United Nations Framework Convention on Climate Change

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Outline

Background: Compendium on GHG Baselines and Monitoring

Volume: Residential, commercial and public buildings

Compendium on GHG Baselines and Monitoring

United Nations Framework Convention on Climate Change

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

On behalf of:

Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety

of the Federal Republic of Germany

IRENA International Renewable Energy Agency

WORLD RESOURCES INSTITUTE

INTEGRAL A Member of Shaker Group

CCAP CENTER FOR CLEAN AIR POLICY

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Food and Agriculture Organization of the United Nations

WORLD BANK GROUP Climate Change

INFRAS

THINKING FOR TOMORROW

COPENHAGEN CENTRE ON ENERGY EFFICIENCY SEforALL EE HUB

pmr PARTNERSHIP FOR MARKET READINESS

Partnership on Sustainable Low Carbon Transport

ECONOLER

IFC International Finance Corporation WORLD BANK GROUP

Compendium on GHG Baselines and Monitoring

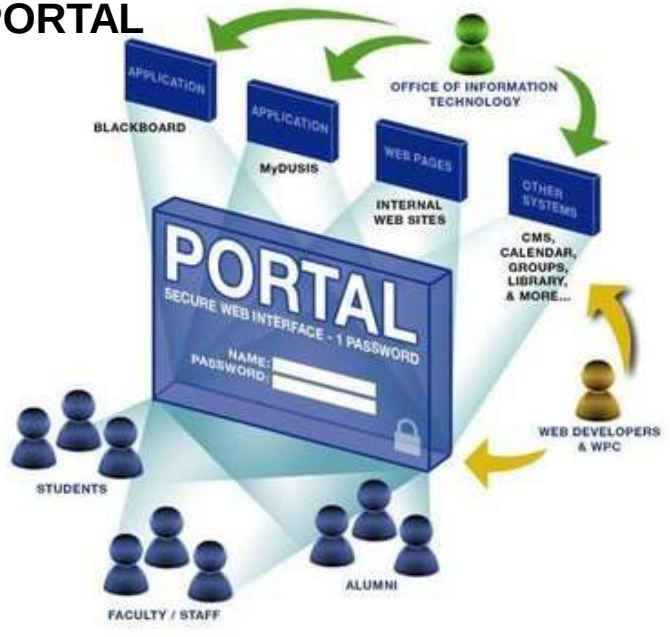
- Resource map of methods, methodologies & tools
- Establish baselines, estimate & monitor emission reductions
- Wide range of mitigation actions
  - Economy-wide emission reduction targets
  - Sectoral-level
  - Sub-sectoral
  - Project- or facility-level
- All IPCC sectors

Compendium on GHG Baselines and Monitoring

VOLUMES:

1. General guidance on baseline setting and monitoring;
2. National level mitigation actions;
3. Energy industries;
4. Manufacturing industries and construction;
5. Buildings (commercial, institutional and residential);
6. Transport;
7. Agriculture, forestry and other land use;
8. Waste management;
9. Cross-sectoral mitigation actions;
10. Synopsis and linkages between aggregation levels.

WEB-PORTAL



TRAINING/e-LEARNING

Compendium on GHG Baselines and Monitoring

Tier 1.

- Lower accuracy & data intensity

Tier 2.

- Intermediate accuracy & data intensity

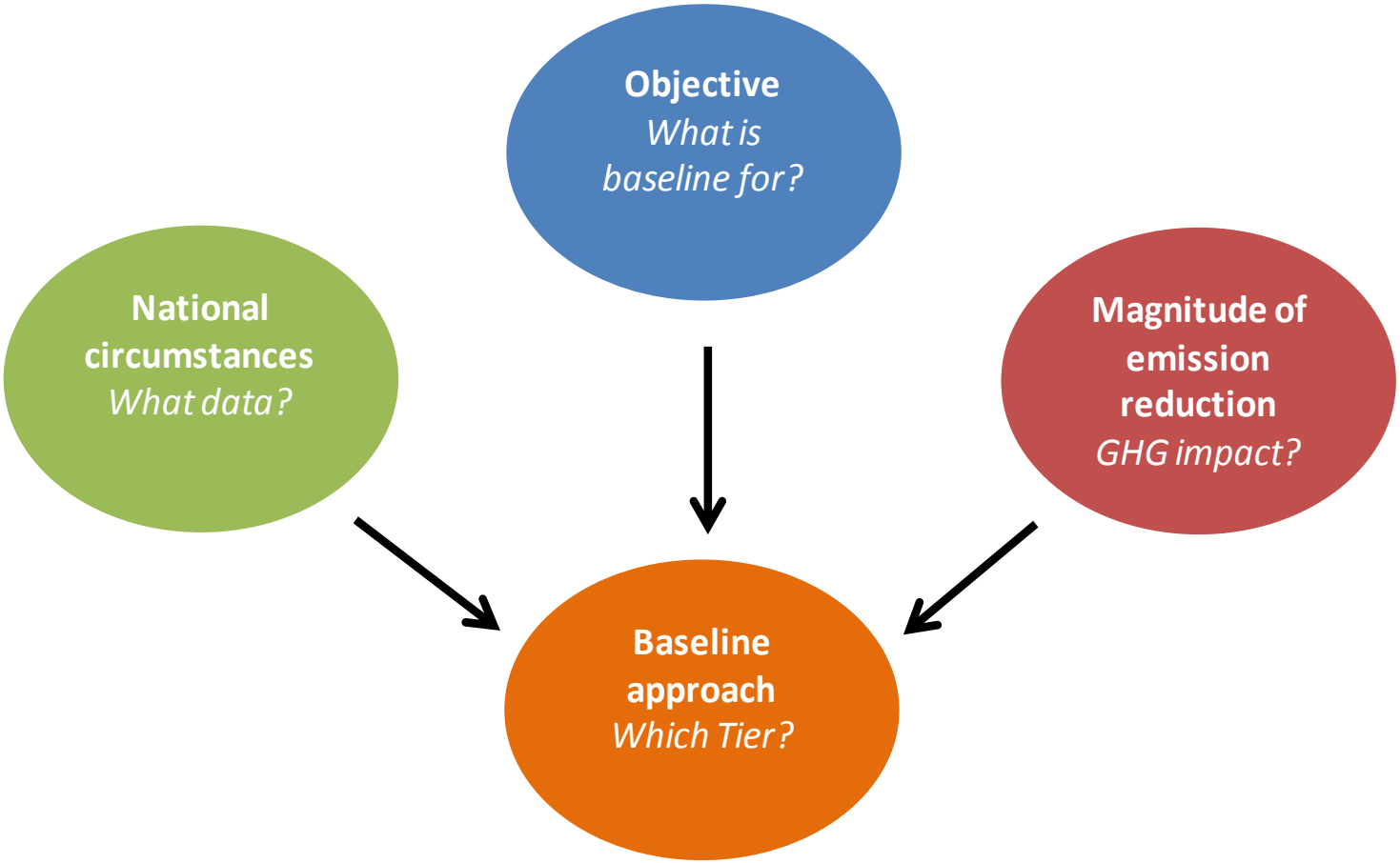
Tier 3.

- Higher accuracy & data intensity

Accuracy & data intensity

- **Activity data**
  - Static/linear extrapolation of historic AD trends vs. AD on sector/installation level, detailed AD models
- **Emission factors, intensities**
  - Global/regional default EFs,
  - Country-specific EFs
  - Best available EF data from sector/installation level
- **Inclusion of policies & actions**
  - Few/most/all significant policies
- **Assumptions about policies & drivers**
  - Static/linear extrapolations of historic trends
  - Dynamic & estimated based on detailed modeling
- **Coverage of emission sources/gases**
  - Main vs. all
- **Level of effort:** Low, intermediate, high

Compendium on GHG Baselines and Monitoring



Compendium on GHG Baselines and Monitoring

1. National level mitigation actions;
2. Manufacturing industries and construction;
3. Passenger and freight transport;
4. Agriculture, forestry and other land use;
5. Residential, commercial and public buildings;

Residential, commercial and public buildings

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Framework Convention on
Climate Change

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Residential, commercial and public buildings

50 GHG baseline and monitoring methodologies:

- Residential
- Commercial,
- Public buildings

Main sources of methodologies

- Protocols, guidelines, models – international scrutiny
- Clean Development Mechanism (CDM)
- Gold Standard (GS)
- Verified Carbon Standard (VCS)

Residential, commercial and public buildings

- **Demand-side energy efficiency**
  28 methodologies
- **On-site renewable energy**
  11 methodologies
- **Fuel switching**
  3 methodologies
- **Whole building**
  6 methodologies
- **GHG avoidance and destruction**
  2 methodologies

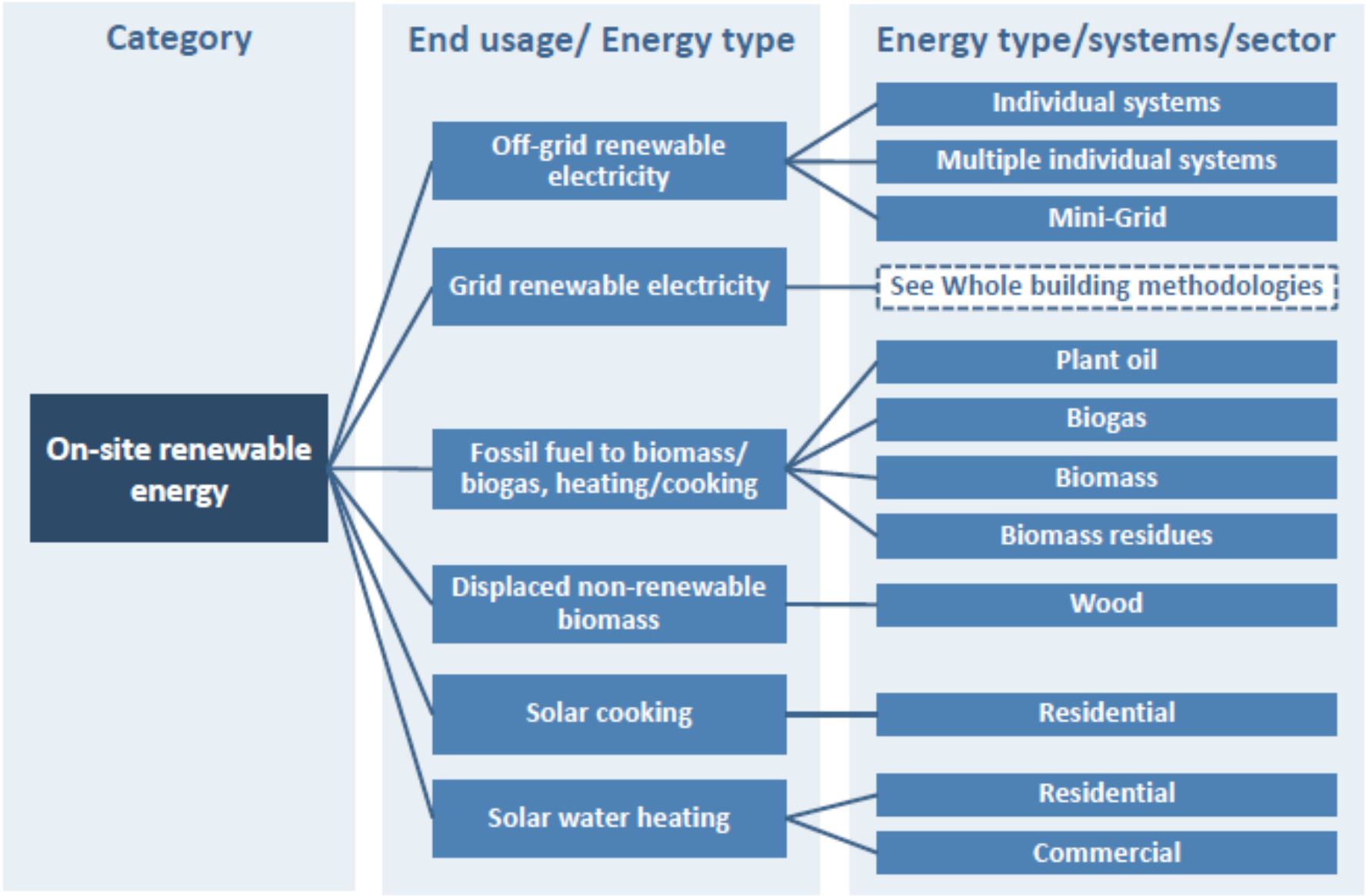
Categories

- Demand Side Energy efficiency
- On-site renewable energy
- Fuel switch
- Whole building (Multiple EE, RE and fuel switch)
- GHG avoidance & destruction

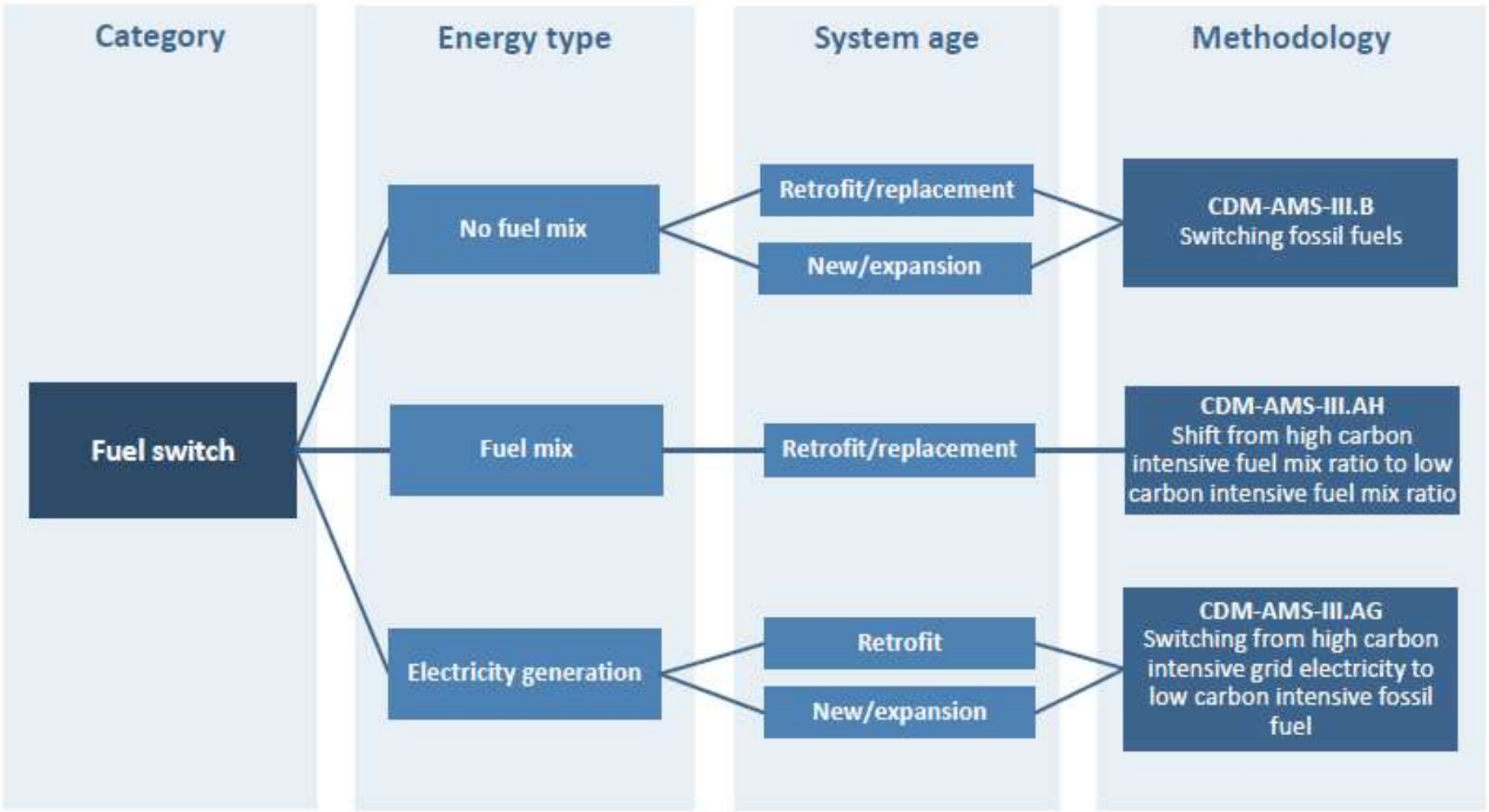
Demand side energy efficiency

Category	End usage/ Energy type
Demand Side Energy efficiency	Electrical lighting retrofit
	Fossil fuel lighting retrofit
	Outdoor lighting
	Water saving devices
	Combined lighting & water saving devices
	Water purification
	Water purification
	Cooking (Heating)
	Household appliances
	Data centres
	Envelope, space heating and cooling
	Energy recovery
	Motor systems (fan, pump, etc)
	Single and combined equipment

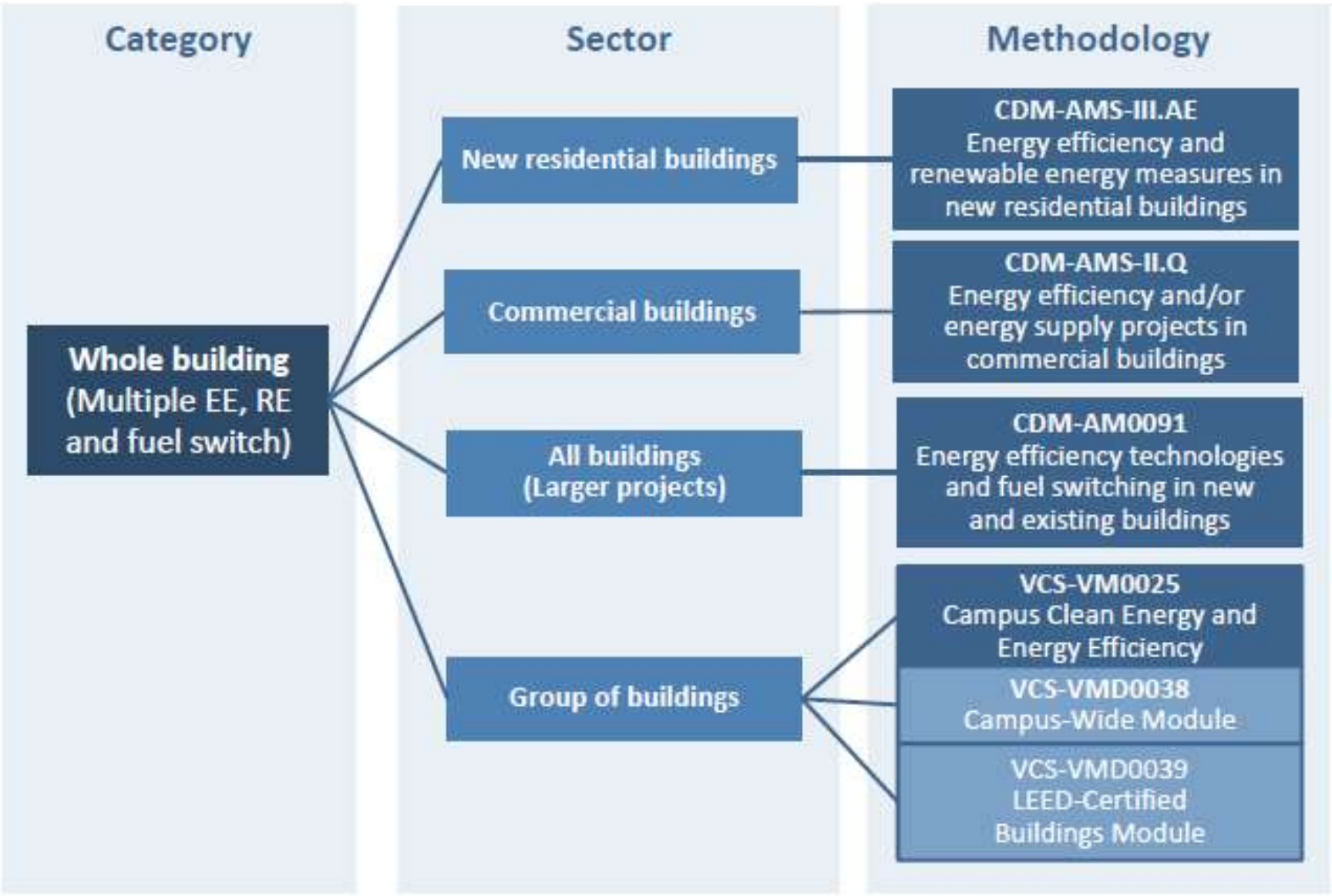
On-site renewable energy



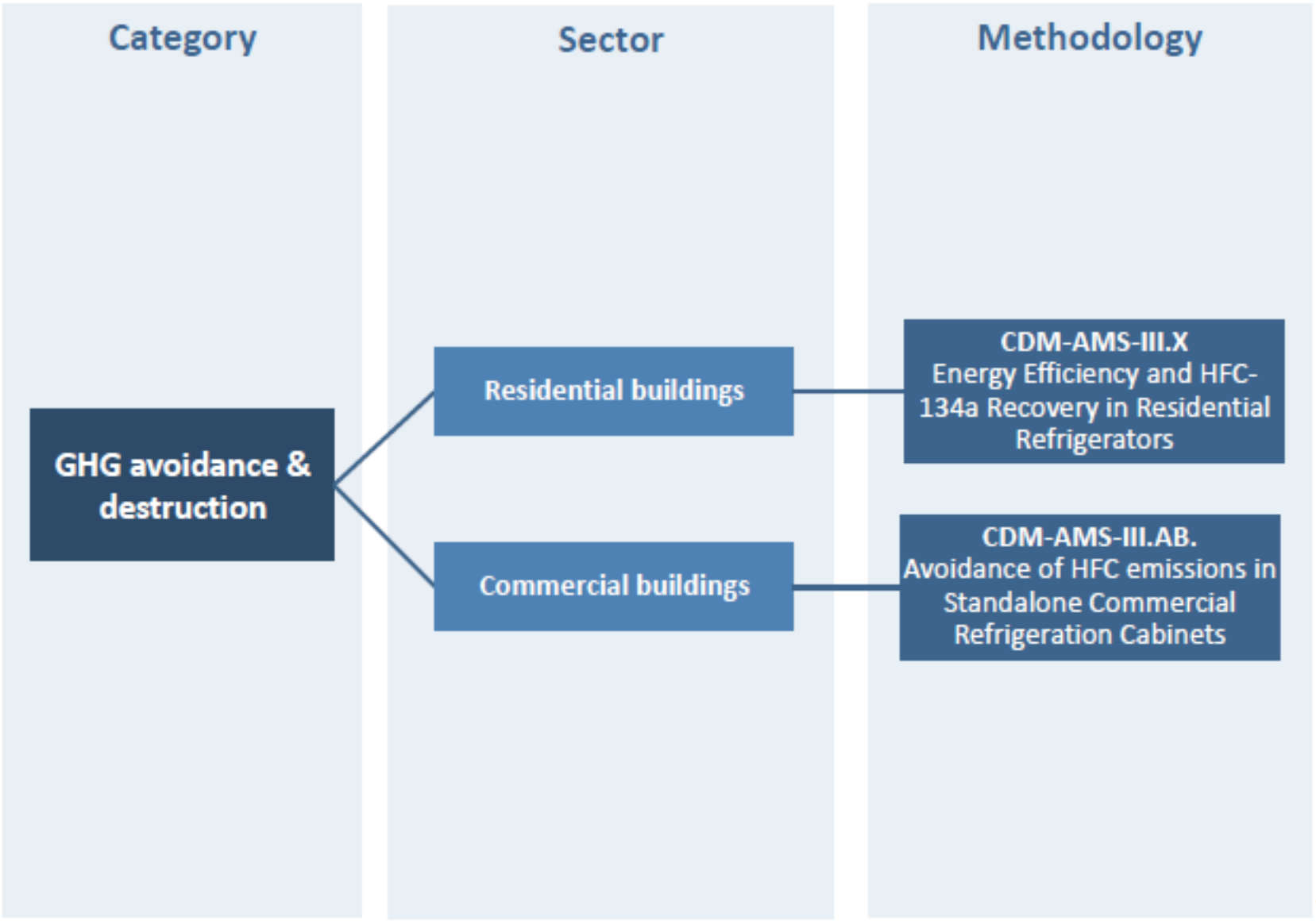
Fuel switch


Category
Energy type
System age
Methodology
Fuel switch
No fuel mix
Fuel mix
Electricity generation
Retrofit/replacement
New/expansion
Retrofit/replacement
Retrofit
New/expansion
CDM-AMS-III.B
Switching fossil fuels
CDM-AMS-III.AH
Shift from high carbon intensive fuel mix ratio to low carbon intensive fuel mix ratio
CDM-AMS-III.AG
Switching from high carbon intensive grid electricity to low carbon intensive fossil fuel

Whole building



GHG avoidance and destruction



Residential, commercial and public buildings

- A lack of internationally agreed standards and guidance – one of major problems for preparation of NAMAs

- Donors & financiers:
  - Robust MRV as a condition to access finance for implementation

- Compendium:
  - systematized overview of available methods &
  - guidance on selecting the most appropriate one ~ objective, data & expertise availability

- Thank you for your attention!

- Any questions?

Contact us: VNovikova@unfccc.int

MAND-SIDE ENERGY EFFICIENCY

HTING EXAMPLE)

I-SITE RENEWABLE ENERGY
F-GRID RENEWABLE ENERGY EXAMPLE)