How Private Sector Led Partnerships Can Drive Energy Efficiency Investment in Global Cities

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Abstract

The World Business Council for Sustainable Development (WBCSD) embarked in 2013 on an experiment to determine whether a localized and coordinated effort, led by the private sector, can drive the uptake in energy efficiency investment in global markets. The experimental project is called EEB 2.0 (Energy Efficient Buildings). The WBSCD has operated in 10 cities[1] around the globe to evaluate how engagement of public and private stakeholders within the building ecosystem can lead to unlocking energy efficiency co-benefits that could increase market-wide energy efficiency investment. In total, the project has convened over 1000 stakeholders around the world that have willingly come together to discuss and recommend actions that address local market challenges in energy efficiency investment. Multi-stakeholder EEB platforms have been established in seven out of the ten markets to date with noted increase in public-private energy efficiency activity in these places.

The WBCSD brings together motivated regional representatives to form a technical committee responsible for managing a stakeholder engagement and assisting with market analysis, called the EEB Laboratory (EEB Lab). The EEB Lab is held by the committee over a three day period to conduct targeted interviews and hold workshops to analyze and report out findings. This sets the stage for a public commitment of resulting actions from the Lab event. The participants are encouraged to develop actions plans, and begin implementation, in some cases coordinate with city officials, to overcome barriers. Using the Houston Lab as a reference, this paper presents an analysis of the key factors impacting the efficacy of the EEB Labs held to date in nine other locations. The analysis demonstrates how influential local governance structures and available and adequate resources are on program impact, and informs optimal strategies for such business-led engagement strategies. While the intent outlined above is the principle objective, it's still too soon to fully assess whether the model has made substantive impact. However, in the markets where engagements have occurred, there has been demonstrated market interest to support the Labs, establishment of several EEB platforms, and in most cases a continuation of committed local resources working to address local issues. Updates on progress of these EEB platforms are regularly posted on the WBCSD website.[2]

Introduction

There are a number of global and local non-governmental organizations (NGO's) involved in improving the efficiency of the world's building stock, with local action deemed as

[1] Warsaw; Houston; Rio; Amsterdam; Jakarta; Singapore; Kuala Lumpur; Bangalore; Jaipur; Shanghai, with early pilots in San Francisco and Shanghai
[2] See www.wbcsd.org/buildings.aspx

essential across the NGO community. However, most NGO's are focused on public sector stakeholders and working primarily with city leadership. Here the outcomes can be strongly influenced by ideological leanings of public officials along with both the public opinion and political will of the individuals involved; not to mention the remaining terms and length of the relevant public position. To support the efforts of these NGOs and to expand the scope of participants dealing with building inefficiency, the WBCSD[3] brings forward, through both its global organization and the strength of its Global Network of national BCSDs, the involvement of the local and regional private sector, which is key to creating the diversity of interests needed to improve building efficiency.

In 2006, the WBCSD launched its initial project on energy efficiency in buildings (EEB) which envisioned a path to commercial net-zero buildings, and published a first ever business perspective on EEB. They also published market based recommendations to address barriers in the uptake of energy efficiency solutions for both new and existing building stocks around the world.[4] The six key recommendations focused on increasing transparency, correcting price signals, integrating solutions, introducing behavior based technologies, addressing workforce capacity, and increasing awareness. To act upon these earlier findings, WBCSD found it imperative to implement a model that promotes local engagement of the public-private sector. WBCSD launched the EEB 2.0 project, and developed a market engagement structure that has been implemented in targeted cities to try to drive investment by the private and public sector in building energy efficiency. The success formula of this public-private structure requires a robust market engagement framework that brings together a variety of local interests, allows an open forum to speak and be heard, and taking what is learned toward action.

Motivation

Many businesses have recognized substantial benefits from investing in energy efficiency within their operations, not only in terms of improving bottom line profitability through energy savings but also in employee satisfaction and productivity, environmental benefits, and enhancing their public image on sustainability.[5] By WBCSD taking their member's favorable economic and multi-beneficial experiences forward into the EEB 2.0 project, business is both taking and leading action for increasing the energy efficiency of the world's building stock.

Global challenges remain around energy security and climate change that directly involve the private sector. The WBCSD business-led agenda creates a collaborative environment where private sector leaders and their subject matter experts can join together to put forward business solutions across multiple sectors. A few years after the first EEB project was completed, leading companies rejoined to form the EEB 2.0 project, for which the intent was to take the recommendations of the first project framed earlier and operationalize them in local markets around the world. The concept of "Climate Global, Action Local" was formed in which

[3] The World Business Council for Sustainable Development (WBCSD) celebrated its 20th year in 2015, making it the longest running and most prominent business led organization on sustainable development in the world. The WBCSD's program is framed by its Action 2020 agenda, whereby the broad membership base can coordinate around sector and cross sector business areas to affect change towards substantially more favorable economic, social and environmental global impact.

[4] See WBCSD, *Facts and Trends, Energy Efficiency in Buildings, Business Realities and Opportunities*; 2007 and *Transforming the Market, Energy Efficiency in Buildings*; 2009

[5] See WBCSD, *Energy Efficiency in Buildings, An Insight from Companies*, 2013, and *A call to action – Energy Efficiency in Buildings Magazine*, 2014

business experts could be offered as the leading voice on progressive discussions in select local markets to try and organize and facilitate a dialog to affect change that increases the local investment in energy efficient buildings. This focus on local markets responds to the diversity and locally adapted nature of the construction industry and the construction value chain. Recognizing this WBCSD strategy was premised on the hypothesis that effective business-led stakeholder engagement could address localized EEB barriers; the local engagements were thought of as a laboratory experiment and subsequently deemed the "EEB Lab".

The EEB Lab and Action Framework

The EEB Lab structure was organized using a stakeholder engagement process developed by the Urban Land Institute for organizing their regionally oriented urban planning workshops. Using their similar 3-day deep engagement structure, the WBCSD's EEB Lab framework early on adopted Otto Scharmer's Theory U, a concept for coordinating group learning around complex issues that evolves from capturing a basic understanding (Sensing), to then deeper refinement (Reflecting), to finally problem solving (Acting) over the learning cycle (See Figure 1).[6] The benefit of such as process is that it allows the more difficult and time consuming task of problem solving to be delayed until the group has reached consensus understanding of core issues.

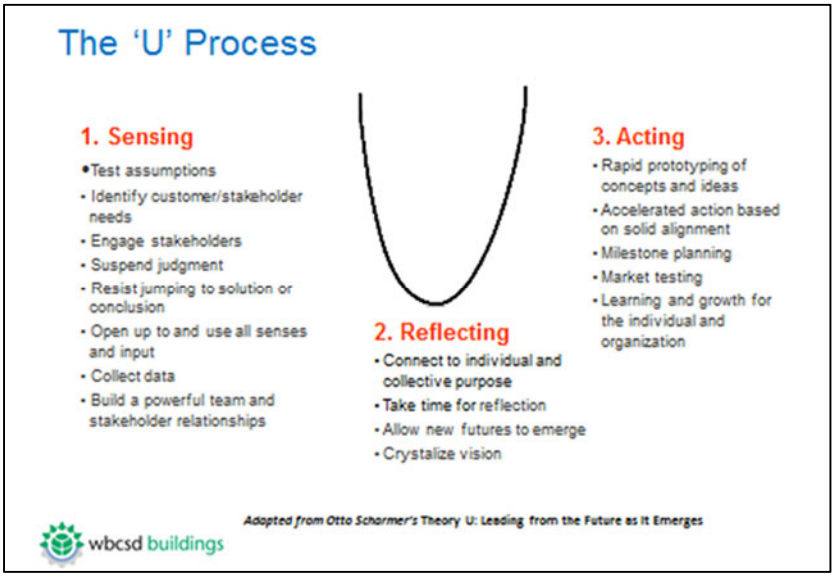

Figure 1. Otto Scharmer's Theory U

Participant identification, screening, selection and diversity are key ingredients for lab success. For each EEB Lab, the local context is critical. The context differs considerably from city to city, so it is important early on to gather as much information as possible about the city's energy efficiency environment. Accordingly, a market survey analysis is conducted to better inform the WBCSD of the cities energy efficiency setting[7]. Prior to the lab, the market analysis

[6] Scharmer, C. Otto; Theory U: Leading from the Future as It Emerges; 2009
[7] The findings of this analysis are also used to inform the questions for the EEB Lab interviews, discussed below.

information will facilitate understanding and identification of the key subject matter experts to be involved in the organization and implementation of the lab. When identifying and engaging important stakeholders, it is critical to allow appropriate lead time for two reasons. First, gaining access to and commitment from them can be difficult. Second, it is essential to get access and buy-in across multiple business, non-government, and government organizations to create the right blend of viewpoints and value metrics. Key stakeholders include senior representatives from business organizations, professional organizations, NGO's, utilities, public officials, financial institutions, and academia[8].

The three day lab is kicked off with a day-long set of interviews with key stakeholders and market participants, such as senior representatives from financial institutions, utilities or local building developers that are involved in energy efficiency projects. The focus is on four key themes which include Awareness, Workforce Capacity, Financing, and Policy (See Figure 2). It is important to secure participation by a key set of diverse decision makers because the EEB Lab is most successful when it can capture a robust set of viewpoints. Stakeholders agree to be interviewed to gather information that helps the group to improve understanding of market issues and barriers to EEB. The interviews are informed by the market analysis performed weeks ahead of the EEB Lab interviews. The deeper understanding and problem solving take place on the second day of the Lab whereby an established Technical Committee (TC), who also makes up sub-groups in the Day 1 interviews, gathers to synthesize content around core themes. The TC is a 25-30 person group of senior level individuals that are local thought leaders, experts, and practitioners representing the diversity of the stakeholder spectrum. A public plenary happens on the third day whereby the findings from the Lab are presented and discussed along with keynote speakers that are regionally significant and help to reinforce the work and themes of the Lab.

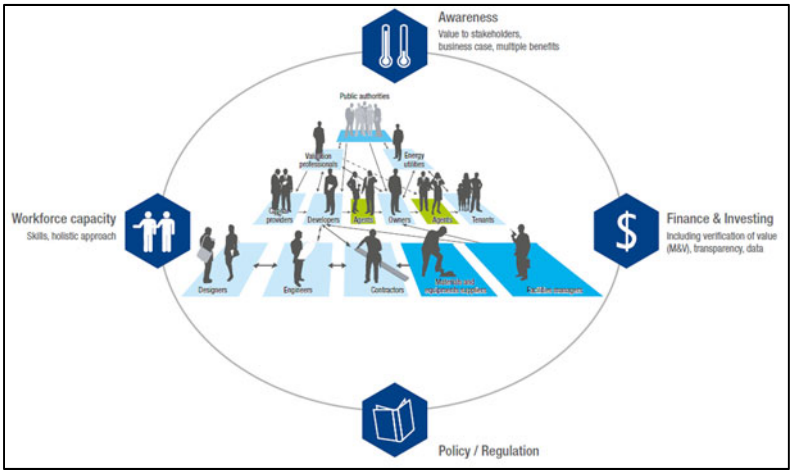

Figure 2. Programmatic Themes Awareness, Workforce Capacity, Financing and Policy

[8] See WBCSD. 2015. *Energy Efficiency in Buildings, Developing Action Plans to Overcome Market Barriers, Why Get Involved in a Market Engagement?*

The EEB Lab is the start of the local market engagement process whereby a deeper understanding of a local market's core barriers on energy efficiency uptake are better understood and a series of recommendations come forward to address them.

Governance Structure Matters

Early engagement testing through pilots held in San Francisco and Shanghai uncovered that while the EEB Lab's format and recommendation structures were well received by local participants, that without a firm commitment in place to take the actions forward, there was little likelihood of impact beyond the Lab event itself. The WBCSD project team concluded that creating a local governance model to see the resulting recommendations taken forward in the form of an action program was critically important.

The first engagements which demonstrated both the concept of the EEB Lab and Action Program were held in Warsaw, Poland and Houston, Texas. Different strategies for governance of the action program were attempted in each case. For Warsaw, both local private and nonprofit organizations volunteered to drive the action program forward based on a perceived importance within the local Polish market. In Houston, the WBCSD project team identified a local nonprofit organization with capacity and capability to drive the local engagement action program under a pay for performance contract relationship. In each case, the local organizations worked to establish the EEB Platform for their region. However, overtime, the Houston model has proved more successful at building momentum and securing regional support.

Governance Model

As a result, in subsequent EEB Labs, as well as now in Warsaw, the Houston model is being deployed to help secure a more sustainable operating model. It is critical in this regard that after one year local resources be identified to carry the EEB Platform forward. The market engagement has three distinct phases that include pre-Lab activities around planning the EEB Lab, the EEB Lab itself, and the post EEB Lab Action Phase. (See Figure 3)

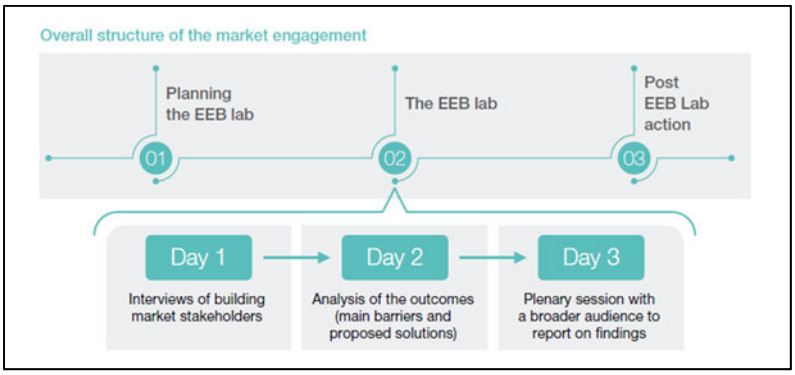

Figure 3. Phases of Market Engagement

During each phase, critical governance structures are needed to both oversee the formation, structure, logistics, and participation of the EEB Lab itself and the subsequent oversight of the Action Program that emerges from the EEB Lab. (See Figure 4. Phased Governance of Market Engagement)

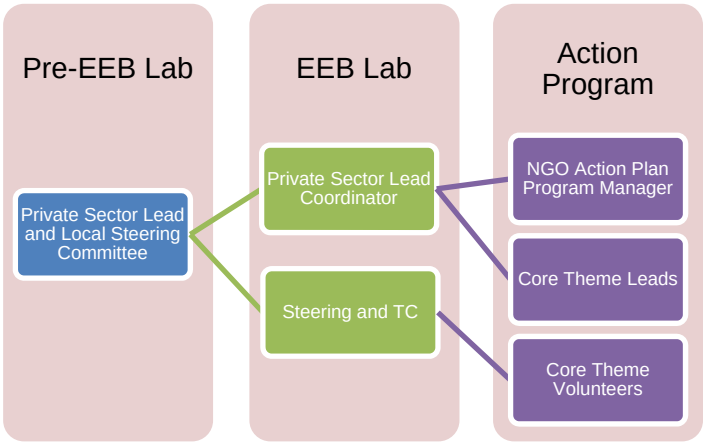

Figure 4. Phased Governance of Market Engagement

Pre-EEB Lab. For the pre-Lab, the first step is to establish the local Steering Committee which is composed of local public and private sector individuals, with one individual that takes on the local leadership of the effort. This Committee will lead the EEB Lab planning, preparation, and logistics. The Steering Committee must create, screen and invite the Lab's participants and subsequent formation of the Lab's Technical Committee (TC)[9]. In particular, the Steering Committee is ultimately responsible for assuring the appropriate stakeholder diversity and mix of the Lab participants, inclusive of public, private and non-governmental sectors. The leader, who must possess good leadership, organizational and communication skills, carries the burden of facilitation and decision making along with budgetary responsibilities to assure the Lab is properly resourced. The leader is selected by the Steering Committee as having the necessary attributes to lead the Lab's formation. The Steering Committee ultimately owns supporting this leader through the Lab's early formation.

EEB Lab. For Day 1 of the Lab the leader must organize the interviews and interview teams among the TC, as well as try to keep the interviews structured towards non-technical aspects[10]. The TC will lead the interview sessions on Day 1. Preparatory surveys among interview participants can help to steer the discussions. For Day 2, the leader must organize a facilitated structure for developing a deeper understanding and reaching consensus among the TC members on the local barriers within the defined core themes as well as organizing the problem solving discussions among them. For Day 3, the leader must assure the plenary agenda is organized and appropriate keynote speakers and moderators have been arranged; and, that appropriate and adequate pre and post media coverage of the EEB Lab is invited to publicize the outcomes and acknowledge key participants.

Post EEB Lab. As the engagement moves towards the Action Phase, a program manager that is likely not the same individual or stakeholder group as the designated Lab leader, and preferably representing a local NGO organization, needs to be retained and resourced to oversee the Action

[9] The technical committee will be responsible for identifying participants for the EEB Lab and driving the EEB Lab interview process and the analysis of these interviews on day 2.
[10] Here we are talking about issues like behavior, awareness, access to capital, and regulation as opposed to technology approaches and design solutions.

Phase of the Lab's outcomes. The Lab leader continues their support during the transition to the Post Lab program manager. Here, the program manager needs to build a leadership team of volunteers to drive the Core Themes (Awareness, Workforce Capacity, Finance, and Policy) forward under the defined recommendations and actions outlined during the Lab itself. Additional refinement and prioritization of the theme's actions is critical in the early stages of the Action Phase so as to parse out areas where early accomplishments can be achieved and longer duration issues are addressed appropriately. Finally, as time progresses, the Core Theme leads will ideally build out a larger group of volunteers that will contribute to the work product undertaken in each of the their respective areas.

Governance Examples

For Houston, efforts were led by Houston Advanced Research Center (HARC), a local NGO, with a favorable reputation for working with the City on environmental and economic issues. (See Figure 5. HARC Post EEB Lab Structure) The EEB subject was a natural fit within the framework of the organization and a particular individual was identified early on with subject matter knowledge and leadership characteristics to assist in driving the action program in the region. When the Action Program was launched, a few months following the EEB Lab itself, about 12 members of the respective Houston EEB Lab TC agreed to lead or join in the efforts locally. Under the HARC's local guidance, these groups formed into four teams around the four core themes mentioned earlier. After its first year, the participation rate in these teams had grown to over 60 members and several resulting actions had been addressed. As well, HARC has secured interest from local sponsors to fund the Platform going forward, thus assuring continuation of the EEB Platform activities ongoing in Houston. See www.eebhouston.org.

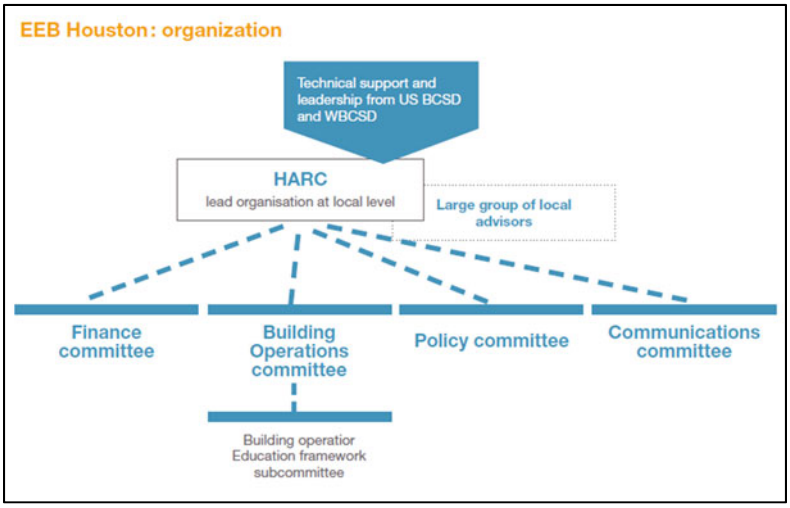

Figure 5. HARC Post EEB Lab Structure

In Poland, positive early momentum developed after the Lab with the EEB Platform Poland forming around two co-chair organizations and member organizations. An action plan with three core action areas on awareness, capacity building and energy efficiency disclosure was developed and confirmed. The most significant development was the involvement of both private sector as well as public sector stakeholders from the national level into the EEB Platform to overcome a high fragmentation in the Polish market. Also, a major regional bank decided to

launch a residential sector retrofit financing scheme based on the findings of the Lab. More recently, the EEB Platform supported the elaboration of a report on energy usage of buildings in Poland, to be launched in June 2016, a first of its kind, having collected information from major private sector real estate developers operating in Poland.

After initial enthusiasm, the participation rate of members taking part in the action program declined rather than grew with the ownership of the Polish EEB Platform belonging to only a few individuals after its first year. The voluntary nature of the engagement of the central persons driving the platform jeopardized the setting up of a sustainable operating model and put a brake on the implementation of actions. This issue has been addressed and an operating model similar to Houston's has been put in place. See http://www.wbcsd.org/work-program/sector-projects/buildings/warsaw.aspx

Engagement Challenges and Recommendations

With the governance model in place, the challenge of the market engagement moves to gaining access to the right people with the right attitude and a willingness to be change agents or participate in the change agenda. As in all situations where potentially large groups of unfamiliar people are requested to come together, there needs to be time built in for socializing, tension breaking, and group forming dynamics to occur. This can be accomplished by organizing skill-types, allowances for formal introductions, pre-meeting dinners, planned social events, longer duration in-day break periods, and "appreciation"dinners to encourage social bonding. Three types of individual characteristics are needed for the Lab to be successful:

- Regional private sector participants and thought leaders (6-10) with known reputations and a broad network that are willing to join the Lab's Steering Committee;
- Regional public, private and non-governmental individuals (20-30) with a known interest and expertise in increasing the regional investments and outcomes for an energy efficient marketplace as possible members of the Lab's TC;
- Regional stakeholders (investors, developers, and owners) (30-40) interested in sharing their stories on energy efficient investments they have made or observed within their building portfolios as information to seed and feed the Lab's discussions and ultimately inform the understanding of local barriers and recommendations towards changing the local marketplace for energy efficiency.

In addition to local stakeholders in the EEB Lab city it is good practice to bring in also public sector participation from a regional, state, and national (or province) level. This will create the necessary links between local and regional/national policy development and enhance the buy-in of all stakeholder, public and private, to drive the action plan forward.

Types of Stakeholders (See Figure 6) to involve will vary to create the diversity of participants needed for a successful engagement. Participants from private sector business and professional organizations (developers, architects and engineers, financiers, supply chain), the academic sector, NGO community, energy utilities, and public offices and officials should be anticipated with each providing an important and contributing perspective on the barriers and recommendations that inhibit the uptake of energy efficiency solutions in their local market.

Figure 6. Types of Stakeholders

After a list of the three characteristics of potential local participants has been created, screened, and prioritized, creative marketing to participants will be necessary so that they will see value to committing their time to these activities. Several types of value propositions will emerge, depending on the representation the stakeholder will make:

- Public Sector: Value in creating a vibrant marketplace for energy efficiency investments that will improve the competitiveness of their city/region; create jobs, enhance economic output (energy productivity), increase property demand, improve air quality from utility emissions reduction, and for public sector properties, reduce public energy expenditures for either tax relief or for reallocation to other priorities.
- For Utilities: Transitioning working capital from increased capacity towards operational and consumer efficiency, meeting mandated energy efficiency resource and emissions standards, reducing emissions and outdated capacity (particularly from coal fired plants), and demonstrating a positive competitive image in the energy utility marketplace.
- Private Sector: For investors/developers, increasing asset value and sustainability of investment portfolio; for owners, reducing energy related expenditures and increasing the indoor environmental quality of their properties; for suppliers; creating deal-flow and upselling for system-level efficiency solutions rather than piecemeal replacement upgrades that can lock-in inefficiencies for decades.
- NGO Sector: Increasing the sustainability impact and leadership reputation of their organizations by enhancing the region's economic, environmental and social benefits.

Finally, cultural aspects need to be considered in creating a robust and open environment for idea exchange and discussions during the various phases of the market engagement. Consideration needs to be given to the influencing role of the public sector in local decision making; regional language preferences for business transactions; and cultural considerations for leadership style and acceptance. For example, the role of the public sector and cultural considerations in China are very different than those found in Brazil. Nonetheless, the Core Themes of Awareness, Workforce Capacity, Finance, and Policy are very fundamental considerations in all markets for addressing the barriers that inhibit uptake of energy efficiency.

Best Practices from the Labs

Given the WBCSD has undertaken and resourced 10 EEB Labs along with its early 2 pilots, the key learnings have evolved in the following areas:

- Identify and recruit the local change agents. The work of creating interest and participation in the engagement structure will not succeed without a commitment from local resources willing to drive this;
- Leverage local organizations, both public and private, with network access to members/contacts. Having access to a large and diverse pool of potential participants will hinge on the nature of relationships and access as defined by the local organizations that are involved. Gaining access to leading public officials and sustainability interests of the city/region will assure easier access and support from public officials during the Action phase;
- Leverage and support planned or on-going EEB initiatives and projects undertaken by the public sector by increasing private sector involvement. This has been demonstrated as an important element that will increase impact, avoid perceived duplication and maximize resource efficiency;
- Establish a high quality of preparatory and interview generated content in order to inform the TC and eliminate knowledge biases. In particular, develop content around the 4 Core Themes, emphasize non-technical discussions and content throughout the EEB Lab process, and seek a facilitated discussion framework that allows open dialog, brainstorming, and gathers input from all participants;
- Develop and put forward actionable recommendations in a visible way (see Figure 7). Keeping the work of the EEB Lab and Action Programs hidden from the public creates an undesirable veil on the activity. To increase the visibility and interest on the work generated, arrange media involvement along with involving an enticing and attractive set of locally known speakers during the plenary. Further, provide an opportunity for individuals and organizations involved in the change efforts to be visible in various ways (media stories, websites, local dialog, etc.) to help to enhance their image in the community as leaders and participants involved with important work for the region;
- Make public commitments to act, expeditiously, continuously and with realism. By outlining the results of the EEB Lab in open plenary, stakeholders express publicly that there will be action taken. It is also good practice to mark an official launch of the EEB Lab action plan and the setting up of a local EEB platform to attract further participants. In the contrary case, if no Action Phase is actually perpetrated or is long delayed, then the

market participants become disenfranchised and the opportunity is jeopardized and will not maintain interest and cause early participant momentum to stall;

- Identify and resource the program manager in charge of driving the action plan following the EEB Lab. Having a local person motivated and involved, along with being reputable with local organizations, to drive the local conversations forward, maintain momentum, create market buzz, and ultimately delivers impactful results will be key to sustaining the Lab's long term impact in its most important form. Houston's EEB Platform has grown five-fold in size from a modest twelve members to well over sixty since its inception. Further, in Houston in late 2015, the EEB Platform team was instrumental in supporting the passage of Houston's first PACE legislation that created a financing mechanism for lower tier properties to pursue energy efficiency upgrades. In early 2016, while awaiting the City's final decision to source its PACE administration organization, there were over $100M of pending PACE projects waiting in the pipeline.

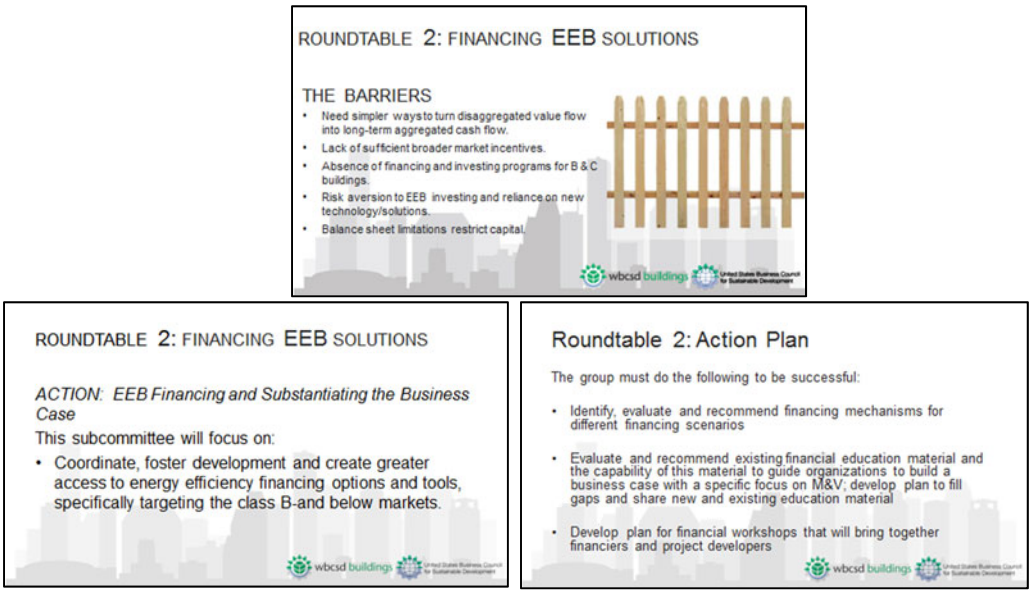

Figure 7 – Houston's Early Action Plan Framework on Financing

Summary and Recommendations

The WBCSD has successfully demonstrated that, under controlled and managed circumstances, local action is achievable on energy efficiency if the right blend of participants, process, and publicity create a pull for action. Critical to their success is the establishment of a governance structure across the phases of the market engagement approach. Local private sector leadership, involvement of locally and regionally involved organizations, and public sector engagement and involvement are very important. Finally, establishing a dedicated program manager, mainly associated with local NGO interests, is required in order to drive the results of the action program forward in the local region. As a principle recommendation, WBCSD should pursue a strategy of scaling up the local multi-stakeholder model to support

development and drive of action plans to help overcome market barriers for energy efficiency in buildings and increase overall market activity and investment. A further consideration will be to pursue scale-up under a partnership arrangement whereby other NGO's or interested organizing institutions can benefit from the experiences of the WBCSD EEB2.0 project along with greater access to private sector participants.

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