

# Technical workshop: Practical aspects of sustainable energy development in Kyrgyzstan

Quality control of energy performance certificates  
Bishkek, October 6, 2023

## The proposed approach for Quality control of Energy performance certificates in Kyrgyzstan – main elements and alternative options/implementation models

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# OVERVIEW OF THE PRESENTATION



① BRIEF OVERVIEW  
OF THE CURRENT  
SITUATION OF EPC  
SYSTEM

② THE PROPOSAL  
HOW TO IMPROVE  
CURRENT SITUATION

③ NEXT STEPS IN  
PROPOSAL AND  
IMPLEMENTATION  
ROADMAP  
DEVELOPMENT

# QUALITY CONTROL ACCORDING TO LAW OF THE KYRGYZ REPUBLIC ABOUT THE ENERGY EFFICIENCY OF BUILDINGS



## Article 6. Activities of government bodies in the field of energy efficiency of buildings

(...)

3. The competence of the *authorized state body in the field of ensuring and implementing a unified state policy in the fuel and energy* complex includes:

(...)

2) monitoring the quality of work performed on energy certification of buildings and (or) periodic monitoring of the energy efficiency of boilers, heating systems and hot water supply;

## Article 8. Monitoring the quality of work performed in the field of energy efficiency of buildings

1. *Monitoring* the quality of work performed in the field of energy efficiency of buildings *is carried out at least once a year* by examining energy certificates of buildings and (or) reports on periodic monitoring of the energy efficiency of boilers, heating systems and hot water supply.

2. *The procedure* for monitoring the quality of work performed on energy certification of buildings and (or) periodic monitoring of the energy efficiency of boilers, heating systems and hot water supply *is established by the Government of the Kyrgyz Republic*.

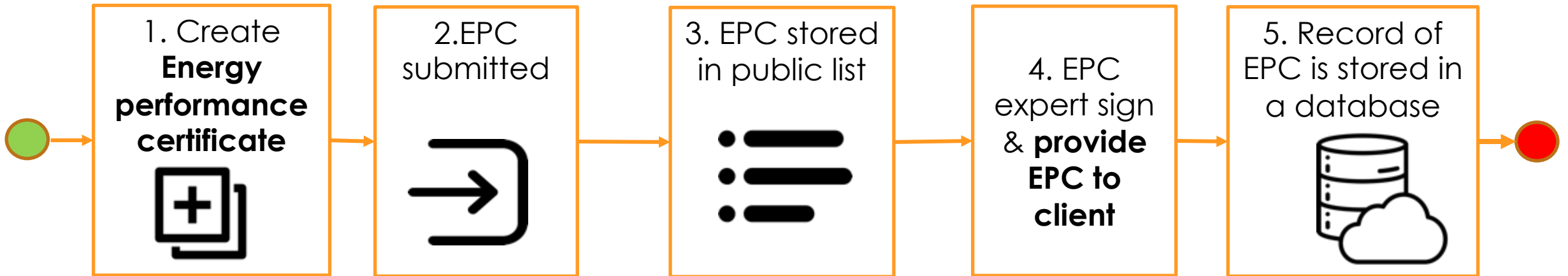
Quality monitoring should be carried at least once in a year

The Government of the Kyrgyz Republic should establish the procedures for that.

# EPC SYSTEM: NO QUALITY CONTROL



There is no quality control clearly expressed in the current system.



Quality monitoring activity according to the LAW?

Quality control is missing in the current system. It is not just about ensuring accuracy; it's about building trust, promoting genuine energy efficiency, and maximising the EPC system's economic, environmental, and social benefits.



THE PROPOSED APPROACH FOR QUALITY CONTROL OF ENERGY  
PERFORMANCE CERTIFICATES

# THE PROPOSAL



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# STRUCTURE OF THE PROPOSAL



Outside of the proposal:

Legislation that clearly states the requirements

Qualified and certified EPC experts

Improvement of the EPC issuing process

## 3 LEVEL QUALITY CONTROL

**AUTOMATED  
VALIDATION**

100%  
validated

① Software  
integrated  
validation

**MANUAL  
CHECK**

② Random-  
stratified  
selection

③ Manual  
checking

④ Feedback and actions  
after checking

**SITE VISIT**

⑤ Selection  
for detailed  
check

⑥ Site visit for  
inspection

⑦ Warnings and sanctions

⑧ Results agregation

Outside of the proposal:

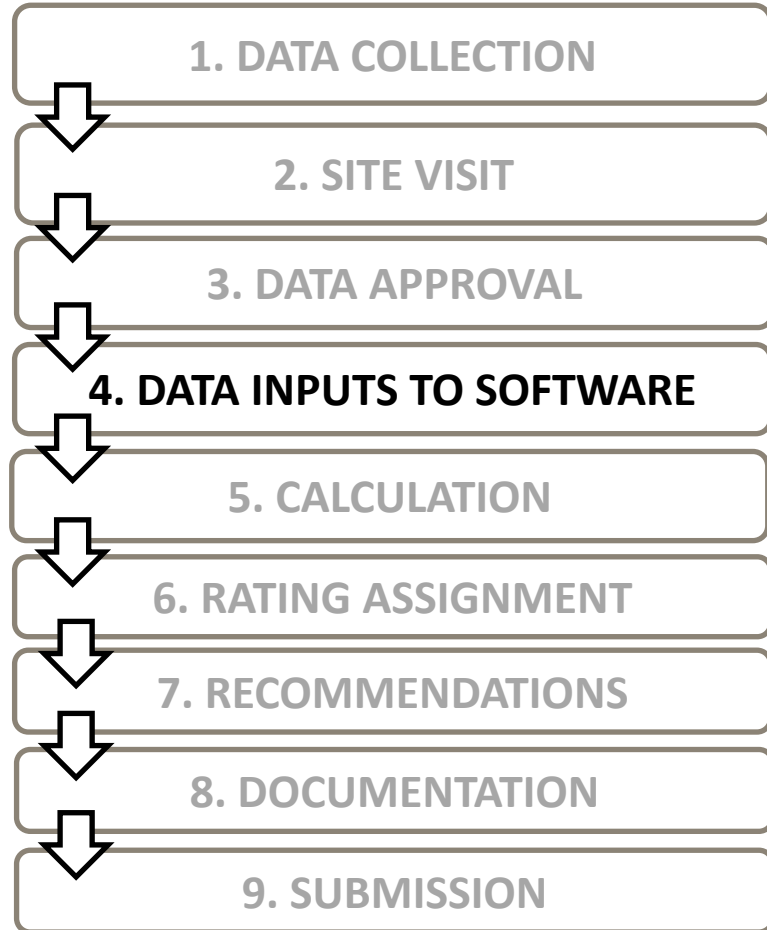
Post-certification  
evaluation

Penalty system for  
non-compliance

# ① SOFTWARE INTEGRATED VALIDATION



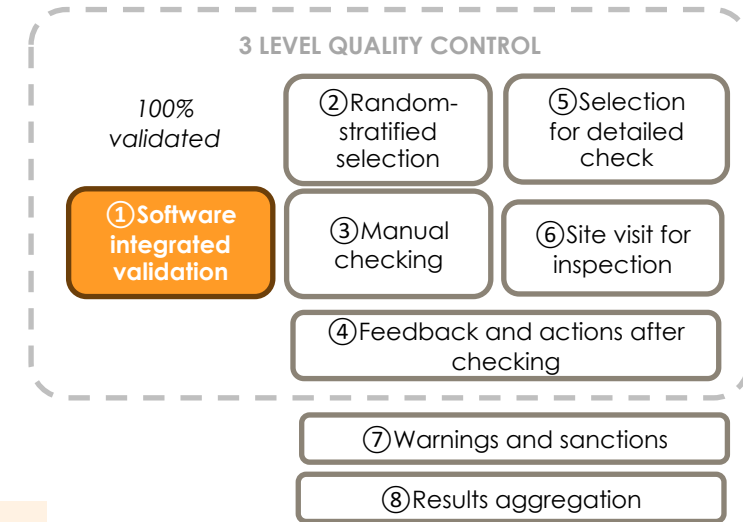
## IN THE EPC ISSUING PROCESS:



**The Principle:** to ensure, that small mistakes and missing information are solved before submitting the EPC for the registration

- The set of validation rules must be developed
- The validation rules must be implemented in the software tool

**Responsibilities for implementation** could be assigned for the institution which are responsible for the maintenance of the methodology and software tool



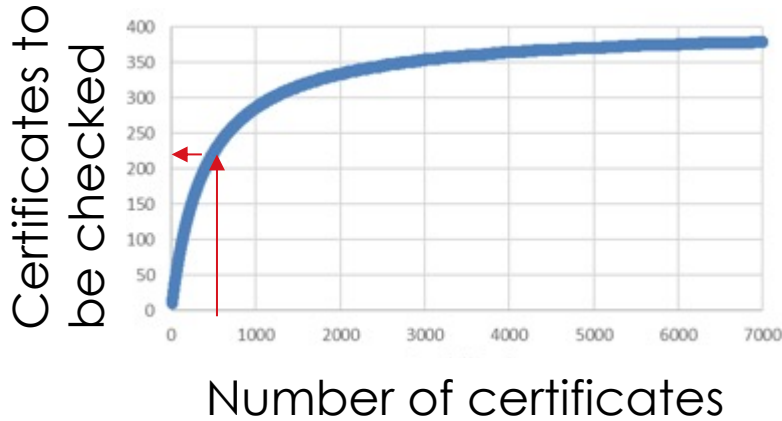
Relation to the recommendations outside of the proposal scope:

*Improvement of the EPC issuing process*

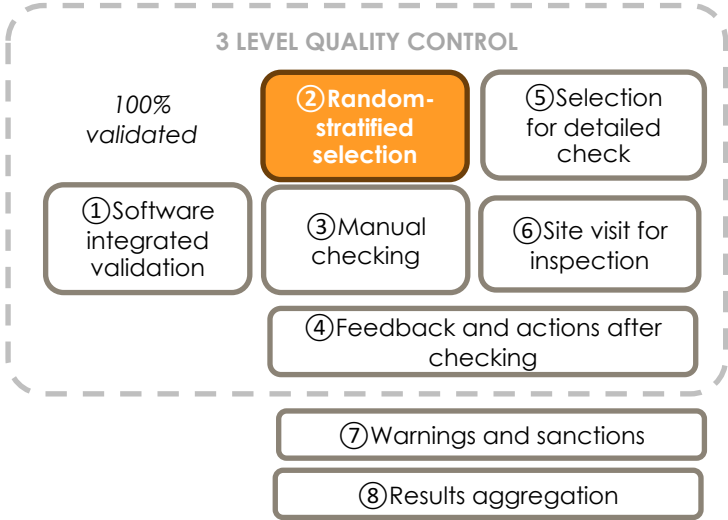
# ② RANDOM STRATIFIED SAMPLING



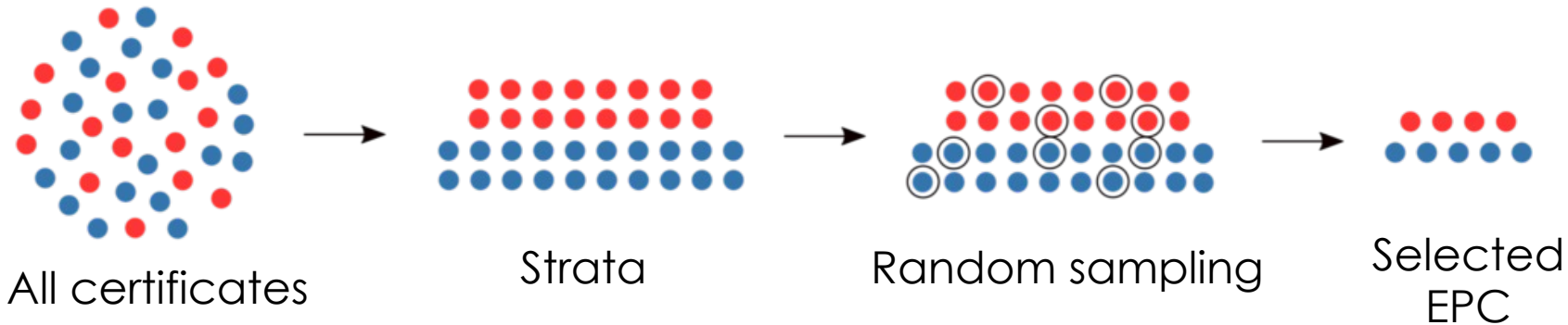
**1<sup>st</sup> Step:** determine number of EPC to be checked



**The Principle:** to ensure rational use of resources dedicated for quality control and ensure that obtained results are statistically representative



**2<sup>nd</sup> Step:** Selection



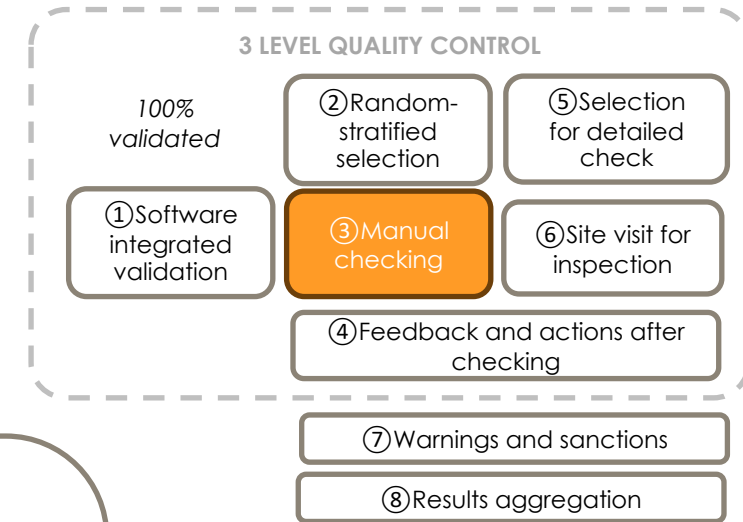
**Responsibilities for implementation** could be assigned to the institution which are responsible for quality monitoring according to the Law of THE ENERGY EFFICIENCY OF BUILDINGS



# ③ MANUAL CHECKING



**The Principle:** to check the aspects that could not be automatically validated and establish replicable procedure which is has minimal dependency on the evaluator. Assuming that on-site collected information is correct



**Qualification requirements:** for persons who will perform quality evaluation has to be defined

**Checklist** for the aspects to be covered in the manual checking procedure has to be established

**Internal procedures** have to be established:

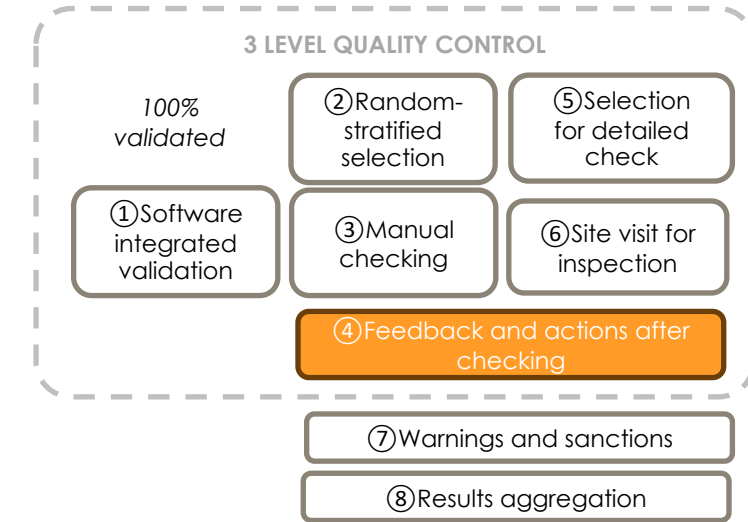
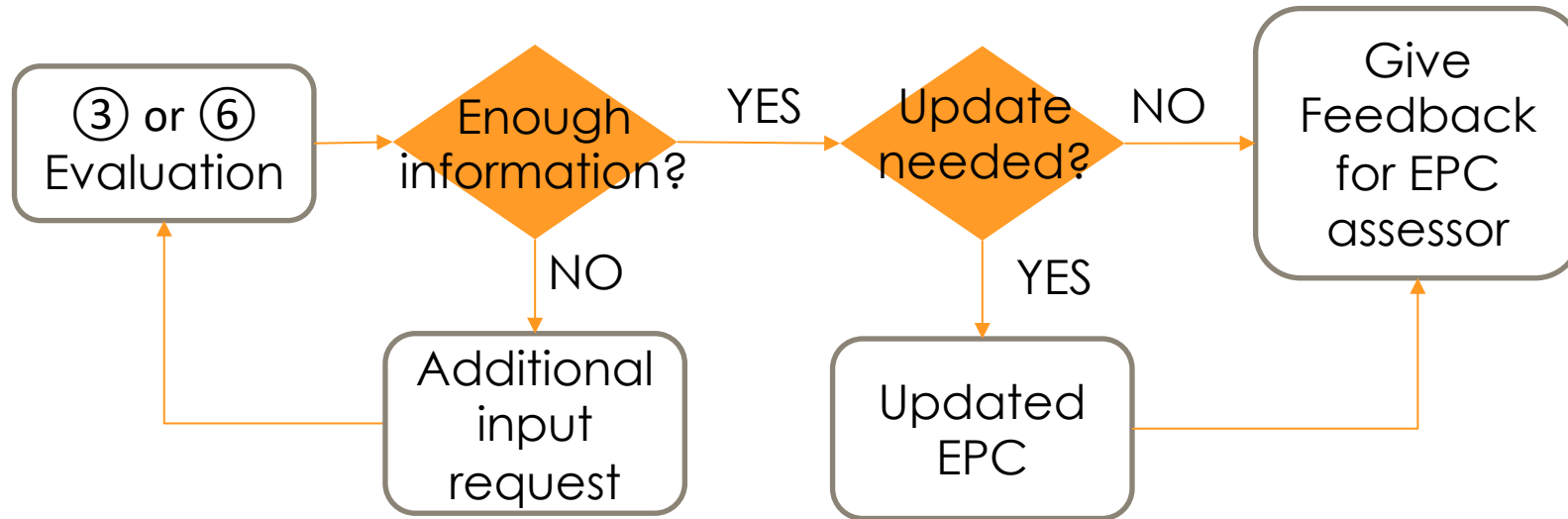
- Assign the evaluation expert
- How to perform quality checking
- Communicate with the EPC assessor and request additional information if needed
- How to proceed if EPC assessors are not collaborating

**Responsibilities for implementation** could be assigned to the institution which are responsible for quality monitoring according to the Law of THE ENERGY EFFICIENCY OF BUILDINGS

# ④ FEEDBACK AND ACTIONS AFTER CHECKING



**The Principle:** to provide feedback that would help to improve EPC assessor's work and request to update the registered EPC if needed.



**Responsibilities for implementation** could be assigned to the institution which are responsible for quality monitoring according to the Law of THE ENERGY EFFICIENCY OF BUILDINGS **but there has to be alignment with EPC system operator**

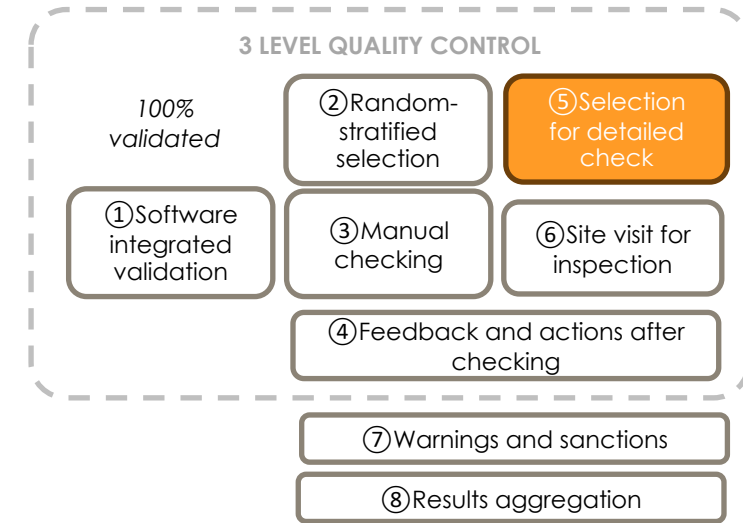
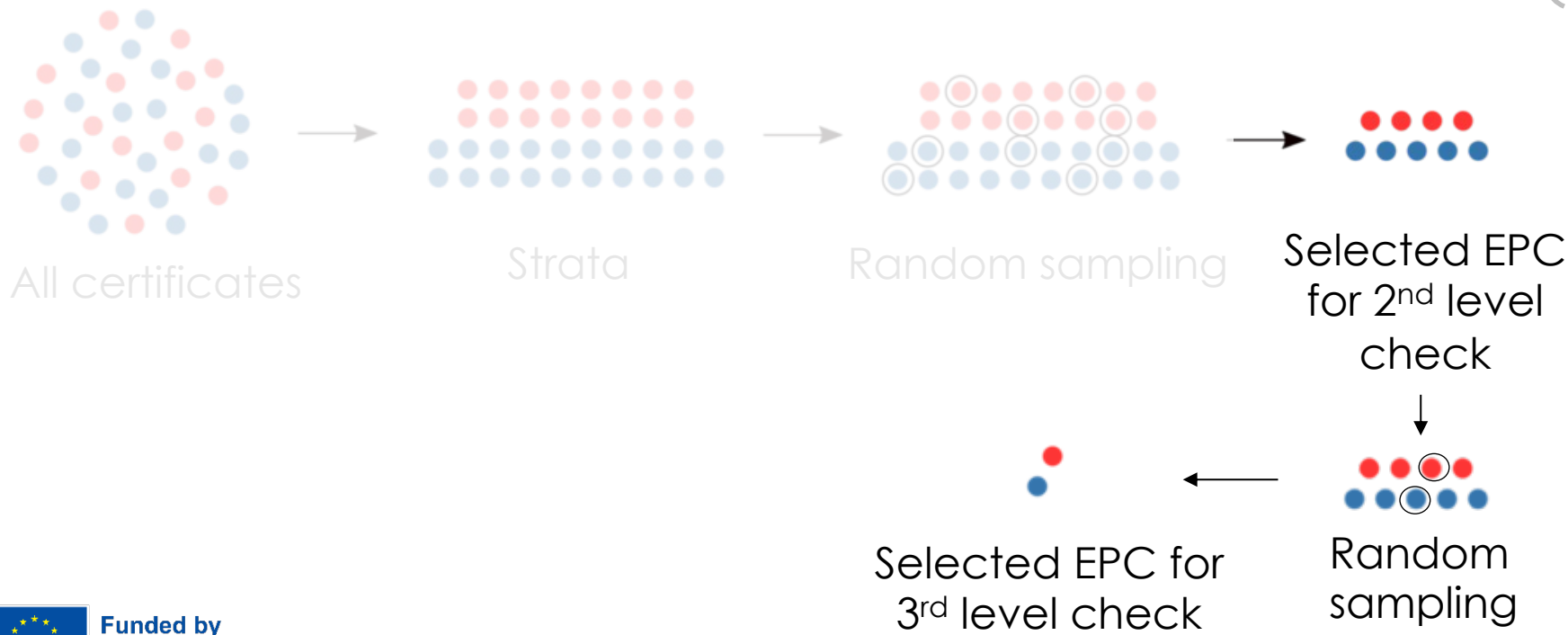
The communication principles and rules between the monitoring institution and the EPC assessor should be defined.

# ⑤ SELECTION FOR DETAILED CHECK



**The Principle:** to ensure rational use of resources dedicated for time consuming site visits and ensure that obtained results are statistically representative

**Building on selection for 2<sup>nd</sup> level check procedure:**



**Responsibilities for implementation** could be assigned to the institution which are responsible for quality monitoring according to the Law of THE ENERGY EFFICIENCY OF BUILDINGS

# ⑥ SITE VISIT FOR INSPECTION

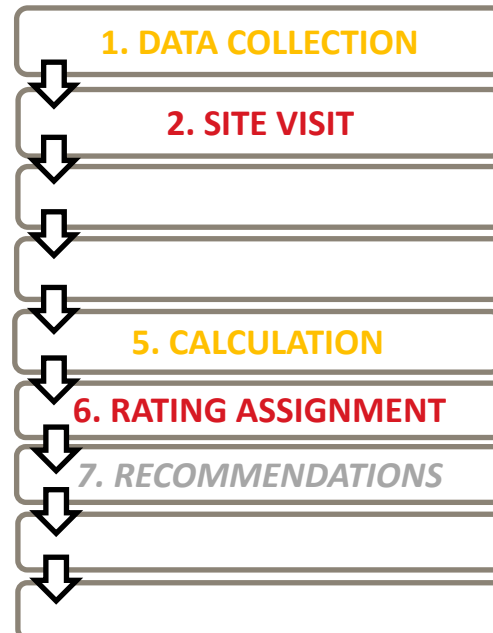


**The Principle:** to check the aspects that could not be automatically validated or checked without visiting the site. It will establish a replicable procedure which has a minimal dependency on the evaluator.

Tasks initially performed by EPC assessor:

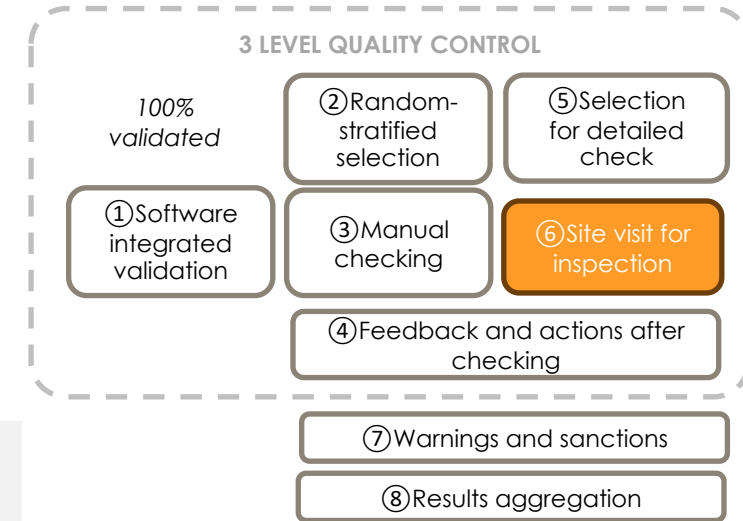


Tasks performed by evaluation expert:



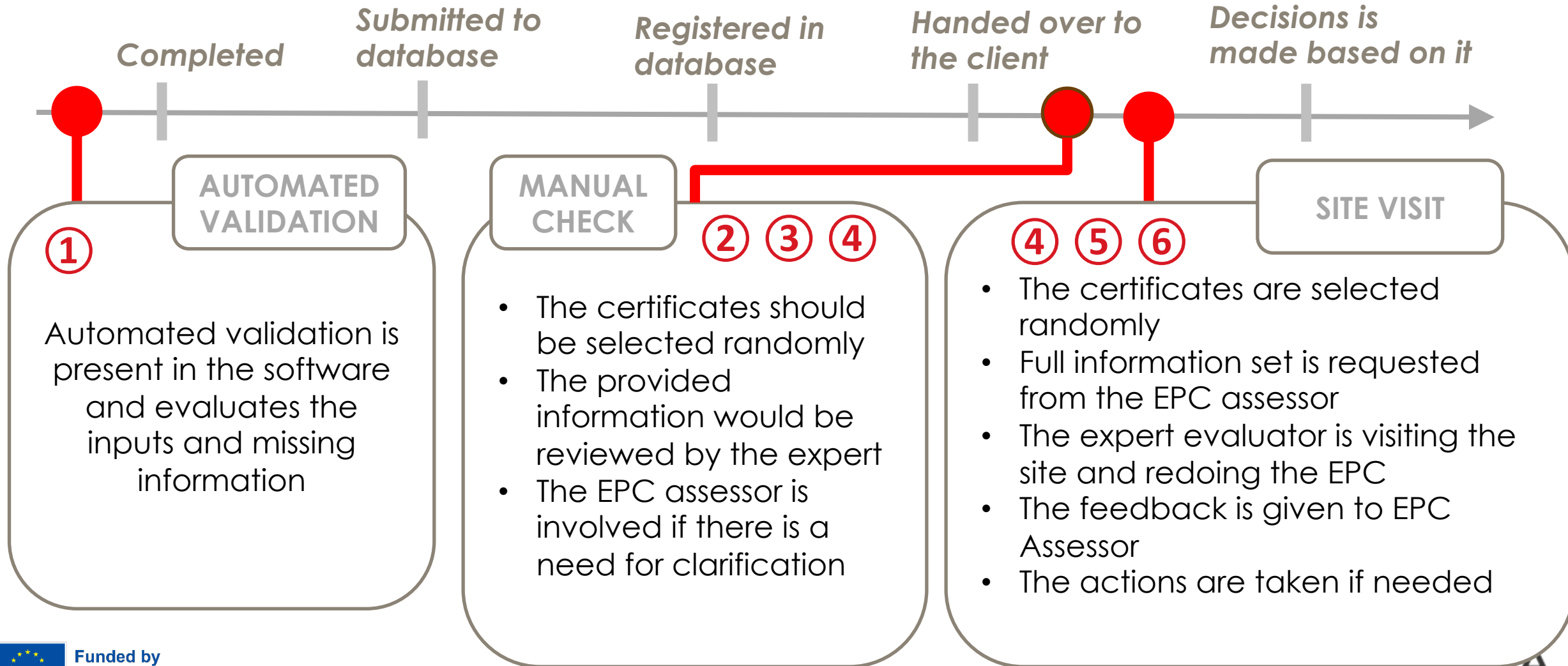
## Evaluation expert:

- Recreates EPC
- Compares the differences
- Identifies possible causes
- Gives a conclusion



**Responsibilities for implementation** could be assigned to the institution which are responsible for quality monitoring according to the Law of THE ENERGY EFFICIENCY OF BUILDINGS

# THREE-LEVEL QUALITY CONTROL INTEGRATED IN THE EPC SYSTEM

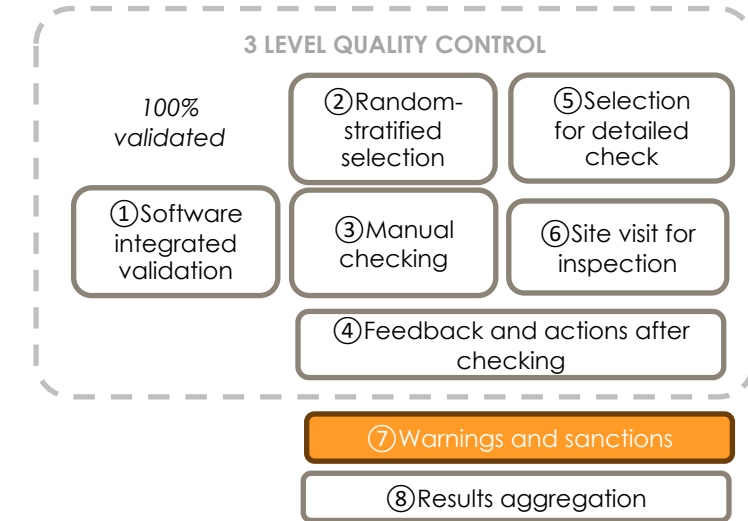
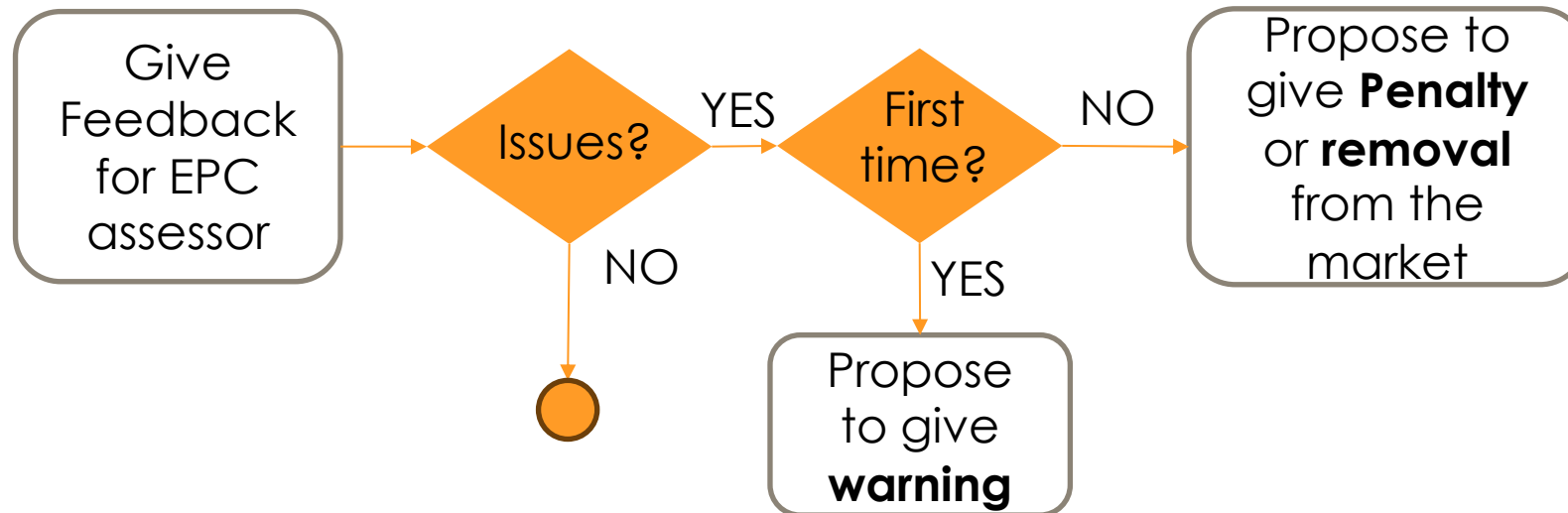


# ⑦ WARNINGS AND SANCTIONS

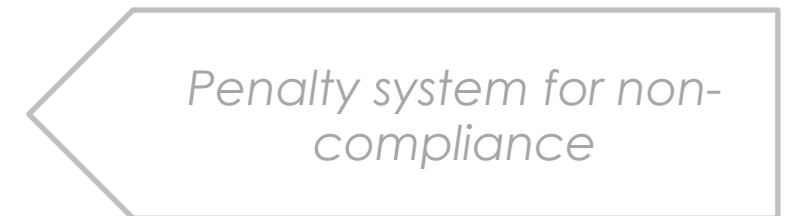


**The Principle:** Those who provide poor quality work need to be motivated to improve their work or be removed from the market.

*Example principles:*



Relation to the recommendations outside of the proposal scope:



**This step requires interaction between the institution supervising the EPC system and the one responsible for Monitoring the quality.**

# ⑧ RESULTS AGGREGATION



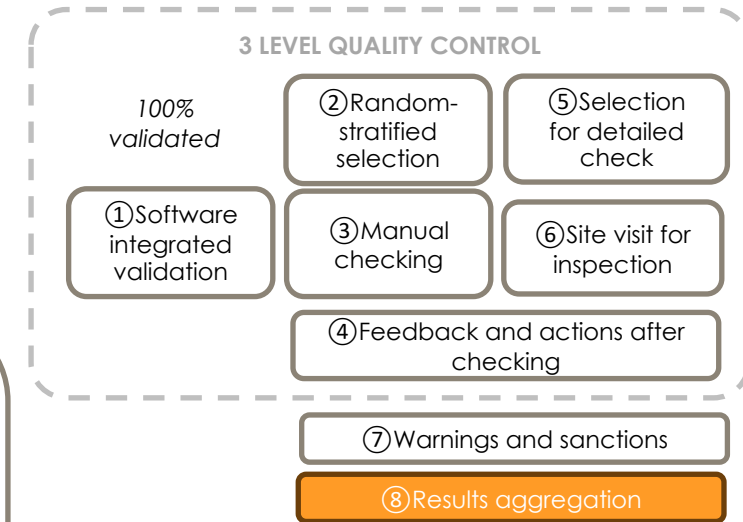
**The Principle:** Guide larger scale actions based on performed quality control activities, helping to move towards higher quality

## Measure the quality level of the market:

- Statistically extrapolate the number of EPCs in the market that were non-compliant before the QC procedure
- Is there any correlations to building type, region or other dependent variable

## Identify the common issues in the market:

- Most typical issues that were identified during quality control activities
- What are the gaps in EPC assessor's knowledge
- What are other causes and possible measures to reduce non-compliance cases

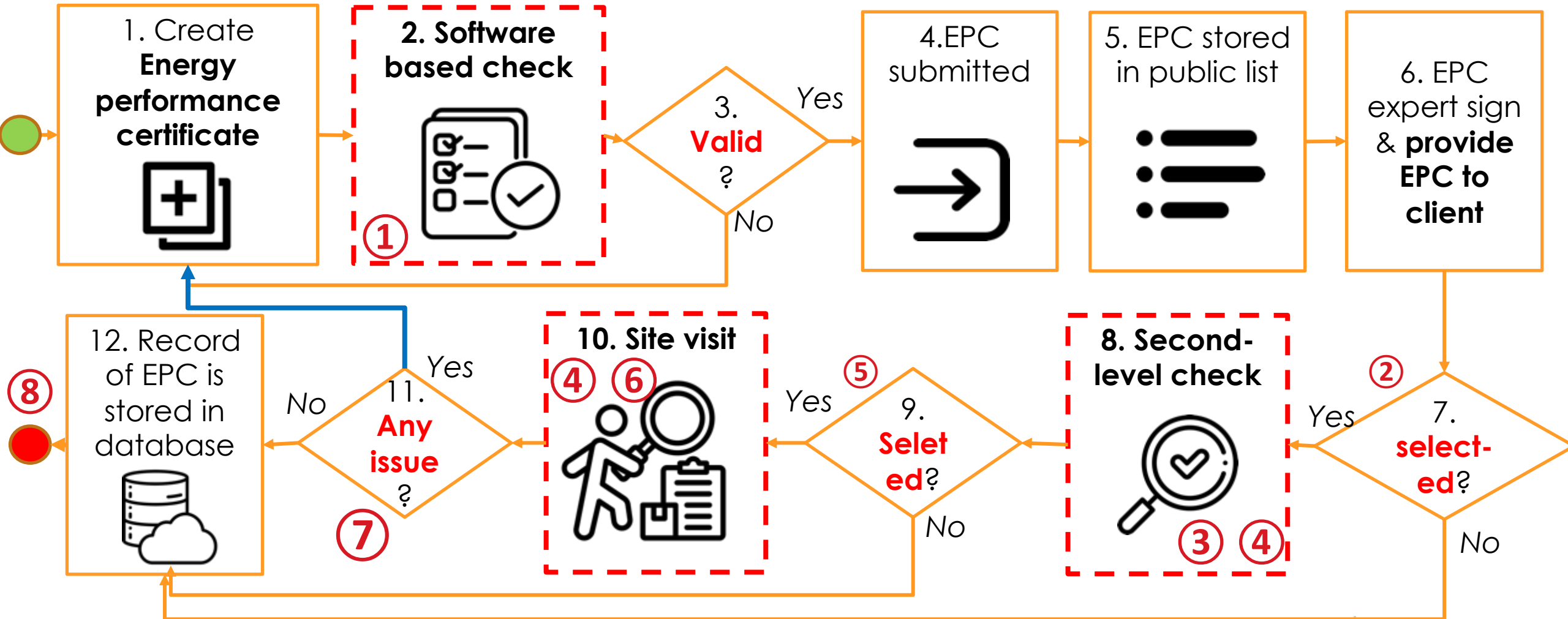


Relation to the recommendations outside of the proposal scope:

*Post-certification evaluation*

*Qualified and certified EPC experts*

# GLOBAL OVERVIEW OF PROPOSAL INTEGRATED IN THE EPC PROCESS







THE PROPOSED APPROACH FOR QUALITY CONTROL OF ENERGY  
PERFORMANCE CERTIFICATES

**NEXT STEPS**



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# NEXT STEPS IN THE PROPOSAL DEVELOPMENT



WBS	Task	Who	When
1.1	Development of an <b>overview of a legal and institutional framework</b>	Expert in EEiB	Mid -September
1.2.1	<b>Preparation</b> for workshop to local stakeholders in Kyrgyzstan	Lead Expert in EA & EPC Assisted by Expert in EEiB	Till 1 <sup>st</sup> October
1.2.2	<b>Workshop for local stakeholders in Kyrgyzstan</b>	Lead Expert in EA & EPC	Week of 2 <sup>nd</sup> October
1.3.1	Inputs to the report on the conceptualization of the EPCs quality assurance framework in Kyrgyzstan	Expert in EEiB	Till Mid November
1.3.2	<b>A Report on the conceptualization of the EPCs quality assurance system</b>	Lead Expert in EA & EPC Assisted by Expert in EEiB	December 2023
1.4.1.	Inputs to a Road Map	Expert in EEiB	Till Mid November
1.4.2.	<b>Road Map for the EPCs quality assurance framework in Kyrgyzstan</b>	Lead Expert in EA & EPC Assisted by Expert in EEiB	December 2023
1.5.	<b>Round table discussion to present and discuss the Report and Road Map</b>	Lead Expert in EA & EPC	Mid-January 2024
M	<b>Preparation of final deliverables</b>	Lead Expert in EA & EPC Assisted by Expert in EEiB	Latest March 2024

# TECHNICAL WORKSHOP



***THANK YOU FOR  
YOUR ATTENTION!***



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