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BUILD_ME

BUILD_ME

IKI Project Accelerating 0-emission building sector ambitions in the MENA region

Relevance of Energy Performance Certificates

March 2024

IKI INTERNATIONAL CLIMATE INITIATIVE

Federal Ministry for Economic Affairs and Climate Action

Technical instructions

Working together effectively

- Presentation will be published on our project website afterwards.
  – https://www.buildings-mena.com/info/news
- We look forward to your active participation.
- Feel free to write your questions in the Q&A box or raise your hand to be allowed to use the mic.
- Keep your camera´s off, if you are not speaking
- For technical problems/questions, reach out to:
  – akram.almohamadi@rcreee.org

Photo by Chris Montgomery on Unsplash

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Welcoming words

Mr. Akram Almohamadi

Sustainable Energy Expert

Regional Center for Renewable Energy and Energy Efficiency (RCREEE)

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Agenda

1. **Welcoming**
2. Introduction of **BUILD_ME** and its **EPCs**
3. **Moderated Panel Session**
4. **Q&A**
5. **Outlook** and **Wrap Up**

Introduction of **BUILD_ME and its EPCs**

Mr. Riadh Bhar

Associate Director

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Overview

BUILD_ME

Accelerating Zero-Emission Building Sector Ambitions in the MENA Region

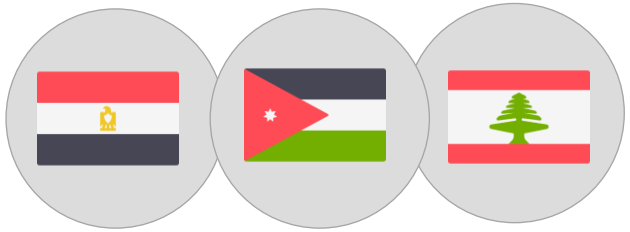
Fund

IKI INTERNATIONALE KLIMASCHUTZ INITIATIVE

IKI International Climate Initiative

Federal Ministry for Economic Affairs and Climate Action

Scope



1st Phase: 2016 - 2018

2nd Phase: 2019 - 2022

3rd Phase: 2023 - 2025

Partners

HBRC

IDG MATRIX Integrated Development Group

Royal Scientific Society

LCEC Lebanese Center for Energy Conservation

European Bank for Reconstruction and Development

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EGYPT GBC

LGBC

RCREEE Regional Center for Renewable Energy and Energy Efficiency

ALCOR

Problem Identification

The lack of a baseline hindering the assessment of low energy buildings in the BUILD_ME countries

Lack of enforcement and/or availability of EEBCs

Lack of data about BaU constructions

No benchmarking of buildings' energy performance

NO

energy consumption baseline

Bottleneck

To finance energy efficient buildings

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Objective

Easier access to financing for energy efficient buildings

How to design and finance an energy efficient project?

BEP Tool shows:

- ✓ 25% energy saving in comparison with **baseline**
- ✓ Financing available at local bank

Intermediating **bank grants credit** based on trusted classification scheme

Project is realised as energy efficient building

Our Integrated Solution

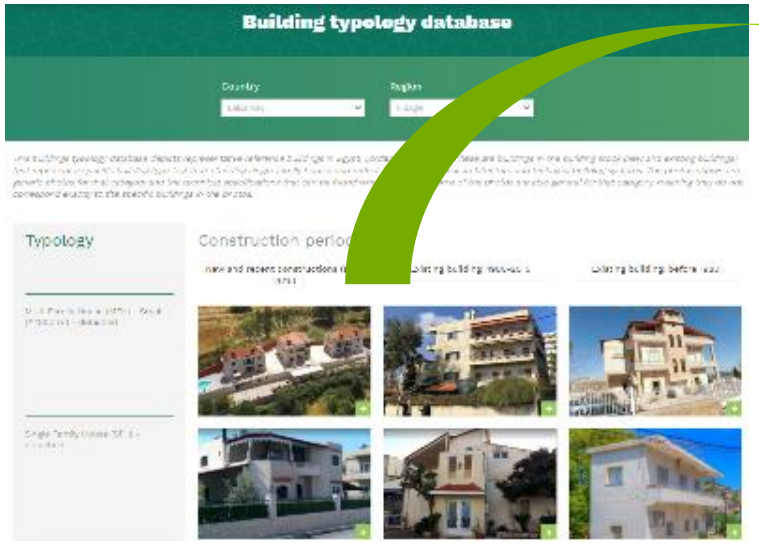
Define own baselines and develop tailored energy labelling scheme for new buildings

- Data from real constructions not older than 3 years
- At least 5 cases per building type covered in each country building typology
- Data from subsidy programs, literature, interviews with relevant stakeholders, permits documents etc.

- BEP tool based on ISO 52016, fed with local data used as calculation engine.

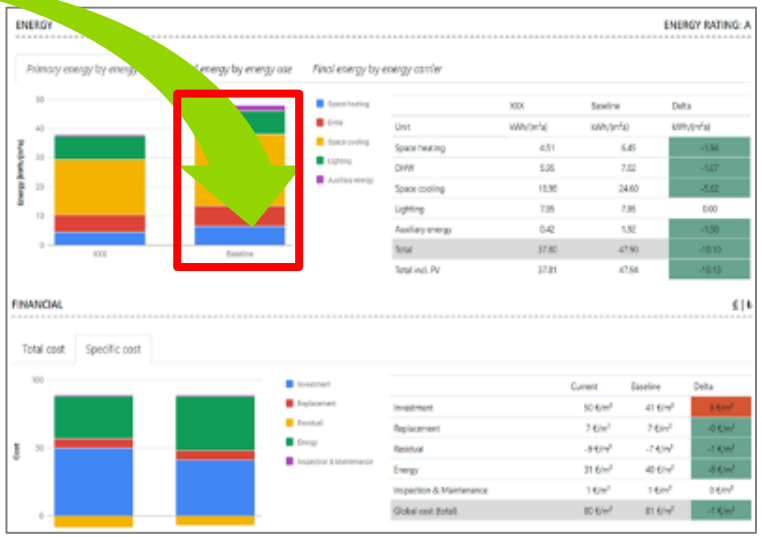
- Researched buildings in building typology represents baseline, which is shown in the BEP Tool as default value.

Reference Buildings and Building Typology



BUILD_ME Building Energy Performance Calculation tool

Classification of buildings compared to baseline



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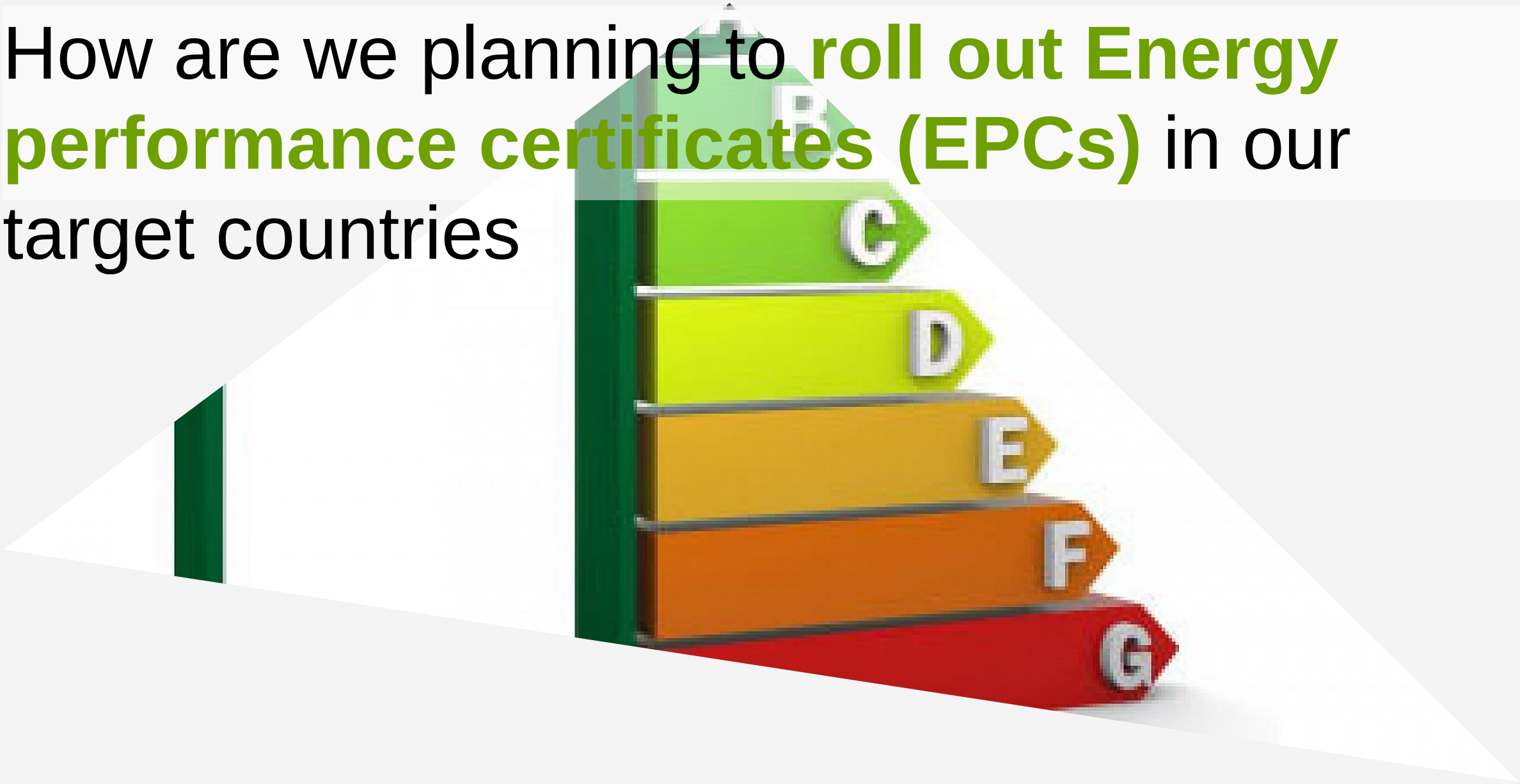
How are we planning to **roll out Energy performance certificates (EPCs)** in our target countries



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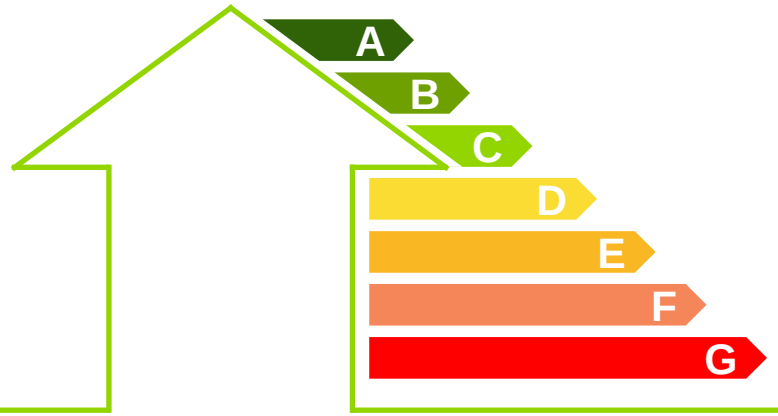
Definition

Energy Performance Certificate

“Energy performance certificates (EPC) indicate the energy performance of a building or a building unit, calculated according to a methodology complying with the common general framework adopted at the national or regional level” [EPBD]



Objectives of the Energy Performance Certificate

The BEP tool connected with EPC for easier facilitating of Green finance

Customized for the local conditions

The EPC and BEP tool and the EPC will provide a new channel for project developers interested to construct EE projects. (no competition with the existing schemes.

Energy Focused

The EPC and BEP tool focus on energy savings and the associated GHG emissions.

Locally managed by official entities

The EPC and the tool well be managed and owned by the official entities responsible of implementing the codes and/or the construction sector. E.g., HBRC in Egypt, RSS (+tbd) in Jordan and LCEC in Lebanon.

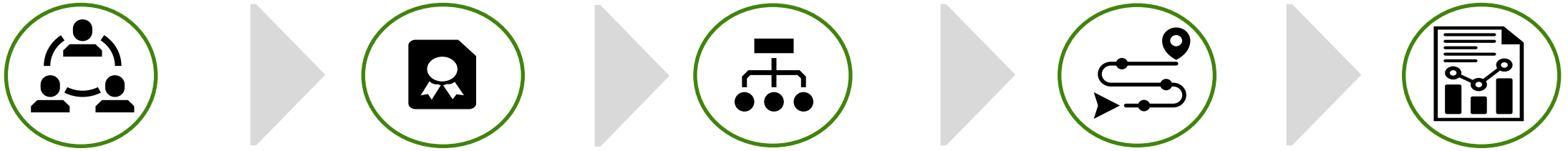
Voluntary EPC towards mandatory

The EPC will initially start as a voluntary scheme.

Ensuring a transition to mandatory scheme – relevant to become on of the key policy instruments

Roadmap for setting up the new scheme

Energy Performance Certificate



Ownership and management

- Defining goals
- Developing a governance model
- Defining the legal framework
- Creating brand value
- Providing guidance documents
- Defining a certification and verification model
- Maintaining a database or register with the certification results
- Communication to the public and building industry stakeholders

Certification scheme

- Scope of the scheme
- Target Market
- Rating score
- Derivation of the energy performance
- Updates and validity of assessment
- **Design of the certificates**
- Database
- **Cost of the certification**
- Engagement with stakeholders

Operational framework

- Certification and labelling process
- Computational model for the rating
- Set of award criteria for certification
- **Set of criteria to be an assessor**
- Design of the label
- Verification, monitoring, surveillance and enforcement (including penalties)

Testing and roll out

- Phased implementation
  - Building sector
  - Professionals
  - Target groups
- Capacity building programmes

Evaluation and update

- Regulatory impact assessment (ex-ante evaluation)
  - Costs
  - Benefits
  - Regulatory context needed
- Plan and mechanism for evaluating the effectiveness of the scheme (ex-post evaluation)

Defining the EPC scheme concept

Energy Performance Certificate

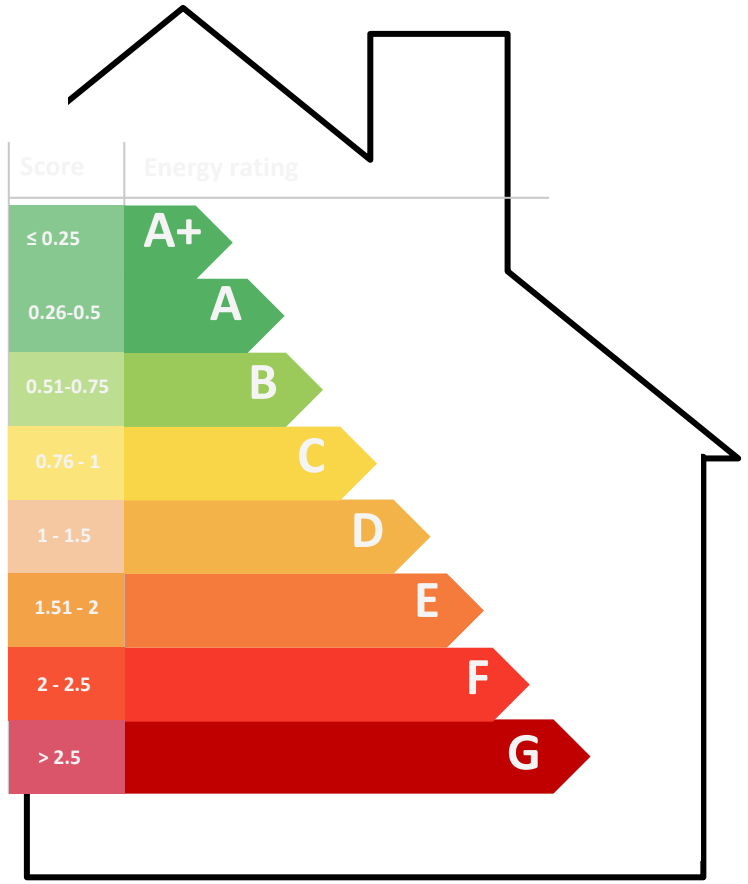
1	**Scheme management**	**Central responsible authority** Egypt: Housing and Building National Research Center (HBRC), research arm of the Ministry of Housing. Jordan: Royal Scientific Society RSS, research arm of Jordan National Building Council JNBC) Lebanon: LCEC
2	**Operational structure**	**An online platform** User friendly online platform managed by the central responsible authority. Supplementary drawings and documents to be submitted to the responsible central authority.
3	**Target Market**	**E,g, new buildings** Residential buildings: Single family houses SFH and Multi-family houses MFH Offices and schools including different sizes of
4	**Rating score**	**Performance scale system (Labelling scheme)** Different levels of performance and a corresponding certification. Like the labelling systems for households, where performance is labelled in a scale from A to G (see next slide)
5	**Asset Rating**	**Asset/building label, two levels of verification** Design phase. Post Construction phase.
6	**Design of the certificate**	**Three main KPIs** Energy consumption and associated GHG Emissions Financial indicators of associated costs and potential financial support.
8	**Process**	Definition of the process and the roles of different stakeholders
9	**Database**	**Database/register**
10	**Costs**	Work in progress to decide on the costs

Rating score

Energy Performance Certificate

Rating scores inspired by EN 15217 Standard and market needs

Class	Term	Score
A+	better than the Energy Performance Regulation Reference (+75%)	≤ 0.25
A	better than the Energy Performance Regulation Reference (+50%)	0.26 - 0.5
B	better than the Energy Performance Regulation Reference (+25%)	0.51 – 0.75
C	**1 stands for the Energy Performance Regulation (new buildings according EEBC)**	**0.76 - 1**
D	between the Energy Performance Regulation Reference, and the Building stock reference	1.01 – 1.5
E	Building stock reference starts here	1.51 - 2.0
F	poorer than the Building Stock Reference	2.01 – 2.5
G	poorer than the Building Stock Reference	> 2.5



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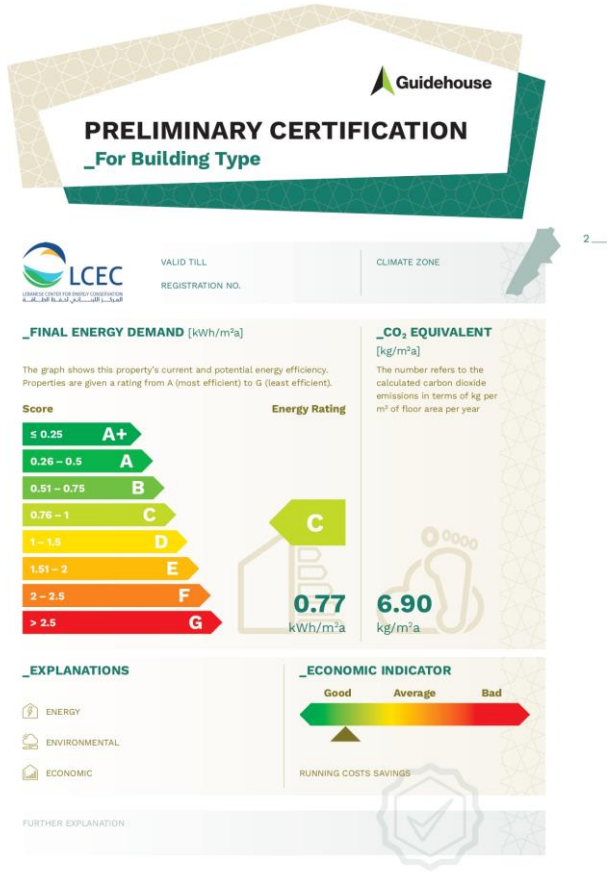
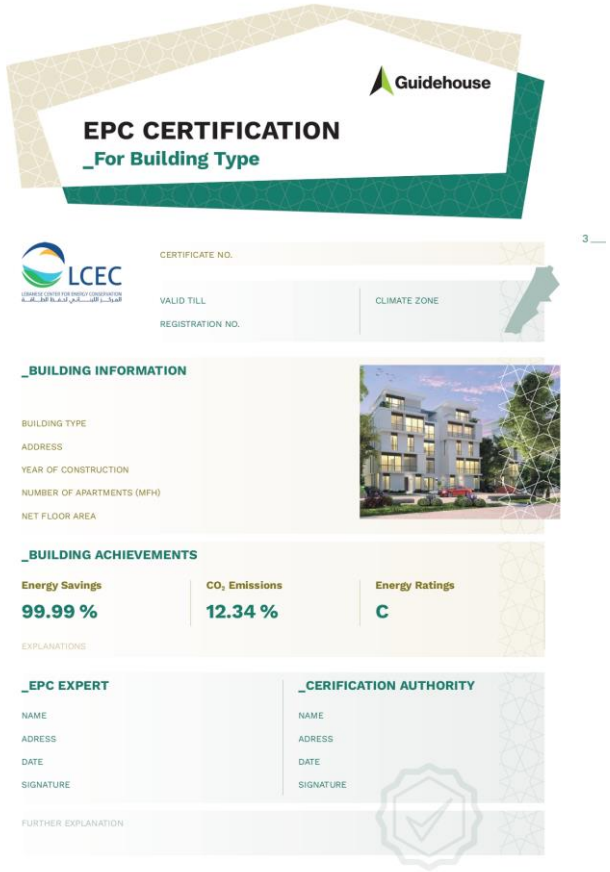
1st Draft of the Certification

Energy Performance Certificate



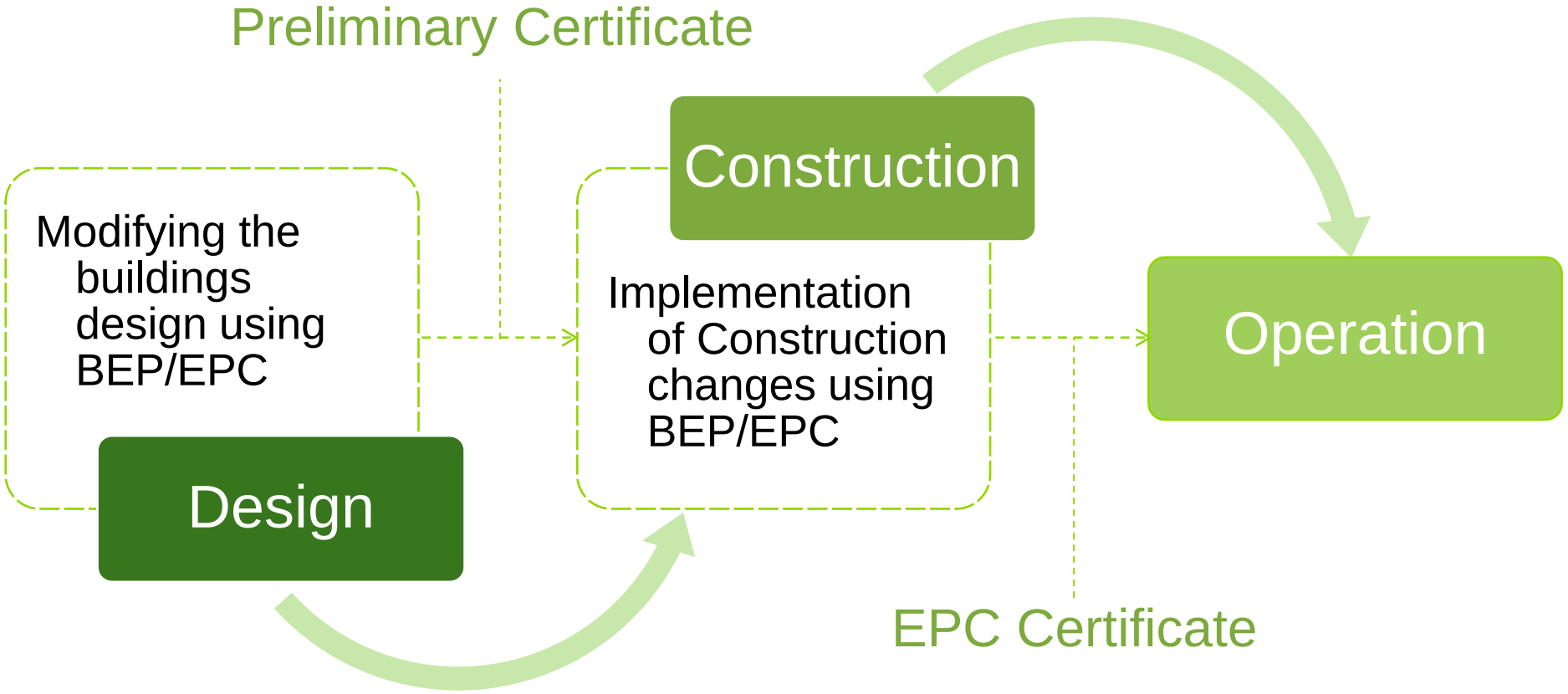


Design Phase

Construction Phase

Scope

EPC process



Initial **Preliminary Certificate** is provided following the **Design Stage**
A Final **EPC Certificate** is provided with the **Construction Stage** completion
No EPC certificate for Building **Operation Stage**

Process in detail

EPC process

Hiring EPC Expert

- Design Inputs into EPC
- Project Registration
- Design Documentation Submission

Auditor Review

EPC Check by HBRC

Preliminary Certification

As-Built Inputs into EPC

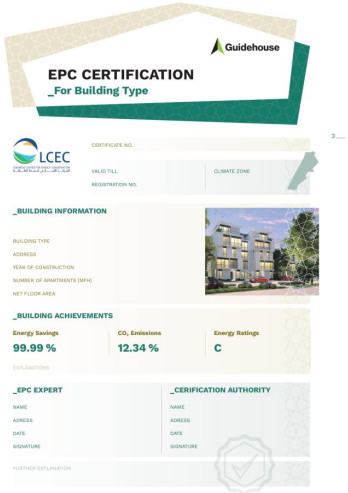
Project Final Registration

As-Built Documentation Submission

Auditor Review and Site Audit

EPC Final Check by HBRC

EPC Certification



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Conclusion - Relevance and added value

Energy Performance Certificate

Building owners

- Clear demonstration of the energy performance of the building
- Identification of the cost savings potential
- Helps to plan adequate renovation
- Increment of the market value of energy efficient buildings

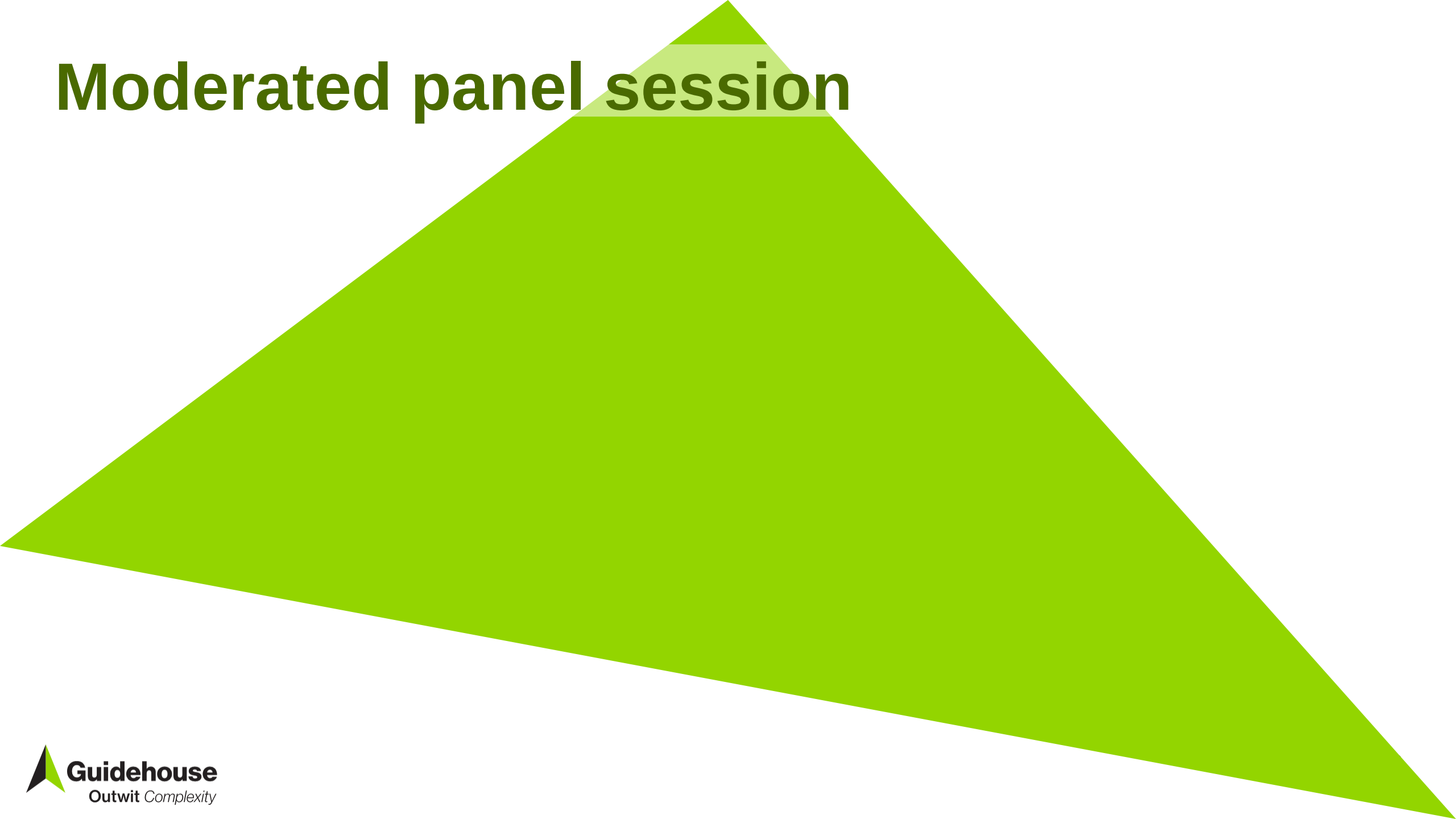
Policy makers

- Access to better data on building stock
- Understand the status of the energy performance of buildings stock
- monitor the impact of financial support schemes and policies
- Better planning of national or region wide policies to improve the energy performance of the building stock

Financial institutions

- Provides Transparency
- Acts as a basis for decision making
- Helps in own portfolio management

Moderated panel session



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Panelists

Mr. Eslam Mahdy (Moderator)

Managing Consultant

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Dr. Ashraf Kamal

Prof. of Arch., Urban Planning & Economics

Housing and Building national Research Center (HBRC)

Mr. Pierre El Khoury

General Director & President of the Board

Lebanese Center for Energy Conservation (LCEC)

Question 1

Key developments in the building sector in your country and the **role of energy efficiency**?

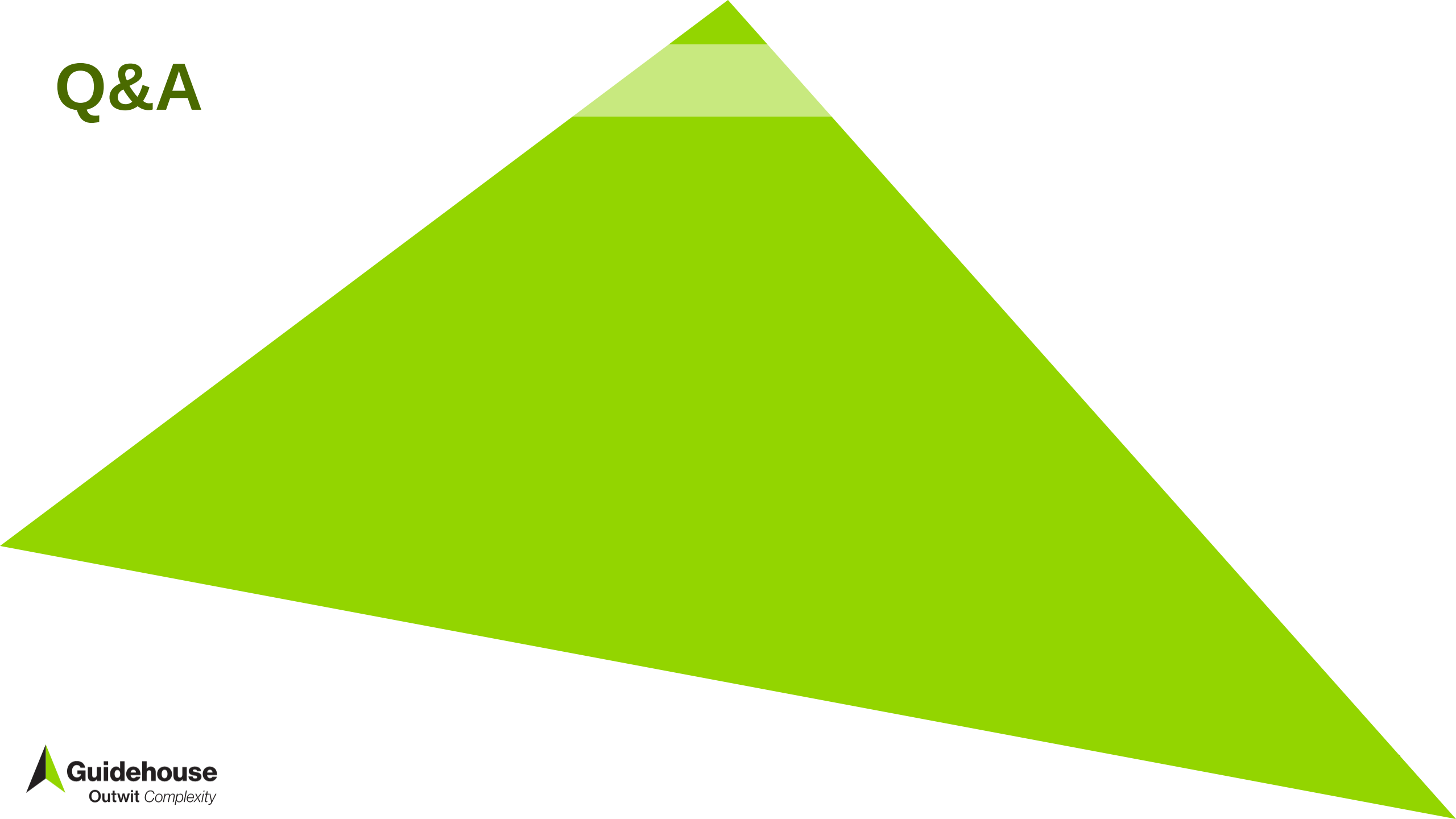
Question 2

Elaborate on **key successes, key challenges** related to energy efficiency in the building sector?

Question 3

Why have **opted for the EPC as a possible solution to decarbonize the building sector** in your home country?

Q&A



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Outlook and Wrap Up

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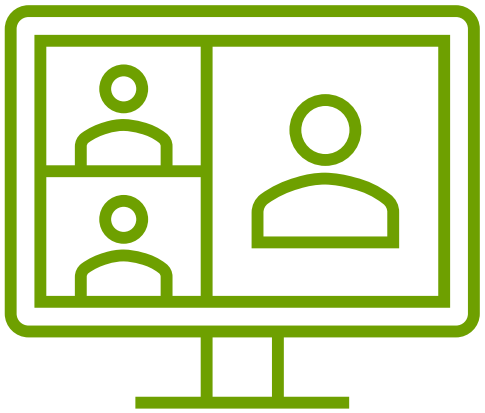
Outlook

Next steps in the project

National Workshops



Trainings

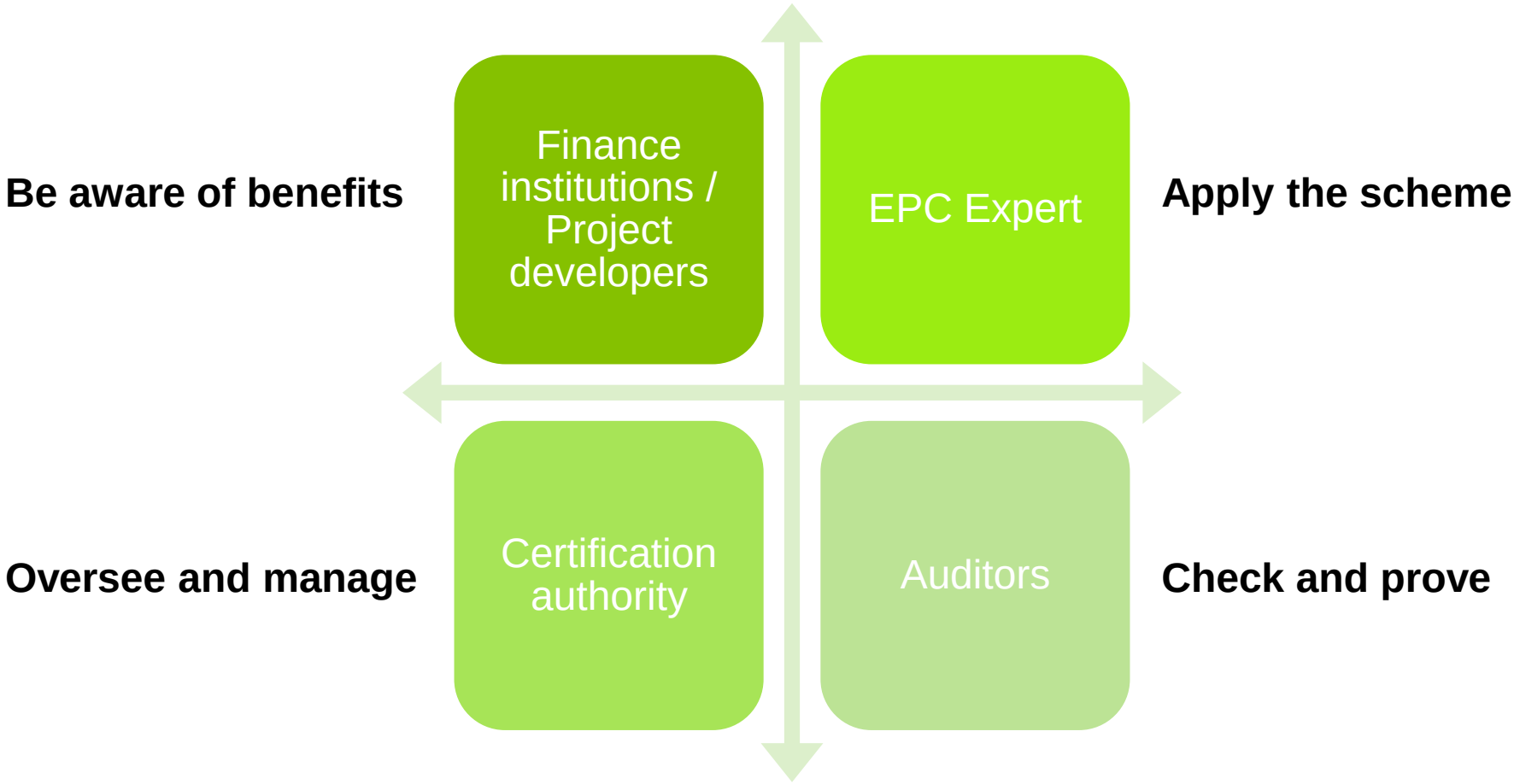
Roll out EPCs

National Workshops

Series of WS in May planned, the Lebanon WS is still tbc

Trainings

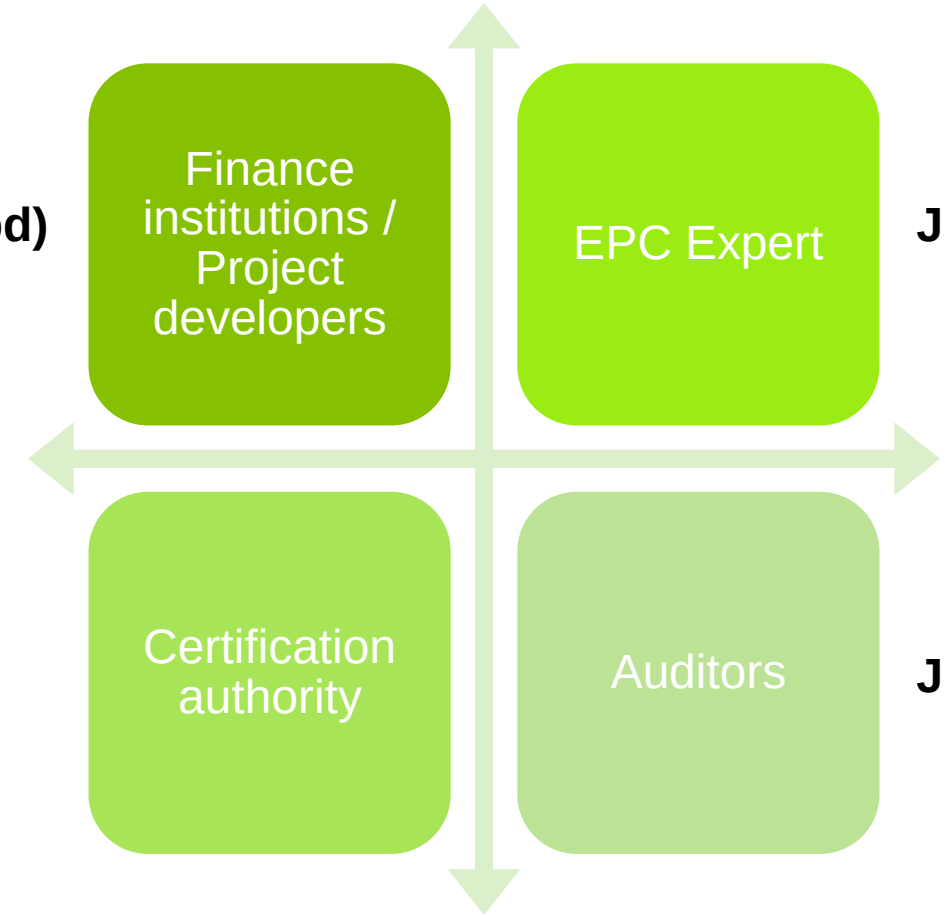
Concept of a target orientated capacity building plan



Trainings

Planned dates

June – Sept (still tbd)



June – Sept (still tbd)

May - June

June – Sept (still tbd)

Roll out of EPCs

Matchmaking between financial institutions (FI) and project developers

FIs and Banks sustainable finance offerings for green buildings

Matchmaking

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BUILD_ME team will facilitate and coordinate the collaboration between project developers and FIs to use the project BEP Tool.

Project developers of green buildings

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Conclusion

Why are EPCs essential to decarbonize the building sector?

Introduction of a **transparent** Energy Classification Scheme that aims at **facilitating access to finance** for buildings.

Enabling competitiveness among project developers in the application of Energy Efficient measures to **achieve higher Energy Class**.

Support the reform & transitions of political frameworks which foster the partner countries' **ambitions to achieve climate-neutral building standards**.

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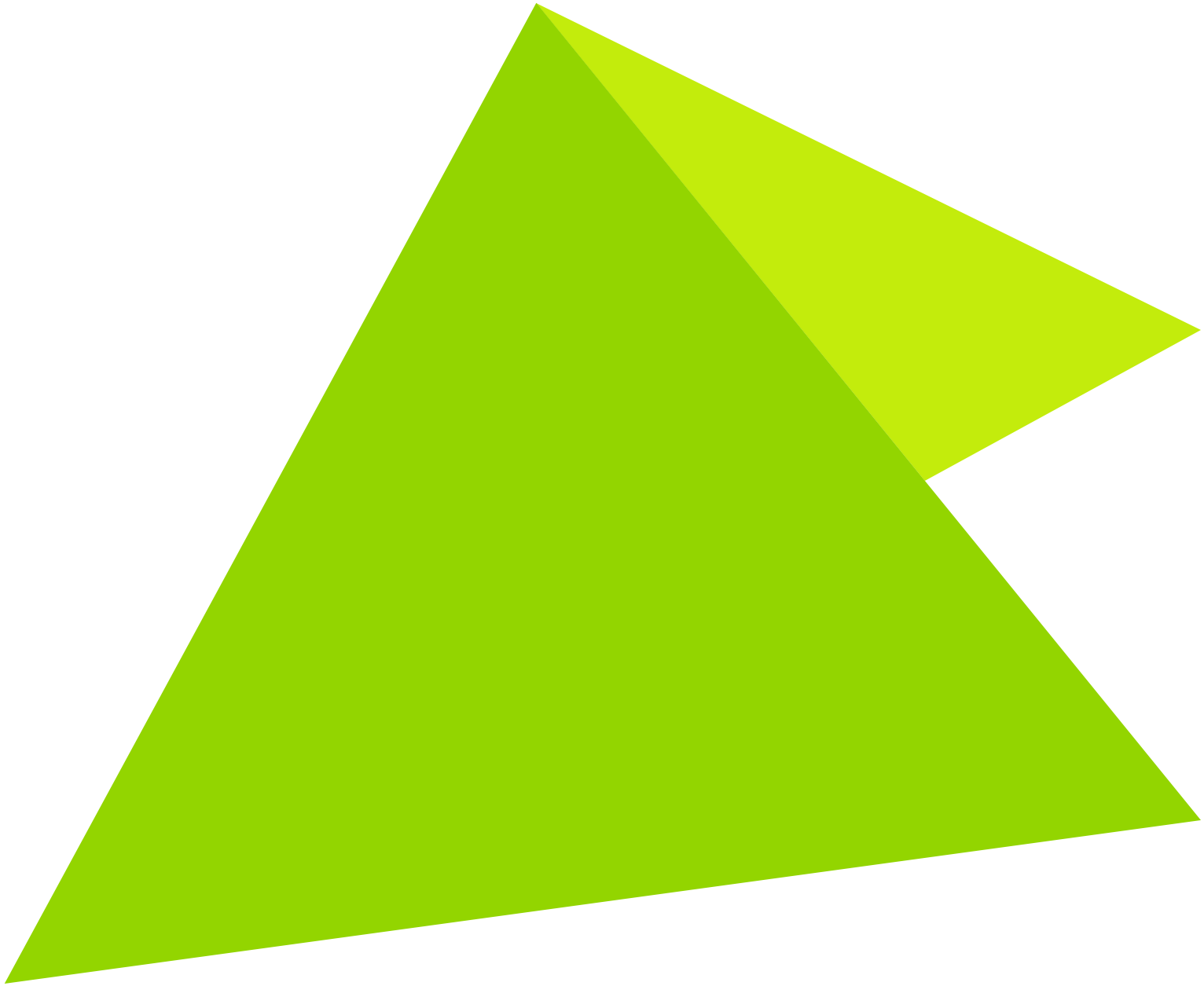

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