

DOUBLING THE RATE OF ENERGY EFFICIENCY IMPROVEMENT

The role of the private sector – March 2014



Dialogue Summary

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In the two years since the Rio+20 Global Summit, the United Nations Sustainable Energy for All (SEFA) initiative has been working with government leaders to support a doubling of the rate of energy efficiency improvement. To analyze the role of the private sector in this effort, the Institute for Building Efficiency (IBE) convened a group of European and international experts in a Roundtable Dialogue on March 24, 2014. The group met in Monaco, concurrent with the 2014 Euro-Mediterranean Energy Efficiency Forum. The discussion focused on how the private sector can help accelerate change to achieve the SEFA goal.

BACKGROUND

The building sector accounts for about one-third of global energy use and energy related GHG emissions. Widespread implementation of state-of-the-art policies, building design and technologies, coupled with behavior change could deliver reductions in energy demand from new and existing buildings of over 50% compared to business as usual (IPCC, 2014). Achieving such savings would not only significantly reduce GHG emissions, but also produce additional comfort, health, environmental and economic benefits. Essential to achieving such savings is the mainstream adoption of progressive sustainable energy policies for buildings that encourage best available technologies, low-energy new building design and energy efficiency renovation.

By leveraging the most effective government policies and practices from around the world, by entering public-private partnerships, and by connecting energy efficiency initiatives, the private sector can accelerate progress toward the SEFA energy efficiency goal.

Before the March 24 European Roundtable, the Institute for Building Efficiency identified three key actions governments could undertake to significantly reduce building energy use and resulting carbon emissions. These actions, when orchestrated with supportive activity by the private sector, can significantly scale energy efficiency. They are:

- Demonstrating government leadership by setting building sector energy reduction targets, upgrading the energy performance of existing government buildings and leased space, and constructing new buildings to high efficiency standards.
- Increasing market demand for efficient buildings by requiring disclosure of building energy performance and providing tax incentives for energy efficient renovation and new construction.
- Attracting funding from private-sector financial institutions.

The purpose of the Monaco discussion was to create exchange of ideas around these actions between the public and private sectors, and to connect a variety of existing and emerging energy efficiency initiatives. A key outcome was to highlight the role of the private sector as a strategic partner to help replicate successful initiatives in different markets around the world.

Participants in the roundtable included:

Adrian Joyce, The European Alliance of Companies for Energy Efficiency in Buildings (EuroACE)

Alessandro Porta, Johnson Controls

Alfons Westgeest, Association of European Automotive and Industrial Battery Manufacturers (EUROBAT)

Anda Ghiran, Johnson Controls

Andries Gryffroy, Flemish Energy Company

Arthur Neslen, EurActiv

Ben Ferrari, The Climate Group

Christian Klever, IWC Schaffhausen

Clay Nesler, Johnson Controls

Cyril Gomez, Principality of Monaco

David Goatman, Knight Frank

Dirk Meire, Flemish Energy Company

Etienne Cadestin, Knight Frank

Harry Verhaar, Philips

Healthier Rogers, ENERGIES 2050

Henri Mardegan, Johnson Controls

Iliana Axiotiades, Johnson Controls

Ivan Hutter, GE Lighting EMEA

Jennifer Layke, Johnson Controls

Jérémie Carles, Principality of Monaco

Jonathan Maxwell, Sustainable Development Capital LLP

Mark Hopkins, UN Foundation

Mark Kenber, The Climate Group

Mark Radka, UNEP

Mark Wagner, Johnson Controls

Markus van der Burg, Conning Asset Management Limited

Michael Geissler, Berlin Energy Agency

Peter Graham, Global Buildings Performance Network

Peter Sweatman, Climate Strategy and Partners

Rasmus Nedergaard, Lego

Richard van Bergen, Johnson Controls

Robert Philipp, Johnson Controls

Russell Mills, Dow Chemical Company

Stéphane Pouffary, UNEP-SBCI, ENERGIES 2050

Steven Kukoda, International Copper Association

Susanne Dyrboel, Rockwool International

EUROPE'S POLICY FRAMEWORK

In Europe, as in other developed markets, leaders have been looking at policy goals similar to those of SEFA in support of energy and climate priorities. Most experts estimate the rate of efficiency improvement in developed markets at 1.5 percent per year. Using this as a baseline, a target to double this rate would indicate a 3 percent target improvement rate. This would require changes in technology, policy and market structures. The roundtable participants shared experiences in working to change the status quo. Participants reached consensus on the need for increased private-sector participation – with city leaders, regional governments and national governments around the globe – to accelerate change.

On the policy framework in the European Union, participants highlighted the role of three key instruments. While the first two are already implemented at the national level, the third is still under negotiations between Member States:

1. **The Energy Performance of Buildings Directive** takes a holistic approach, setting an obligation for EU countries to develop an integrated methodology to rate the energy performance of buildings and define minimum energy performance requirements for new buildings, for existing buildings that undergo major renovation, and for retrofitted or replaced building elements. This law also introduces Nearly Zero Energy Buildings as a future requirement to be implemented from 2019 onward for public buildings and from 2021 onward for all new buildings.
2. **The Energy Efficiency Directive also targets buildings.** It asks EU countries to create long-term national strategies to improve their existing building stock. This directive is also important because public buildings can serve as an example of the types of projects and approaches available for replication across the economy and in particular for large enterprises and real estate portfolio owners.
3. The **2030 policy framework for climate and energy**, proposed by the European Commission, builds on the existing targets for 2020 and takes into account the EU's commitment to cut greenhouse gas (GHG) emissions by 80 to 95 percent by 2050. The key elements of this proposal are:
 - A binding greenhouse gas target to reduce emissions by 40 percent compared to 1990, with specific targets set for each Member State.
 - An EU-wide binding target for renewable energy sources to reach at least 27 percent of the EU's energy consumption compared to 1990.
 - A commitment to improve energy efficiency, but without a binding target.

Several roundtable participants mentioned an additional area where the private sector can make a difference in the building efficiency world: by creating jobs and growth.

A recent report released by the European Commission's Energy Efficiency Financial Institutions Group (EEFIG), identifies a strong economic opportunity for the EU by up-scaling the energy efficiency investments in buildings. Today, these investments have become crucial due to rising energy prices, the need to boost EU competitiveness, and the high level of energy imports required by the EU bloc (imports were 55% of total energy in 2012, costing €400bn). According to the report, in 2011, global energy efficiency investments

across all sectors totaled \$300bn representing a very significant and growing market opportunity for investors and businesses. In addition, experts agree that €60-100 billion in annual investment is needed in EU buildings to achieve Europe's 2020 energy efficiency targets. Furthermore, energy efficiency can effectively create jobs as Europe's Energy Efficiency Plan expects to deliver 2 million jobs.¹

The report identifies several priorities requiring action from governments, European Commission and stakeholders:

- effective implementation of existing legislation;
- ensuring the right data are provided to the right decision makers;
- strengthening and improving standards for energy performance certificates, energy code compliance and enforcement;
- capturing and articulate the multiple benefits of energy efficiency investments for key financial decision makers (public authorities, buildings owners and managers, householders);
- optimizing the use of structural and investment funds 2014-2020, Horizon 2020 and EU emissions trading system (ETS) revenue to support new and existing Member States activities to meet agreed objectives under the Energy Efficiency Directive.

¹ Energy Efficiency – the first fuel for the EU economy. How to drive new finance for energy efficiency investments: ec.europa.eu/energy/efficiency/studies/doc/2014_fig_how_drive_finance_for_economy.pdf

EXPERIENCES AND BEST PRACTICES

Roundtable representatives from government, non-governmental organizations and industry described their efforts and action plans to improve energy efficiency in buildings. The discussion focused on the role of partnerships and highlighted how and where the private sector has been supporting public goals and providing technology expertise and support across different markets.

Representing the public sector, the Principality of Monaco presented its ambitious Climate Energy Plan for 2020: a 30 percent reduction in greenhouse gas emissions from 1990 levels, a 20 percent increase in energy efficiency in buildings from 2007 levels, a 20 percent renewable energy goal, and stabilization of peak electricity demand compared to 2006. Cyril Gomez, director of environment for the Principality, attributed the success of Monaco's energy efficiency policy to political willingness and ministries working together. The trigger was the demonstration by the private sector that energy performance contracting works and that financial savings are real.

A similar approach has been used for 20 years by the Berlin Energy Agency (BEA) to boost energy efficiency in Berlin. BEA, a public-private partnership, now manages energy performance contracts for 1,400 public buildings across the city, generating about €12 million a year in energy savings. In addition, the agency's activities support more than 100 small and medium-sized local and regional businesses. This model – creating public-private partnership that acts as a market intermediary to support efficiency actions – is now being followed by European countries as diverse as Latvia, Romania and Monaco. "We could do more, but we are in the right direction," said Michael Geissler, CEO of BEA. Achieving even more progress will require political will as well as cooperation and standardization within industry. "The more we pull together, the more we will be able to get things done," Geissler said.

Supporting these comments by the Principality of Monaco and BEA, Peter Graham of Global Buildings Performance Network (GBPN), argued that there is a critical role the private sector can play in establishing confidence in the energy efficiency business case and demonstrating and verifying performance. “There is skepticism about energy efficiency numbers. I would like to see Europe walk the talk,” he said. “Despite the economic benefits of retrofitting, large-scale examples are rare and the ambition level is not great enough to make a significant impact on climate change. The message is simple, however, once the policies are straight the investment will flow.”

There was broad consensus that the success of any effort to expand energy efficiency - relies on the close partnership between consumers, private companies, and civil society organizations. Stéphane Pouffary, CEO and Founder of ENERGIES 2050, a global non-profit organization working on the Energy Transition from a societal perspective, highlighted that private and public sector need to make sure that consumers are part of the energy efficiency story. In his opinion, the success of a project relies on the close partnership between companies and civil society organizations.

A similar perspective was shared by Alfons Westgeest, executive director of the Association of European Automotive and Industrial Battery Manufacturers (EUROBAT) who described the benefits of demand response for consumers and their electrical independence, supported by new technologies such as battery energy storage. For Westgeest, cooperation with the private sector, representing either the building efficiency sector or battery manufacturers, is crucial in the smart-grid world.

Steven Kukoda, vice president of The International Copper Association, shared information about a new global public-private partnership under the framework of the UN Secretary General’s SEFA initiative to support the global transition to energy efficient appliances. Kukoda noted that the Global Appliances Program has experience making changes on a large scale increase to efficiency using existing technologies. “Replace innovation by common sense!” Kukoda beseeched the room. This thought was shared by Harry Verhaar, head of global public and government affairs at Philips Lighting. The company’s EnLighten public-private partnership has extensive experience upgrading lighting technologies around the world.

The success of collaborative projects was a key focus of the Roundtable Dialogue. Mark Radka, head of the Energy Branch at the United Nations Environment Programme, shared the example of the new Climate Technology Center and Network (CTCN), an initiative to provide technical assistance and support as developing countries look for strategies and advice to support their climate goals and stimulate technology deployment. The CTCN will help enhance the development and transfer of technologies, and assist developing countries. In its design, it aims to bring in private sector experts to engage with its core team to respond to country requests for information and assistance.

Jonathan Maxwell, CEO and co-founding partner of Sustainable Development Capital LLP, shared his experience attracting funding from private-sector financial institutions and observed that there is an experience base of successful projects that have made good commercial sense. “We are able to construct a positive, commercially attractive solution for all parties,” He said. Investors are realizing that the inherent financial rewards of energy efficiency, unlike subsidies, cannot be removed from one day to the next. But energy efficiency is not only about capital, Maxwell emphasized - it is also about putting people and schemes together, and that requires more money and time. This can be achieved by the private sector.

Markus van der Burg, managing director at Conning Asset Management Limited noted that energy efficiency projects are “bankable.” He continued, “Projects should focus on generating cash flow and articulating much more clearly that they are doing so. One man’s “energy efficiency” is another’s ‘cash flow.’ Everyone needs to learn to speak the same language, as energy efficiency does generate robust cash flows which enables financing to occur.”

Implementation challenges, data requirements and capturing co-benefits of efficiency investments can support global action. As highlighted by several participants, energy efficiency yields more than financial savings: it is also about people, health, comfort, productivity and the well-being of future generations. Mark Hopkins, director of International Energy Efficiency at United Nations Foundation, underlined the role of public-private partnerships, such as the Global Partnership for Energy Efficient Buildings, in disseminating a broader message to the public that includes co-benefits, especially outdoor and indoor air quality.

RECOMMENDATIONS TO ACCELERATE BUILDING EFFICIENCY

Participants all noted that the private sector can support public goals and that the idea of creating a network of businesses, governments and civil society stakeholders to accelerate the rate of energy efficiency improvement within cities and regions could help align and build on individual efforts.

With an eye to local, national and international climate and energy issues, the group discussed upcoming venues and opportunities to work together to demonstrate action. In a public-private partnership model, diverse stakeholders could assist and motivate local governments to define goals and develop policy roadmaps. A number of roundtable participants could apply their expertise in support of a public goal to be shared at the United Nations Sustainable Energy for All session in September 2014, and in preparation for the United Nations Framework Convention on Climate Change’s 21st Conference of the Parties (COP-21) in Paris in December 2015.

The group broadly discussed how a Building Efficiency Accelerator partnership could target cities and sub-national regions already engaged in energy efficiency and eager to accelerate local efforts through leadership commitment, policy implementation and public-private collaboration. The collaborative network’s purpose would be to engage leaders at the city or regional level by providing policy tools, resources, expertise, best practices and financial capacity. By helping cities and regions, industry can accelerate the development of the market for energy efficiency equipment and services, helping localities access efficient technology solutions, support public goals, and achieve co-benefits, such as cleaner air.

The Roundtable Dialogue discussion touched on the jurisdictions best positioned to improve building efficiency. In the European context, networks such as Covenant of Mayors – representing 5,673 mayors and some 183 million city residents voluntarily committed to increasing energy efficiency and using renewable energy sources – could help find the champions and become energy efficiency trainers in the global context. Furthermore, participants noted that a Building Efficiency Accelerator should target not only big cities but also small and medium-sized ones.

In this context, the private sector has the potential to lead by example in developing countries, demonstrating to policymakers that building efficiency is not complicated and is easy to implement, telling the story about co-benefits, and making energy efficiency visible and tangible.

The table below summarizes key success factors mentioned by roundtable participants for the creation of the Building Efficiency Accelerator.

Identify best practices	Collect performance data	Establish financial models	Build "business case"	Support communications
Identify local barriers	Identify baseline data	Demonstrate existing financial models	Identify the local barriers slowing market uptake of EE	Communicate societal co-benefits
Analyze local sectors	Quantify goals	Let savings in energy pay for capital debt of EE investments	Express goals in quantifiable metrics	Inspire change
Lead by example	Measure, publish, improve, measure	Educate financial intermediaries	Increase transparency	Increase awareness
Leverage experience to date	Provide data analysis	Change procurement and other local rules	Capture holistic benefits of energy efficiency	Align vocabulary and message with sector interests
Develop policy implementation tools/tactics	Improve data quantity and quality over time		Share positive experiences	Standardize communications
Collaborate and engage across markets				

CONCLUSION

The Roundtable Dialogue in Monaco provided a platform for energy efficiency experts from diverse roles and backgrounds to exchange best practices on public-private partnerships. The discussion focused on the role these partnerships can play to accelerate the rate of energy efficiency improvement, within the context of the United Nations Sustainable Energy for All initiative. The participants concluded that the private and non-profit sectors can play a key role in assisting cities, regions and national governments in committing to double the rate of energy efficiency improvement by 2030. Change can be accelerated to a great extent with existing technologies, provided stronger collaborative action approaches are established at national and local levels. Joint actions by the private and public sectors can yield initiatives that make commercial sense, attract private and public funding, and scale up energy efficiency markets.

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.

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