



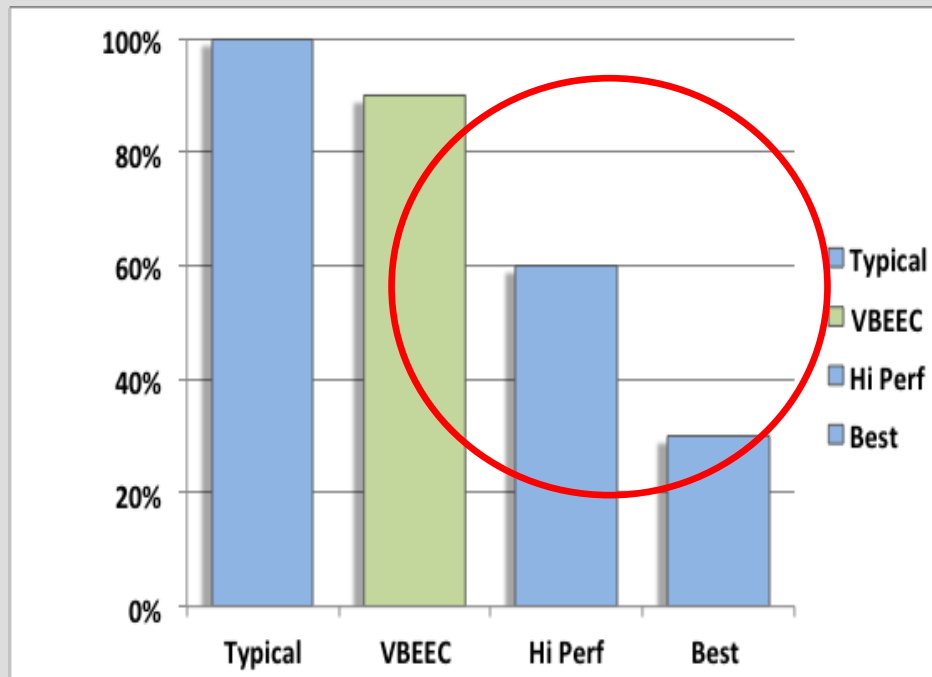
USAID
FROM THE AMERICAN PEOPLE



MINISTRY OF CONSTRUCTION

USAID VIETNAM CLEAN ENERGY PROGRAM – ENERGY EFFICIENCY PROMOTION IN THE BUILDING SECTOR

Vietnam Clean Energy Program (VCEP) Creating the Capacity to Enable High Performance, Green Buildings





USAID
FROM THE AMERICAN PEOPLE



MINISTRY OF CONSTRUCTION

USAID VIETNAM CLEAN ENERGY PROGRAM – ENERGY EFFICIENCY PROMOTION IN THE BUILDING SECTOR

Key VCEP Program Activities

1. *Demonstration buildings: very energy-efficient & green:*

1. Actual high, performance buildings
2. Toward net zero energy buildings
3. Within Green Growth Action Plan (for buildings and urban areas)

2. *Major training program:*

1. Integrated design - raise level of awareness
2. How to do high performance, low energy green buildings (30% to 50% savings)
3. Energy Simulation Training - Intensive, hands-on training for up to 100 persons.

3. *First National database* on energy performance of buildings

4. *Disseminate project results widely*

1. Project results on website within Ministry of Construction website.
2. Key products in DropBox and Box folders



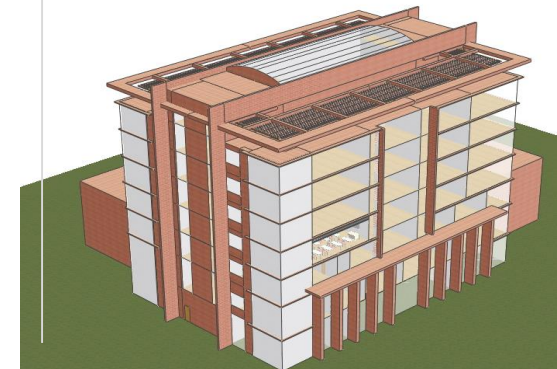
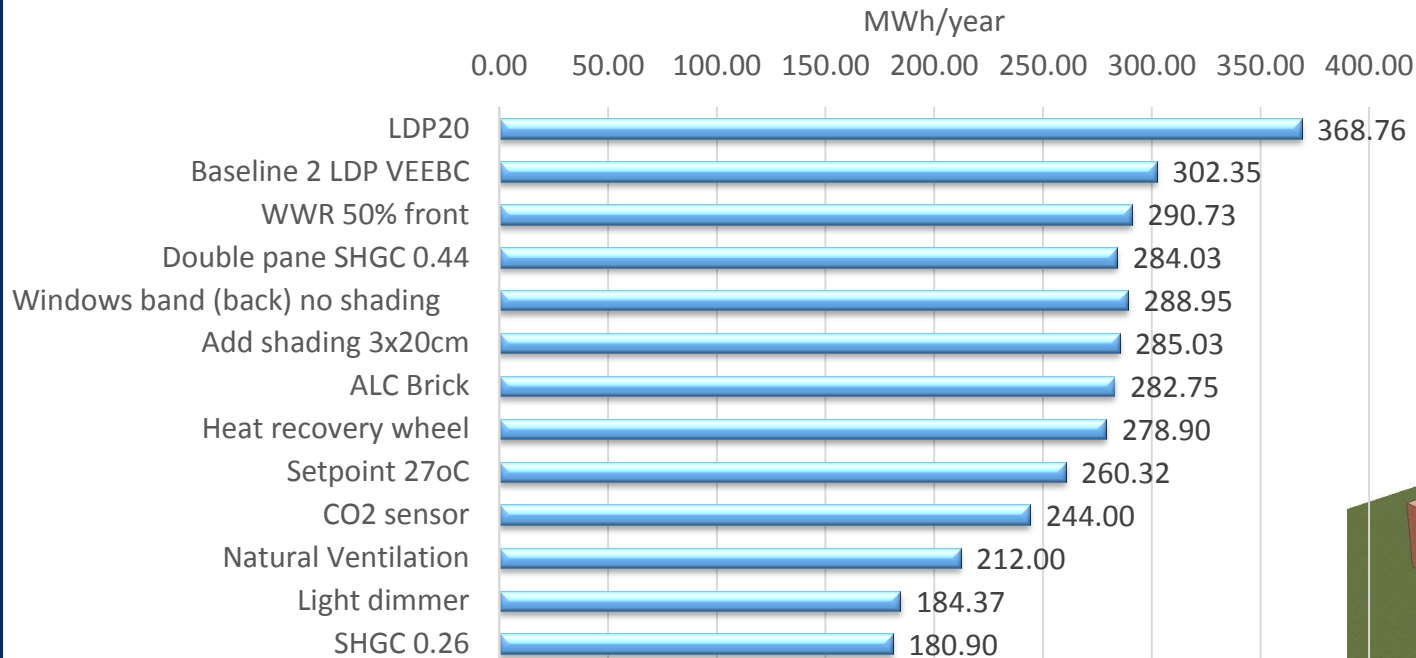
USAID
FROM THE AMERICAN PEOPLE



MINISTRY OF CONSTRUCTION

USAID VIETNAM CLEAN ENERGY PROGRAM – ENERGY EFFICIENCY PROMOTION IN THE BUILDING SECTOR

1st Demonstration Building – Energy Training Center (ETC) 50% Energy Savings *Success Story #1*





USAID
FROM THE AMERICAN PEOPLE



MINISTRY OF CONSTRUCTION

USAID VIETNAM CLEAN ENERGY PROGRAM – ENERGY EFFICIENCY PROMOTION IN THE BUILDING SECTOR

2nd Demonstration Building – TTAS building Also 50% Energy Savings (*from Energy Code*)





USAID
FROM THE AMERICAN PEOPLE



MINISTRY OF CONSTRUCTION

USAID VIETNAM CLEAN ENERGY PROGRAM – ENERGY EFFICIENCY PROMOTION IN THE BUILDING SECTOR

VCEP Training Program: *Success Story #2*

Key Audiences for Capacity-Building:

- Architects, Engineers, Construction Managers, Facility Managers, and Energy Service providers
- Investors/ Developers, Building Owners, and Lenders
- MOC, DOCs, including public building owners/ operators





USAID
FROM THE AMERICAN PEOPLE



MINISTRY OF CONSTRUCTION

USAID VIETNAM CLEAN ENERGY PROGRAM – ENERGY EFFICIENCY PROMOTION IN THE BUILDING SECTOR

VCEP Training Program

- Mobilizing local experts together with foreign experts
- Doing a strong train-the-trainer program
- Established a network of professional and educational institutions as training partners
 - Vietnam Institute of Architecture,
 - Ha Noi University of Architecture,
 - Ho Chi Minh University of Architecture,
 - National University of Civil Engineering
 - VISRAE
- Introduced advanced energy simulation tools. 10-day hands-on. 100+ trained.
- Seminars in major cities. 1600+ trained.





USAID
FROM THE AMERICAN PEOPLE



MINISTRY OF CONSTRUCTION

USAID VIETNAM CLEAN ENERGY PROGRAM – ENERGY EFFICIENCY PROMOTION IN THE BUILDING SECTOR

VCEP Training Program: *3 Study Tours to US*

- 1st study tour was in Nov 2014
 - 7 delegates
 - 4 cities
 - Policy meetings
 - Successful programs
 - Low energy and green buildings
- 2nd study tour was in July 2015
 - 8 delegates
 - 3 cities
 - Policy meetings
 - Focus on owners and designers of low energy and green buildings
- 3rd study tour is planned for fall of 2016





USAID
FROM THE AMERICAN PEOPLE



MINISTRY OF CONSTRUCTION

USAID VIETNAM CLEAN ENERGY PROGRAM – ENERGY EFFICIENCY PROMOTION IN THE BUILDING SECTOR

National Database of Building Energy Use

Success Story #3

1. Needs Assessment and Plan
2. Building Stock:
 - Identify number of large buildings in last 10 years
 - 5 large cities in 3 climate regions
3. First Statistically Valid National Database:
 - Collection by consultants based on competitive RFPs
 - Collect detailed data – walk thru energy audit
 - 280 buildings in 15 building types in 3 climate regions
4. Develop online database for ongoing entry of data on buildings
 - Dual language
 - USDOE's SEED program proposed as template
 - First for a few cities, Ultimately for all 63 provinces in Vietnam





USAID
FROM THE AMERICAN PEOPLE



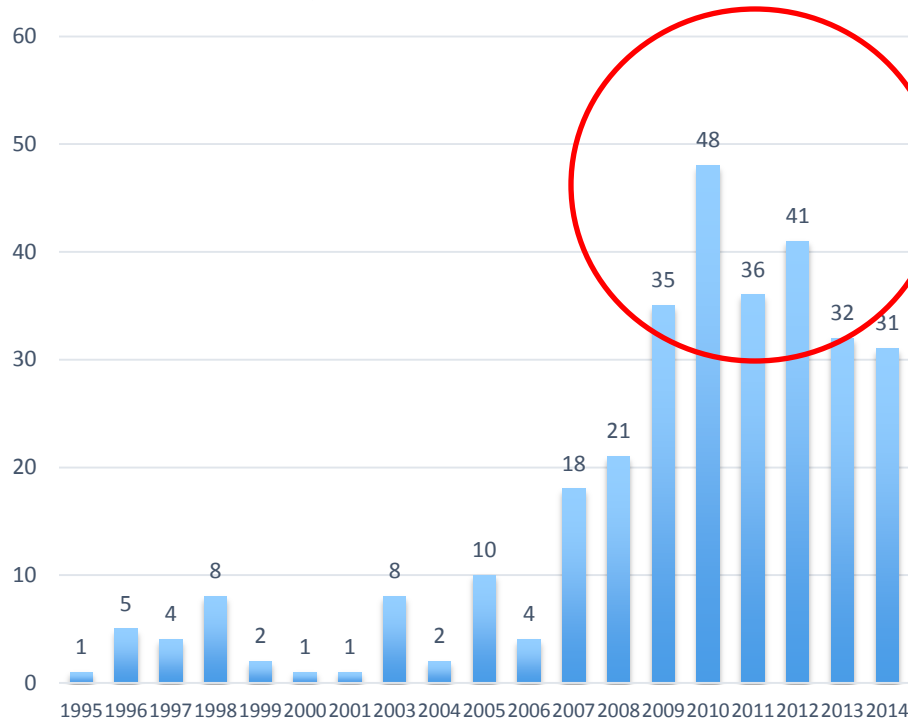
MINISTRY OF CONSTRUCTION

USAID VIETNAM CLEAN ENERGY PROGRAM – ENERGY EFFICIENCY PROMOTION IN THE BUILDING SECTOR

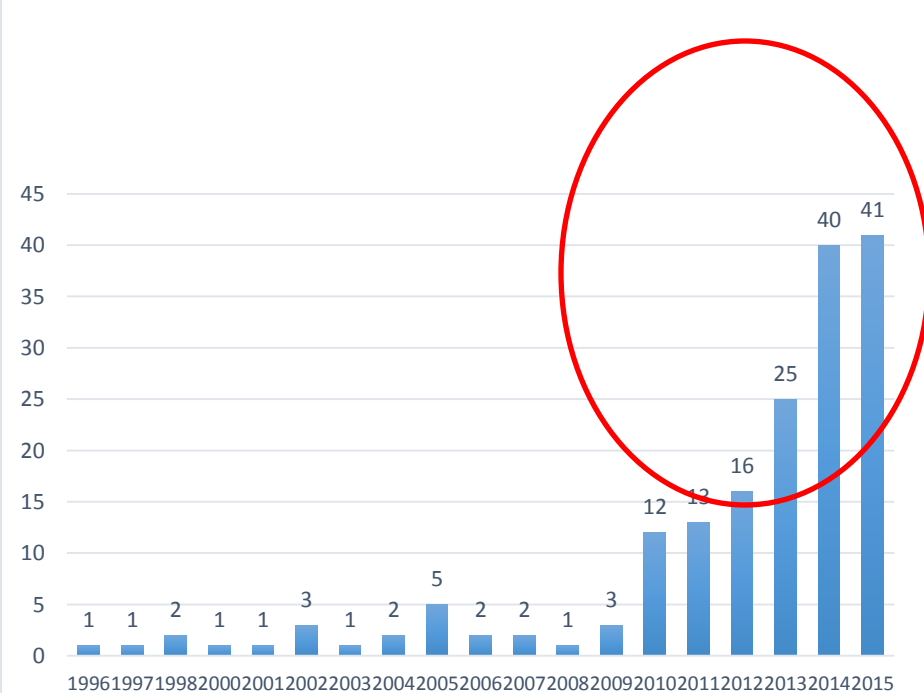
Building Stock Results *(2 cities)*

From Results to date we can estimate that about 120 large buildings are built each year in the five largest cities in Vietnam.

Buildings over 2,500m2 constructed each year in HCMC (1995-2014)



Buildings over 2,500m2 constructed each year in Da Nang city (1996-2015)





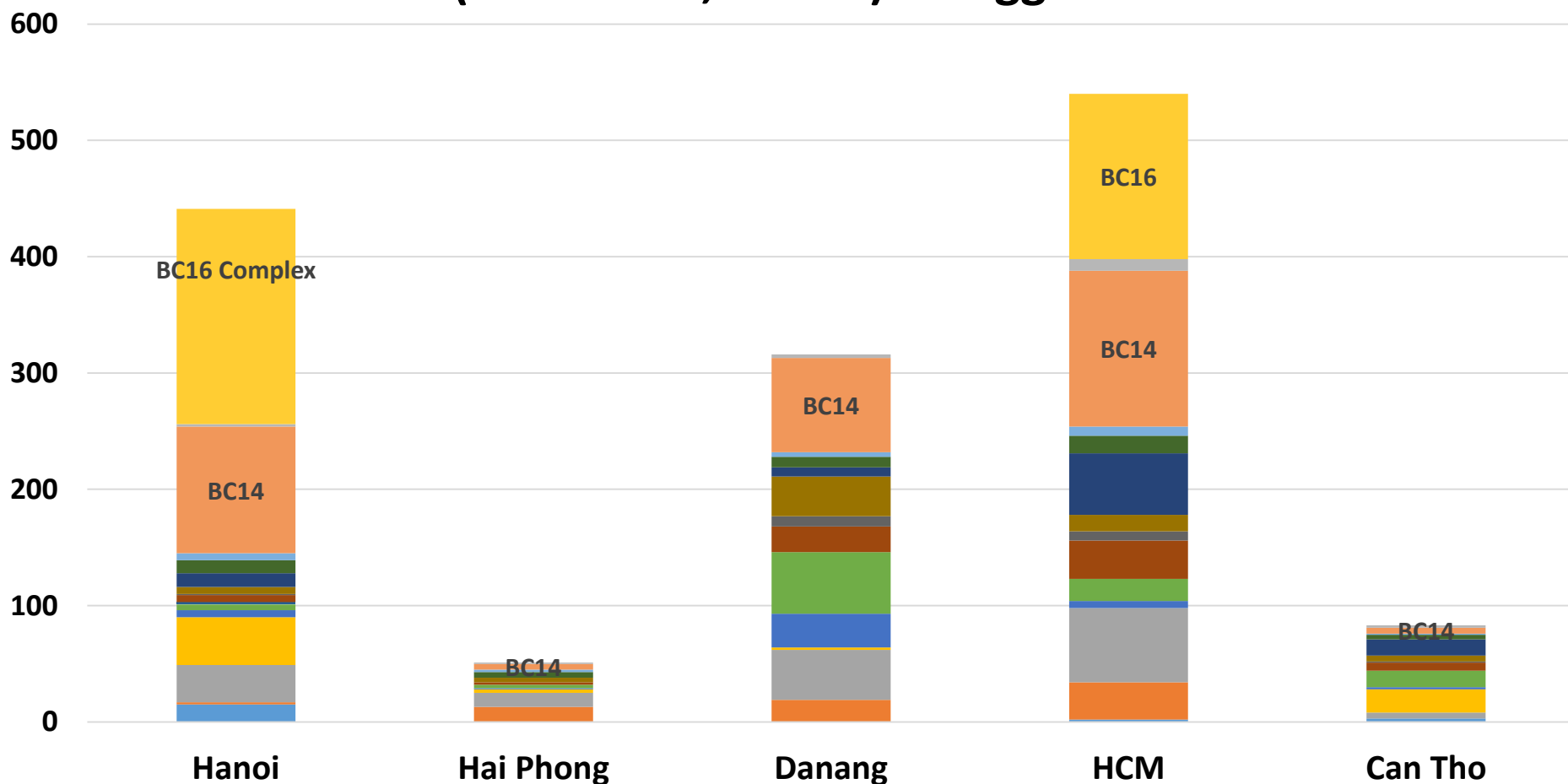
USAID
FROM THE AMERICAN PEOPLE



MINISTRY OF CONSTRUCTION

USAID VIETNAM CLEAN ENERGY PROGRAM – ENERGY EFFICIENCY PROMOTION IN THE BUILDING SECTOR

Stock (quantity) of large buildings (TFA over 2,500m²) in biggest cities





USAID
FROM THE AMERICAN PEOPLE

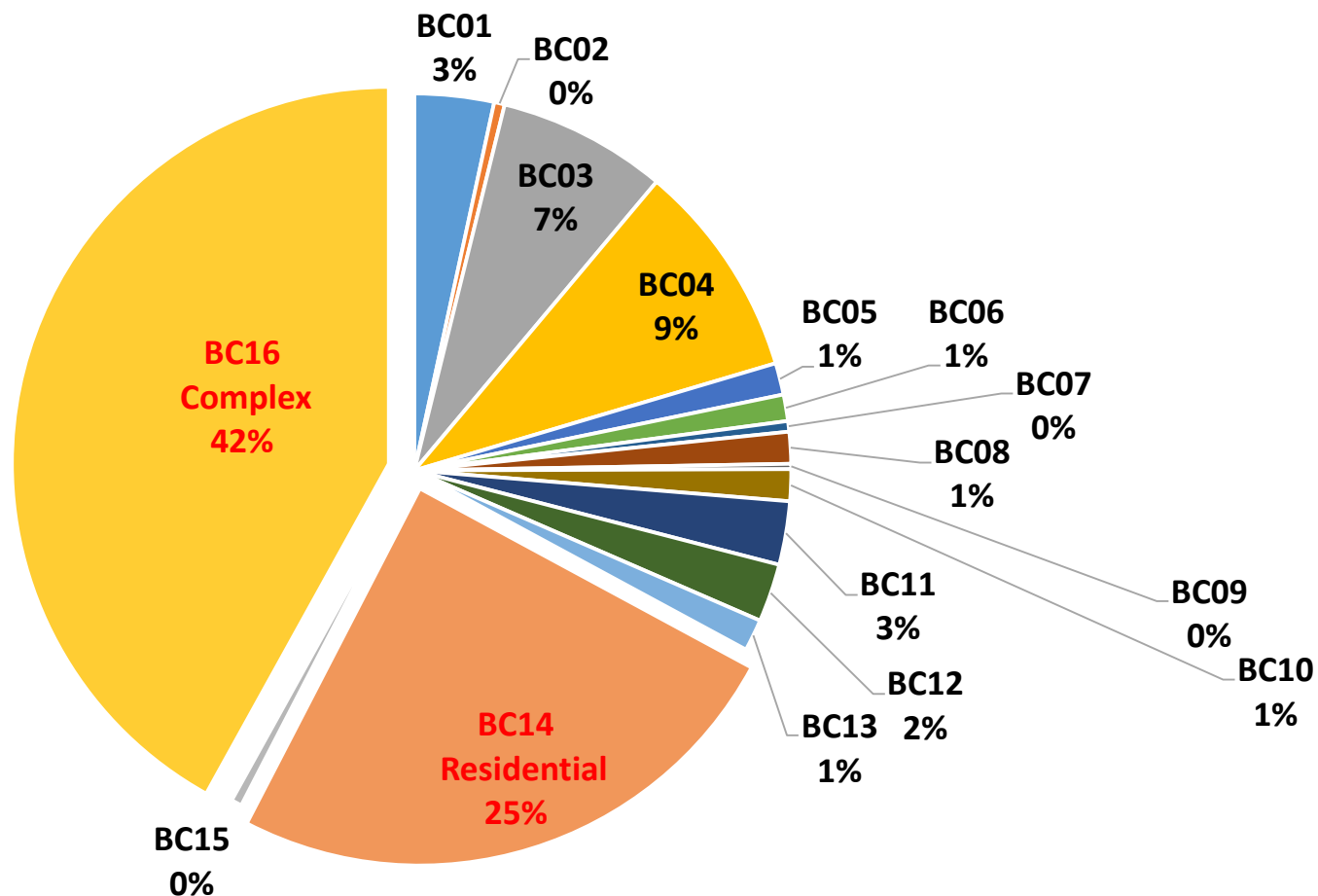


MINISTRY OF CONSTRUCTION

USAID VIETNAM CLEAN ENERGY PROGRAM – ENERGY EFFICIENCY PROMOTION IN THE BUILDING SECTOR

Stock of large buildings with TFA from 2,500m² HANOI CITY, 2015

- BC01 Government office, central
- BC02 Government office, local
- BC03 Office building, Grade A
- BC04 Office building, Grade B
- BC05 Hotel, 4* or 5*
- BC06 Hotel, 3*
- BC07 Hospital, central
- BC08 Hospital, local
- BC09 Clinics
- BC10 Education, universities
- BC11 Education, classrooms
- BC12 Retail, large
- BC13 Retail, markets
- BC14 Residential
- BC15 Dormitory
- BC16 Complex





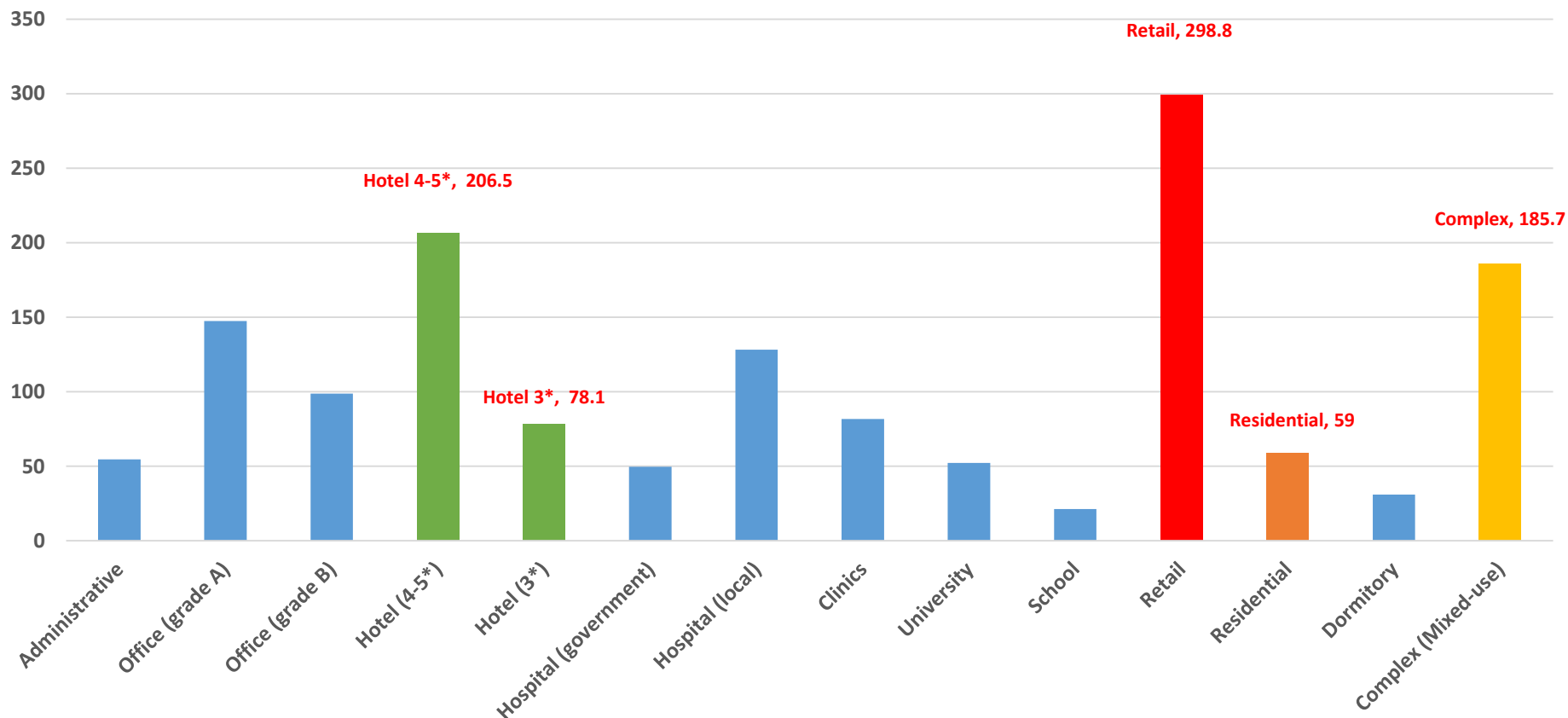
USAID
FROM THE AMERICAN PEOPLE



MINISTRY OF CONSTRUCTION

USAID VIETNAM CLEAN ENERGY PROGRAM – ENERGY EFFICIENCY PROMOTION IN THE BUILDING SECTOR

Average Energy Use Intensities of Buildings Ho Chi Minh & Can Tho cities (kWh/m².year)





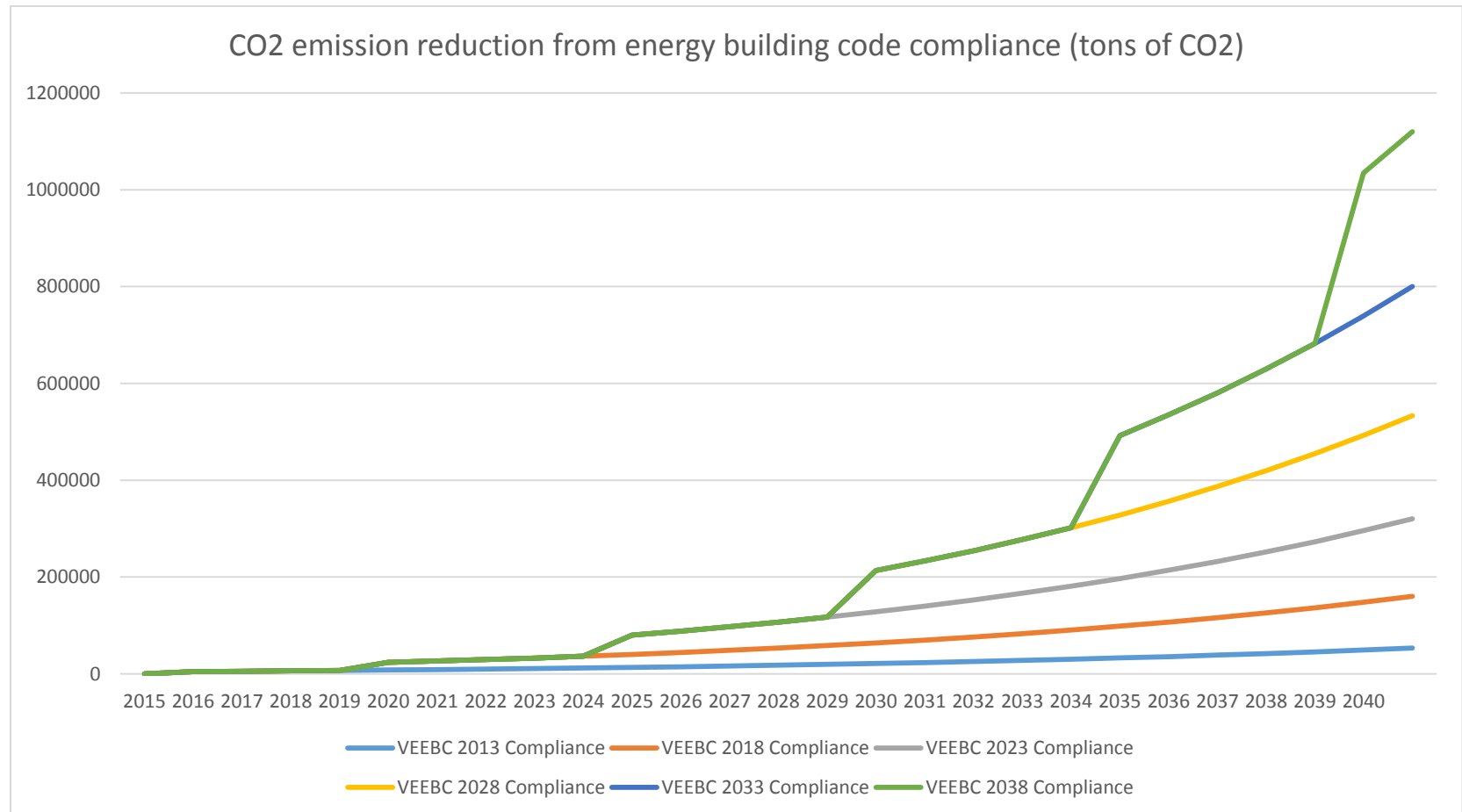
USAID
FROM THE AMERICAN PEOPLE



MINISTRY OF CONSTRUCTION

USAID VIETNAM CLEAN ENERGY PROGRAM – ENERGY EFFICIENCY PROMOTION IN THE BUILDING SECTOR

Ability to do long term policy projections





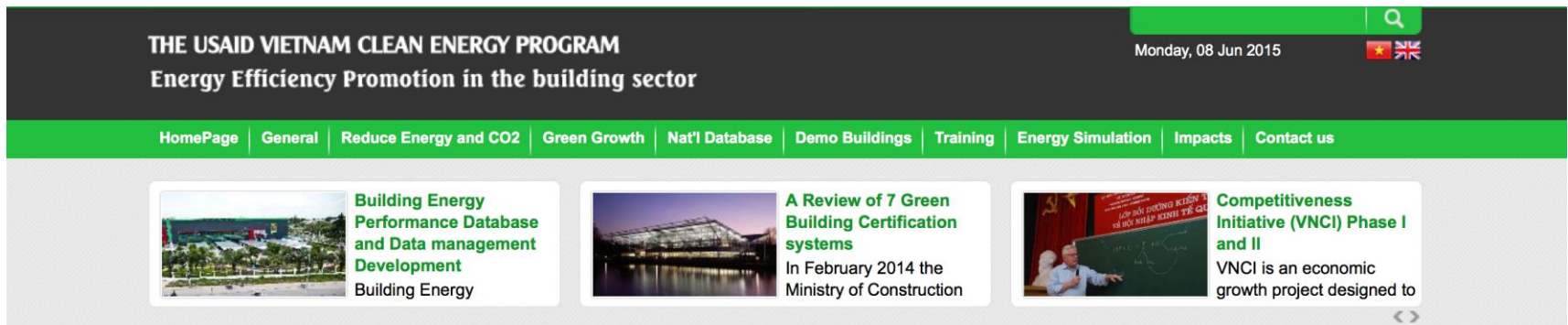
USAID
FROM THE AMERICAN PEOPLE



MINISTRY OF CONSTRUCTION

USAID VIETNAM CLEAN ENERGY PROGRAM – ENERGY EFFICIENCY PROMOTION IN THE BUILDING SECTOR

VCEP Products onto Ministry of Construction's Website





USAID
FROM THE AMERICAN PEOPLE



MINISTRY OF CONSTRUCTION

USAID VIETNAM CLEAN ENERGY PROGRAM – ENERGY EFFICIENCY PROMOTION IN THE BUILDING SECTOR

Thank You

Joseph.Deringer.vcep@gmail.com
also

ktvu@winrock.org (Thoa Vu Thi, Hanoi, VN)

EBomasang@winrock.org (Ellen Bomasang, Washington, DC)