy efficiency projects by transferring risk from local financial institutions to either a government entity or a third party lender (i.e., a multilateral development bank).

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	Very Difficult					
	Difficult					
	Somewhat Difficult					
	Not at All Difficult					
		Not at All Important	Somewhat Important	Important	Very Important	Extremely Important


Data Collection and Baseline Development

Reliable and transparent data on building energy use is important for the establishment of baselines and to evaluate the impact of new policies and measures in any given region.

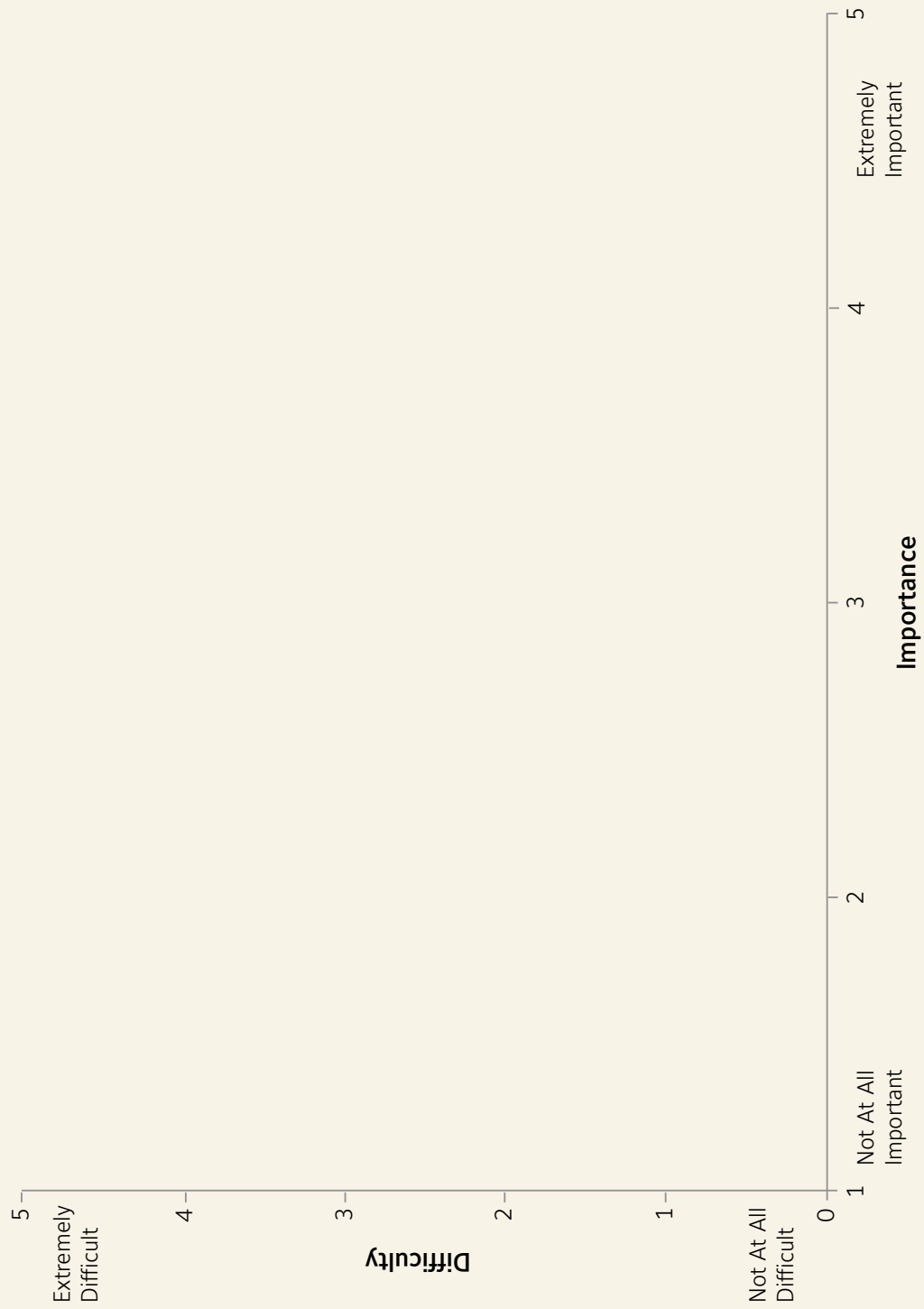
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	Very Difficult					
	Difficult					
	Somewhat Difficult					
	Not at All Difficult					
		Not at All Important	Somewhat Important	Important	Very Important	Extremely Important

Technical Capacity Building, Training & Education

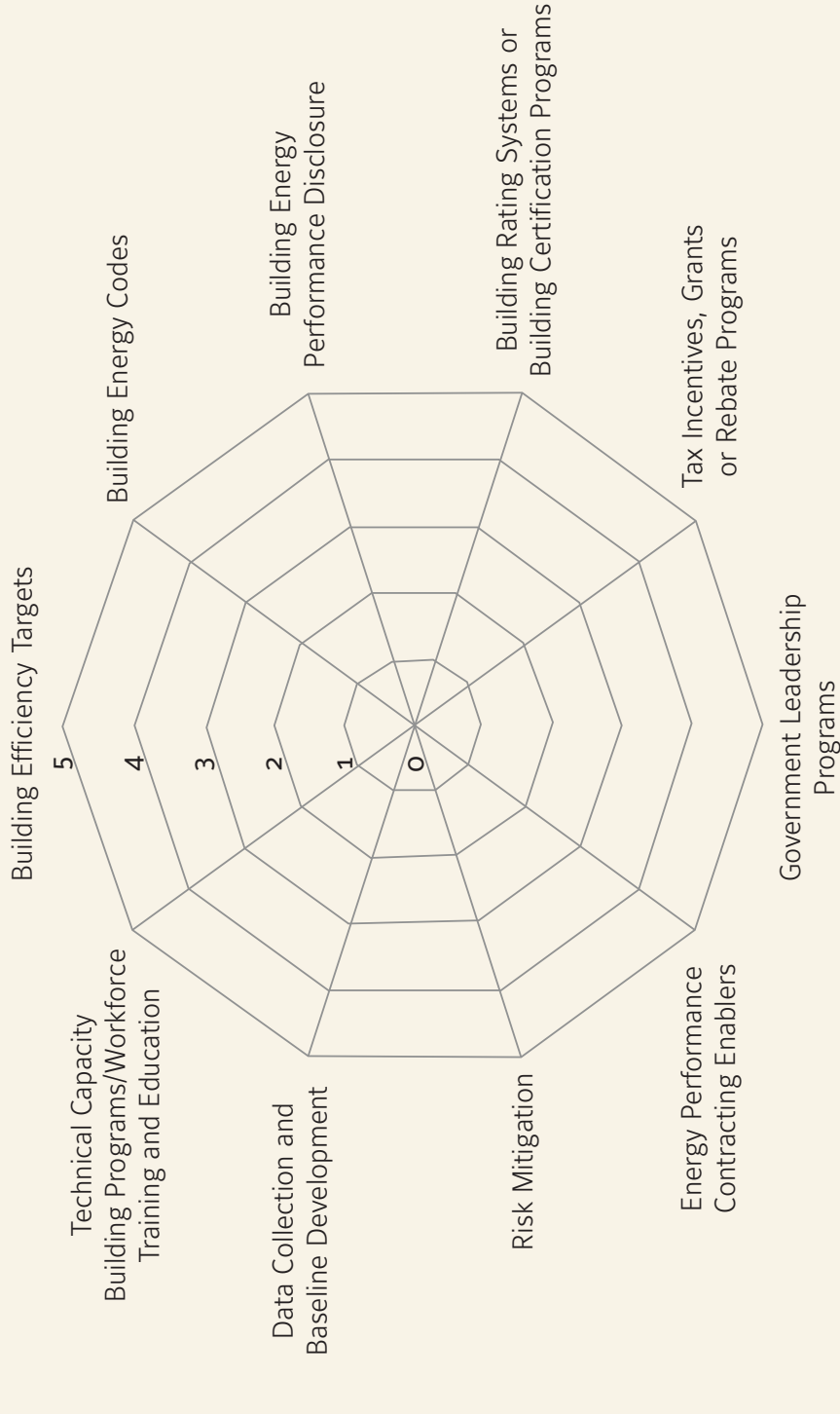
Successful implementation of policies, as well as new market growth, often requires a combination of governance, financial, and workforce capacity as well as technical knowledge.

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	STEP 3 Desired State	Short Term				
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	Very Difficult					
	Difficult					
	Somewhat Difficult					
	Not at All Difficult					
		Not at All Important	Somewhat Important	Important	Very Important	Extremely Important

Building Efficiency Policy Map: Importance vs. Difficulty



Building Efficiency Radar Map



- 1 = No policy planning currently in place
- 2 = Planning to pilot or implement policy
- 3 = Piloting the policy on a limited basis
- 4 = Limited or sub-national level implementation
- 5 = Comprehensive national level implementation

— Current Status — Desired Short Term — Desired Long Term

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The World Green Building Council (WorldGBC) is a network of national green building councils from around the world, making it the largest international organisation influencing the green building marketplace. Green building councils are member-based organisations that partner with industry and government in the transformation of their building industries towards sustainability through the adoption of green building practices. On the ground in 89 countries, GBCs create change in their local markets as a way to globalize environmentally and socially responsible building practices. Visit: www.worldgbc.org



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The U.S. Green Building Council (USGBC) is a Washington, D.C.-based 501(c)(3) nonprofit organization committed to a prosperous and sustainable future for our nation through cost-efficient and energy-saving green buildings. USGBC works toward its mission of market transformation through its LEED green building certification program, robust educational offerings, a nationwide network of chapters and affiliates, the annual Greenbuild International Conference & Expo, and advocacy in support of public policy that encourages and enables green buildings and communities. Visit: www.usgbc.org



The Institute for Building Efficiency is an initiative of Johnson Controls providing information and analysis of technologies, policies, and practices for efficient, high performance buildings and smart energy systems around the world. The Institute leverages the company's 125 years of global experience providing energy efficient solutions for buildings to support and complement the efforts of nonprofit organizations and industry associations. The Institute focuses on practical solutions that are innovative, cost-effective and scalable.

If you are interested in contacting the authors, or engaging with the Institute for Building Efficiency, please email us at: InstituteforBE@jci.com.



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