

Virtual Course on Energy Efficiency (EE) for East African Countries, 16 - 29 March 2021

Organised by

Copenhagen Centre on Energy Efficiency (C2E2) in collaboration with

East African Centre of Excellence for Renewal Energy and Efficiency (EACREEE)

And

Association of Professionals Eastern Africa (EAPEA)

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Module 2

Project Bundling: introduction and steps

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The importance of increasing interventions aimed at improving Energy Efficiency (EE)

They contribute to achieve

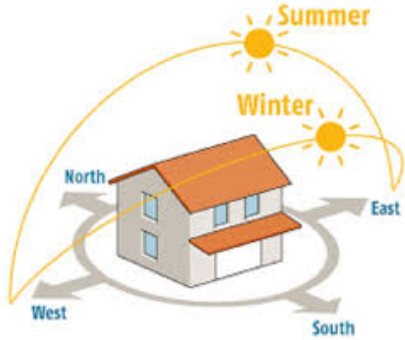
- Sustainable Goal 7 "Ensuring access to affordable, reliable, sustainable and modern energy for all"
- Under which "the EE global rate of improvement should be doubled by 2030"

Leads to:

- Less energy consumption ⇒ good for the environment (local/global) due to reductions of CO₂ emissions
- Lower energy costs ⇒ reduction of municipality budgets

EE improvements can be achieved in – buildings

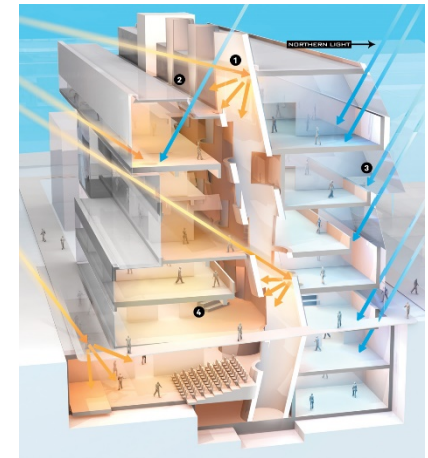
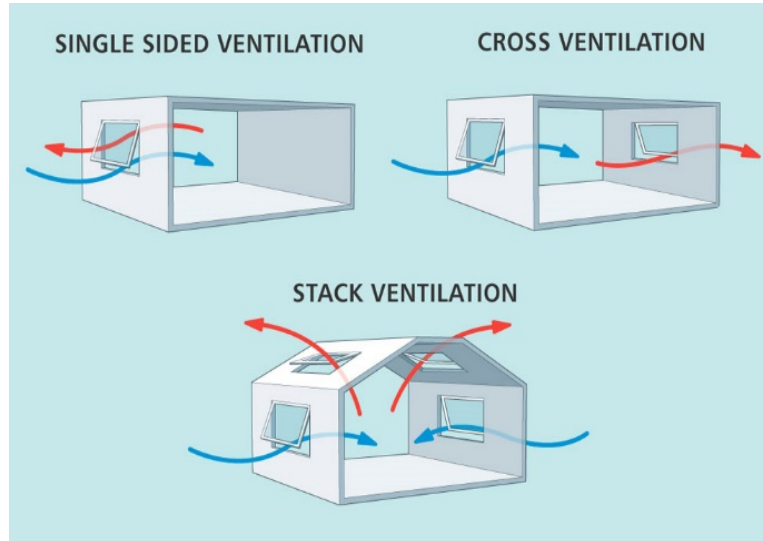
design, location and orientation



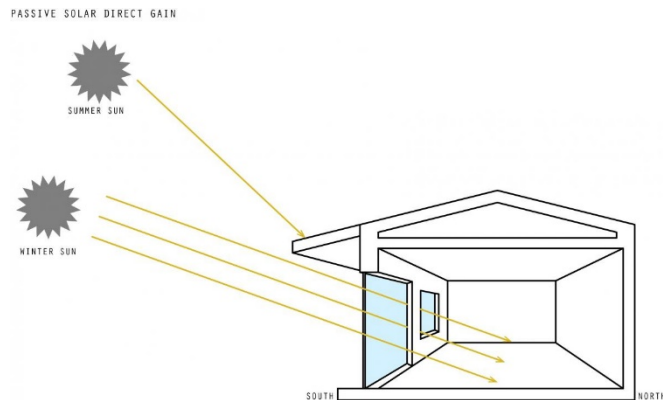
thermal properties of the building



Natural ventilation characteristics



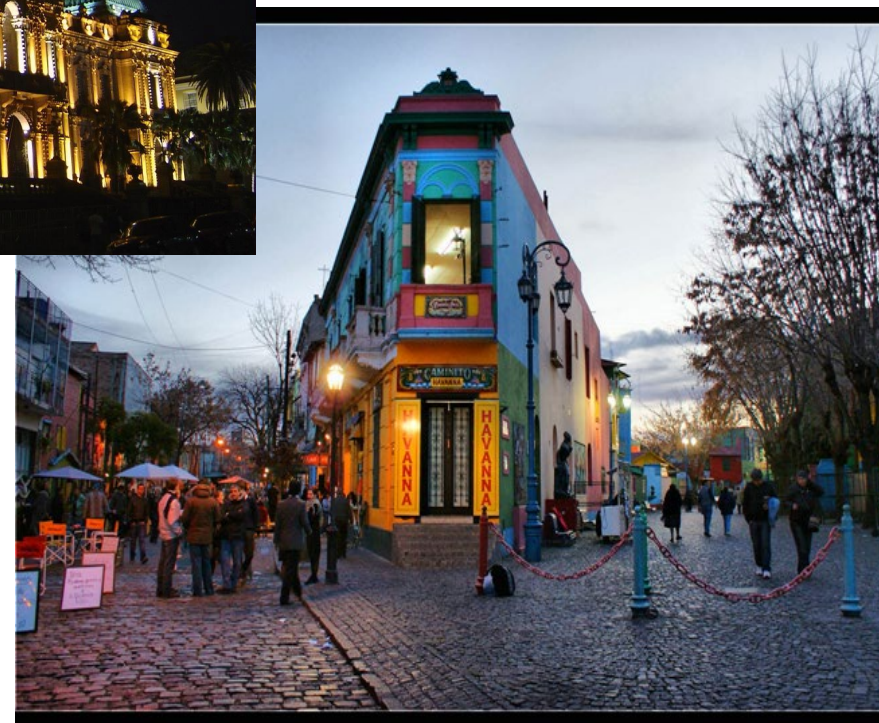
solar passive systems and solar protection



"heat gain or heat loss through windows are responsible for 25 to 30 percent of residential heating and cooling energy use."

www.energy.gov

in - street lighting



incandescent light bulbs have an EE rate of 35% while LED lights have an EE rate of around 80%, besides, LEDs last up to 26 times longer. Replacing incandescent lights by LED lights can save up to 90% of energy consumption.

https://c2e2.unepdtu.org/kms_object/upscaling-energy-efficiency-in-municipalities-sourcebook-on-project-bundling/

in – water supply systems



leaks from pipes, plumbing fixtures and fittings can be significantly reduced by regular water loss management and repair.

Why is the number of EE interventions not increasing?



EE projects typically constitute small investments



The traditional financial sector lack knowledge about EE projects



Multilateral Development Banks have high transaction costs



Small municipalities don't have enough credit rating

BUT



Many EE projects can be aggregated,
standardised and replicated through (PB)



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What is Project Bundling (PB)?

- ❑ The creation of a structure through which a number of small-scale projects (in various sectors) can be aggregated/bundled into one large- scale project or intervention;
- ❑ Standardisation of the various implementation components of a project/intervention;
- ❑ The standardisation may include the aggregation of different components such as: design, prefeasibility and feasibility studies, contract negotiation, search for funding, and implementation.

Benefits of the Project Bundling (PB) approach, and how it can accelerate EE improvement interventions

- ❑ It gives rise to economies of scale;
- ❑ It can be applied to multiple energy sectors: building (heating, cooling, lighting), street lighting, water supply systems, transport, and other sectors;
- ❑ It facilitates experience exchange and knowledge between municipalities;
- ❑ It enables access to high-level technical expertise;
- ❑ Rises the investment level making it more attractive to donors, development agencies and private investors.

5 key steps to do Project Bundling

- EE action plans
- Prioritisation of EE actions
- Specific project ideas
- EE Baseline

1. Generation of project ideas

- Preparation of project ideas
- Pre feasibility and feasibility

2. Assessment of project investment

- Process of investment-grade project proposal development

3. Creation of bundled project for investment

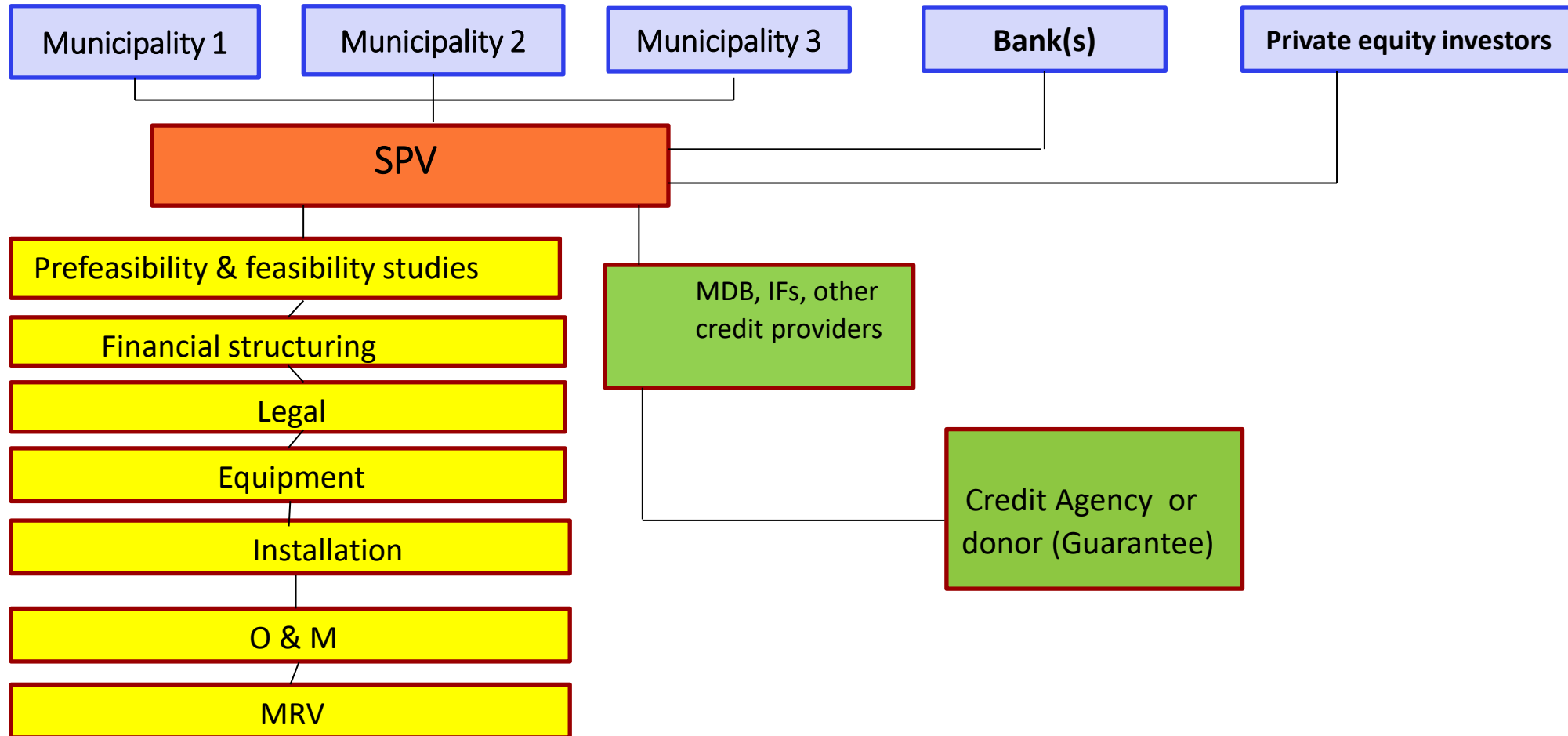
- Organising the tender process
- Developing a bulk procurement strategy
- Identification and selection of contractors

4. Bulk procurement of project for bundle

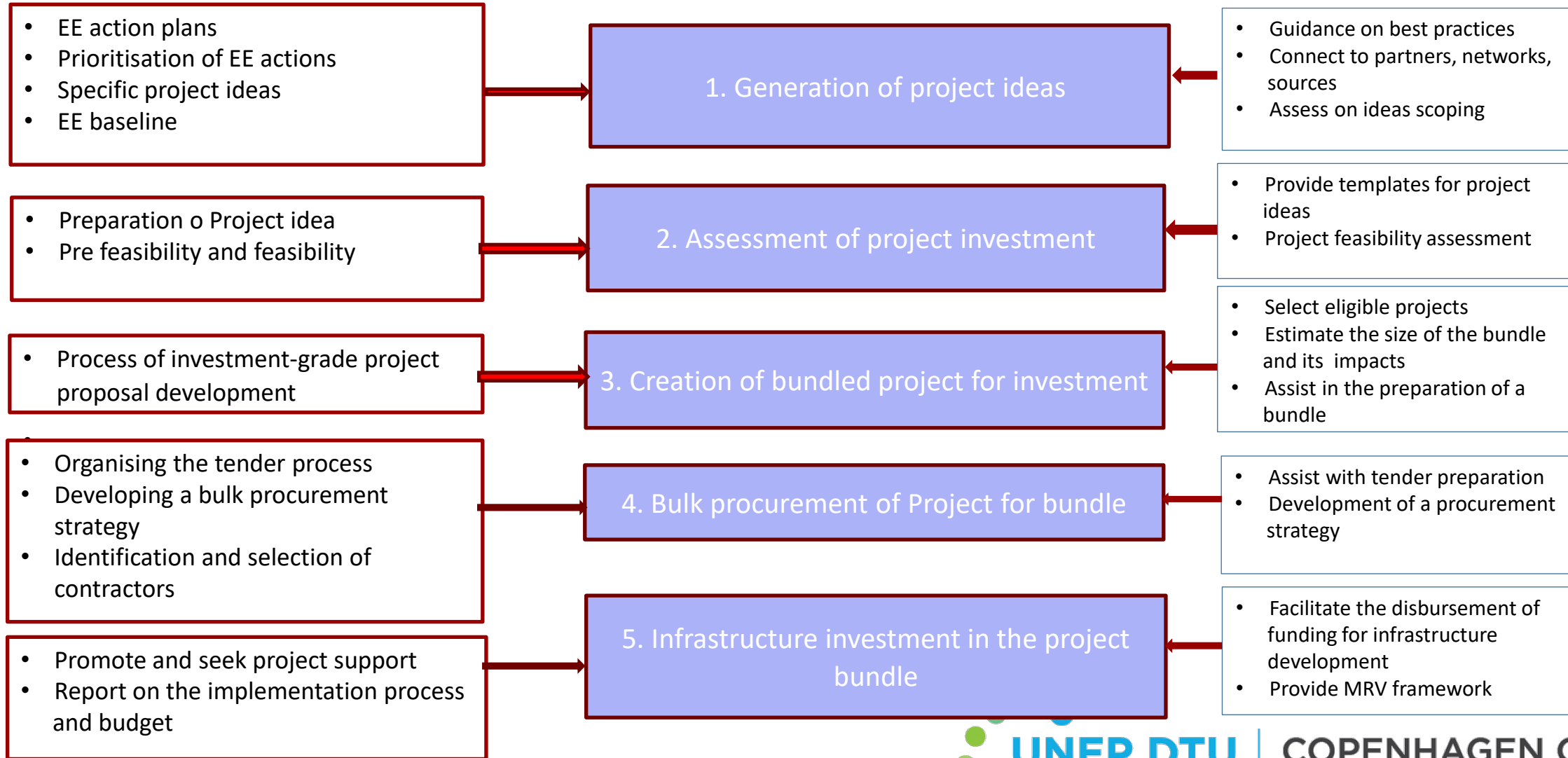
- Promotion and seek project support
- Report on the implementation process and budget

5. Infrastructure investment in the project bundle

SPV (special purpose vehicle) for the investment in an EE project bundling for several municipalities



The 5 key steps when doing Project Bundling, and how C2E2 can assist



C2E2 experience related to project bundling

1.



Small and
medium-size
cities

2.



Data collection
and analysis

3.



Project bundling

4.



Financing and public
purchases

5.



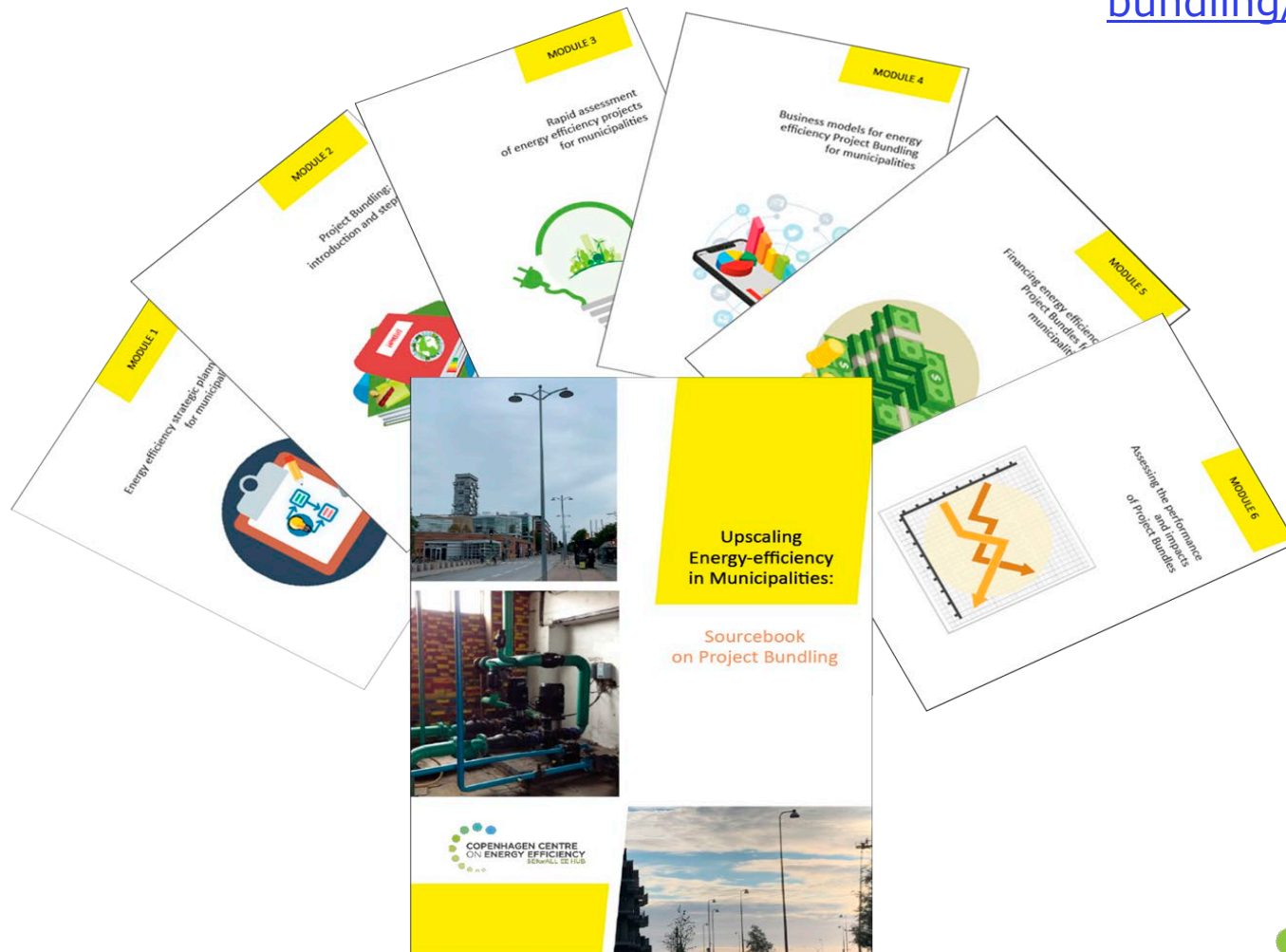
Investment
and
installation

6.



Measuring
Reporting &
verification
(MRV)

https://c2e2.unepdtu.org/kms_object/upscaling-energy-efficiency-in-municipalities-sourcebook-on-project-bundling/





Thank you for your attention

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