Opportunities in Energy Efficiency: Green Building and the Industrial Sector

USAID's Energy Efficiency for Clean Development Program (EECDP)

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Opportunities in Energy Efficiency

High Impact Project & Strategies #1: *Building Codes in Vietnam*

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What do we know about development in Vietnam?

- CO_2 emissions doubled from 0.8 metric tons per capita in 2001 to 1.6 in 2009
- Increasing pace of energy consumption (400% over last 10 years nationally)
- Significant urban construction
- EE products and technology are generally available but at a higher cost
- *Green Growth Strategy, 2012* - national level climate policy
- Vietnam Building Energy Efficiency Code (VBEEC), 2005
- Vietnam green building rating program - *LOTUS*

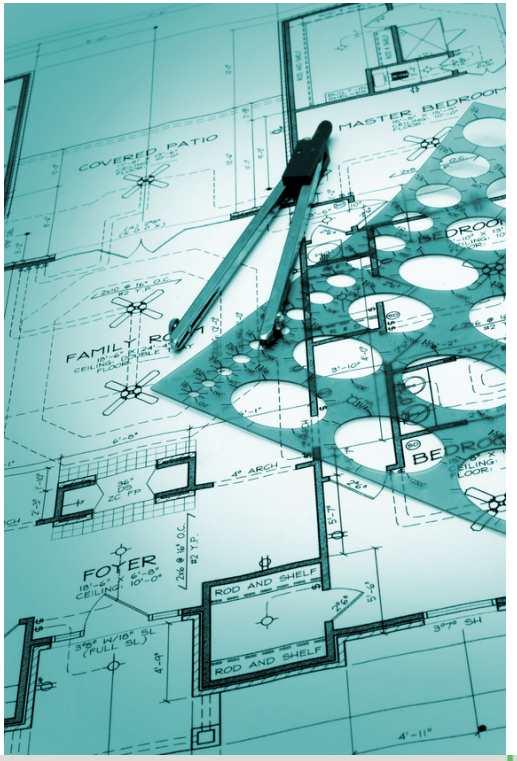
Getting Started

Entry Point:

- Recognition that the majority of the market is disregarding the VBEEC
- Government in the process of facilitating VBEEC revisions

Opportunity:

- Provide a roadmap for improving implementation of energy efficiency guidance for buildings



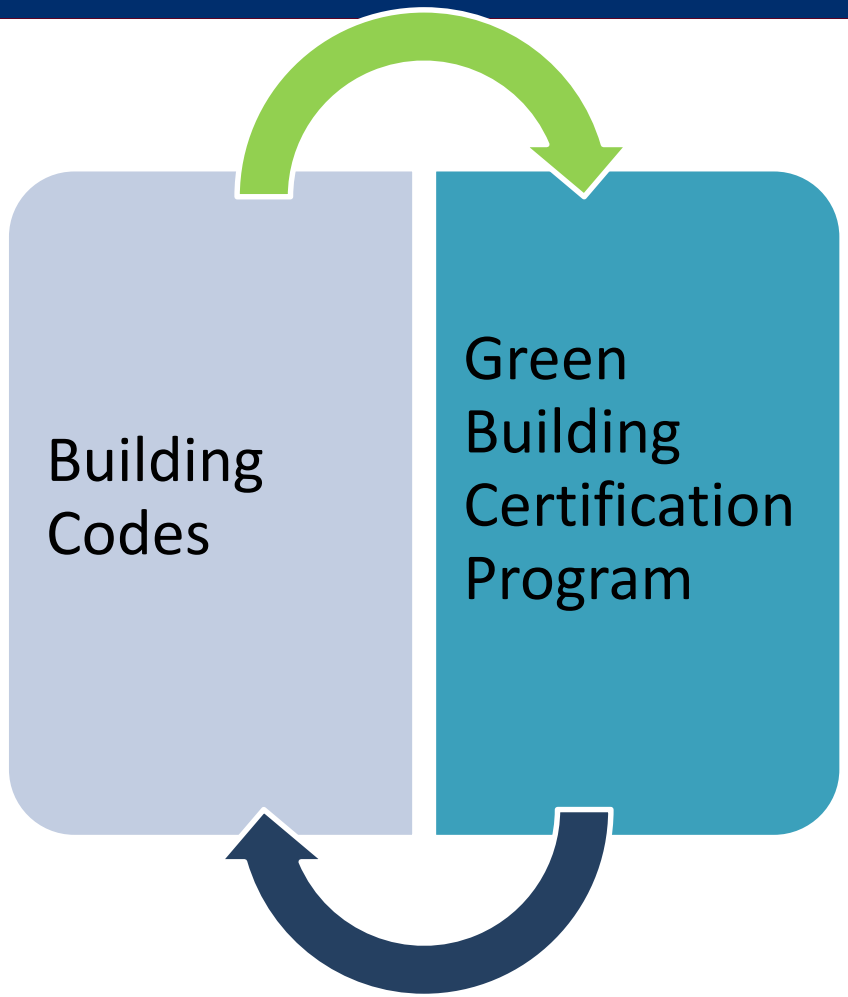
Green Building Spectrum

Mandatory Requirements

Establish a Baseline for Building Construction

Facilitate Broad Training and Education

Build markets for products & technologies



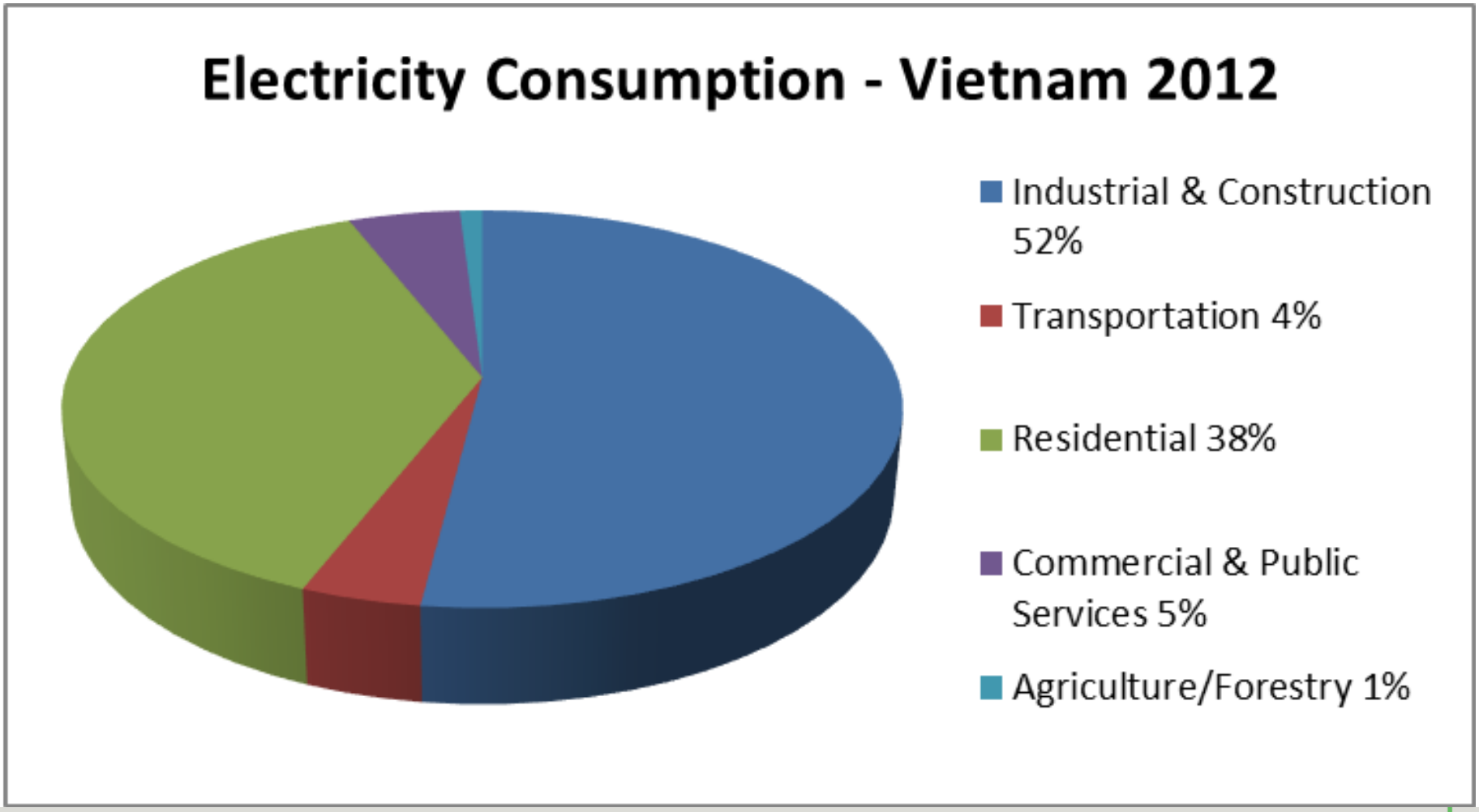
Voluntary Guidance

Incentive-Based

Facilitate use of new technologies and practices

Build public awareness of the value of green attributes

Building Sector Analysis



Assessment Strategy

Policy Framework - sets goals and supports implementation

Government Leadership Potential

Energy-Efficient Buildings

Cohesive Local Community

Significant International Donor Assistance

Technical Guidance - clearly defines energy efficiency techniques and technologies which are appropriate for the climate, cost-efficient, and available in the local market

Market Capacity - to value the financial returns from energy-efficient buildings, as well as the skills and knowledge required to design, construct, and operate buildings

Activity Mapping – In Place

Policy	Technical	Market
Government commitment • VBEEC • National Target Program (5-8% energy reduction targets)	**Mandatory code** • VBEEC	
Incorporation into national policy • Vietnam Green Growth Strategy	**Above-code voluntary technical guidance** • LOTUS	

VBEEC

- Originally developed in 2005 based on US standards
- Released as a mandatory requirement
- Requirements difficult to apply in Vietnam (not customized to the market and climate)
- International donors and local organizations stepped in to review and modify

Vietnam Green Building Council (VGBC)

- Registered with the World Green Building Council
- Stakeholders include government ministries, universities, associations, and the private sector
- Developed the LOTUS green building assessment system for green building certification
- Maintain and update the rating and provide education and outreach on energy efficiency and green construction
- Develop a database for green products and solutions

VGBC | Vietnam Green Building Council
Hội đồng Công trình xanh Việt Nam

Activity Mapping – Some Activity Planned

Policy	Technical	Market
Standardized process for implementation • Templates and checklists (IFC)		**Stakeholder outreach** • Direct assistance to cities/provinces on VBEEC implementation (IFC)
		Education and training • VBEEC training (IFC, USAID) • Green building training (VGBC) • VBEEC demonstration projects (IFC, DANIDA) • Develop/integrate EE into university curriculum (IFC)

Activity Mapping – Opportunity Gap/Needed Action

Policy	Technical	Market
Enforcement mechanism • National enforcement model	**Compliance & verification procedures** • Technical instruction on demonstrating compliance and inspecting buildings	**Public awareness** • Large-scale demonstration projects • Information on benefits & costs associated with energy-efficient buildings
Mechanism for implementing policy • Coordination plan for ministries on VBEEC	**Regular code updates** • Established schedule for VBEEC revisions	

Activity Mapping – Opportunity Gap/Needed Action

Policy	Technical	Market
Lead by example • VBEEC-compliant government construction	**Stakeholder-inclusive process** • Established committees and roles for public and private stakeholders • Manufacturer engagement	
Measurement & Monitoring • Data collection on building performance and VBEEC impact	**Tested & labeled building materials/ products** • Information on the energy performance of building materials	

Roadmap

Near-Term Recommended Priorities:

- *Establish a national VBEEC enforcement process*
- *Promote mandatory energy performance standards for building materials & equipment*
- *Coordinate activities among international donors to focus on large-scale demonstration projects, training, and technical support*

Roadmap

Long-Term Recommended Actions:

- *Establish a schedule for VBEEC revisions and a mechanism for facilitating stakeholder contributions*
- *Develop and implement a policy for code and green building criteria use in government-constructed buildings*
- *Engage manufacturers of EE products and technology on market expansion*
- *Establish a data collection mechanism and analysis process*