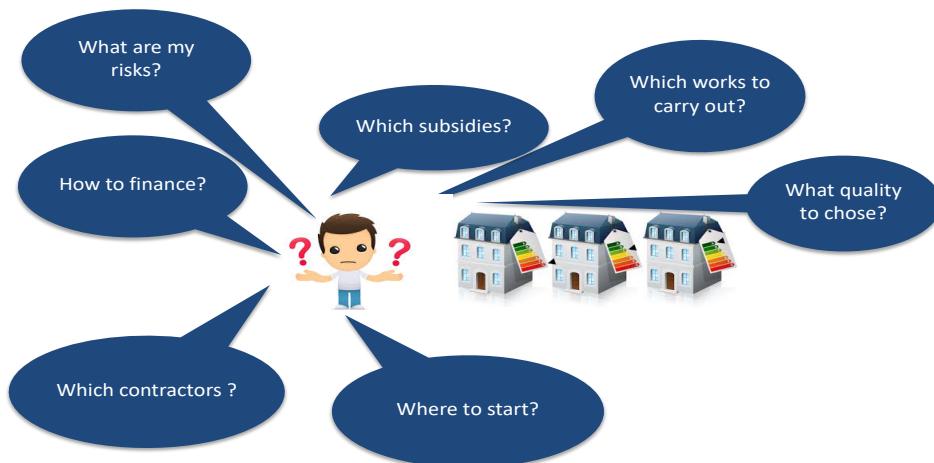


# BMK Slides Navigator

# RECO2ST BMK Guide

Buildings energy consumption in Europe represents more than 40% of the final energy consumption. The most challenging aspect of reducing energy use in building is in increasing the rate, quality, and effectiveness of building renovation since the current rate of renovation is only 1.2% per year and should increase by a factor of two to three to reach the EU 2030 targets. However, residential building retrofitting is not taking up. Among many different barriers, there is a lack of knowledge on the demand side, as Owners are not able to answer the multiple questions they are confronted with when initiating a renovation project. This Guidance document and its associated Toolkit aims to help the end-user in his decision-making process to retrofit residential multi buildings, ultimately, towards a NZEB target.



Regarding Global Building Renovation, different views exist from the private owner, public authorities to experts in the domain. Each person has different issues, and the Business Model Kit (BMK) tries to answer them. This document is split into 6 different volumes. Access to the volumes and/or to their different parts may be granted from various links in the following sections



[Link to the BMK first volume](#)

# Volume 1

## Audience

This Guide is primarily dedicated to those aiming at renovating large residential Buildings with a view of drastically reducing their carbon footprint. Such refurbishment projects are - by essence - quite complex as they encompass many disconnected disciplines, requesting a very high level of proficiency in many of them. Few important aspects to meet such challenge are legal, finance, building physics, building construction, controls & AI, project management, risk analysis. Therefore, the audience of such a guidance may be quite large and may cover many different specialized expertise fields and numerous readers familiar to only few of them.

Quite far from being an exhaustive compendium of all these knowledge fields, this guide attempts to bridge the gap - as a sort of bootstrap tool- between common basic property management know- how and the stage at which an efficient NZEB refurbishment risk transfer may be initiated. Indeed, mastering these multiple aspects requires experienced professionals and improvisation is likely to result in failure. This paper tries to give some practical guidance to owners and/or decision makers, to answer questions like: How to select these professionals? What is the least cost approach to reach the NZEB targets? What should be subcontracted? How to mitigate the investor's risk into a manageable one? Which contractual route best suits my approach? It also may be useful to professionals in order to understand the motivations of their clients, prior to any serious attempt to contract with them on NZEB Projects. These Owners, decision makers or even professionals are all analyzed on the “Variety of Stakeholders/ Building and Ownership Definition Type of Ownership” chapter as different personas based on ReCO2ST customer segments.

### 6 VOLUMES

Ultimately, the goal of this document is to help a decision maker in the initial renovation stages to reach its NZEB targets, finding the best possible combination of professional partners, the most efficient contractual route(s) given the present owner's situation, properly delegating the risks and assuring that the NZEB commitments will be achievable and durable.

This document is split into six Volumes. The present Volume I is the entry level which is aimed at guiding the reader through all other Volumes, detailing the different concepts.



#### Volume 1 Master Document



#### Volume 2 Important concepts and Issues



#### Volume 3 Territorial particularities



#### Volume 4 Typical Project Phases & Management Process



#### Volume 5 Project development Methodologies & Technical Companions



#### Volume 6 Contractual Routes Selection Process



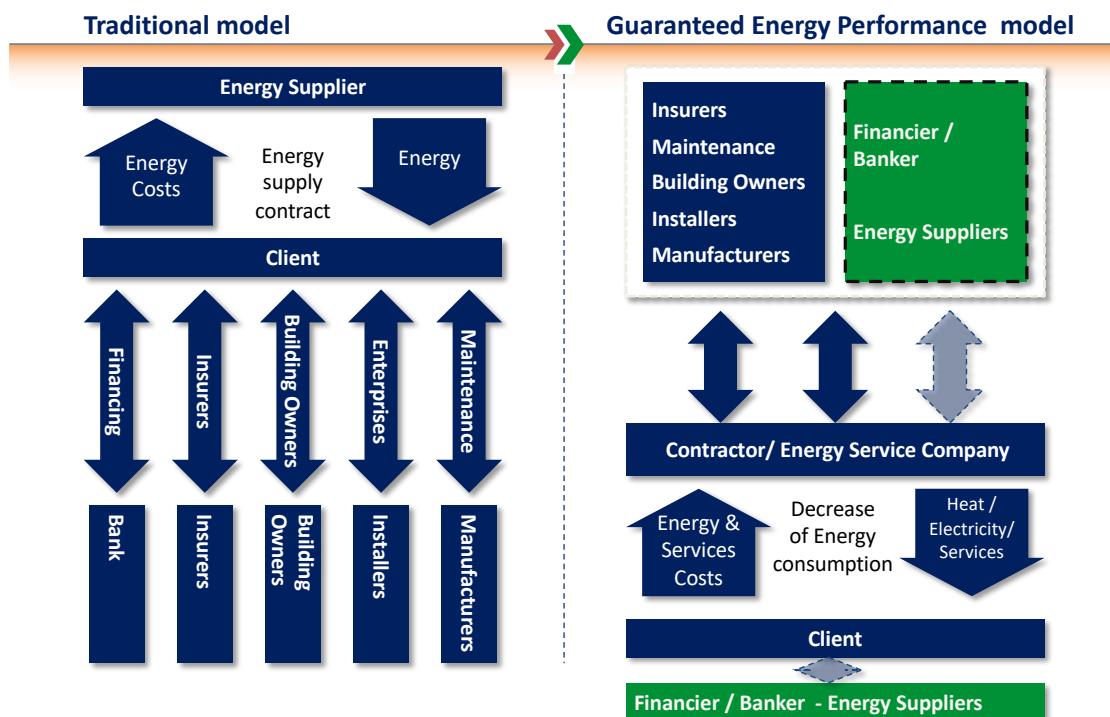
#### WEB Tool Routes Selector

# VOLUME 2

## Introduction

This Volume 2 will focus on some important concepts such as guaranteed energy savings and NZEB renovation main issues. This Volume should be read once in order to understand the approaches that were taken in the rest of the BMK. In particular, the concept of guaranteed energy savings leads to an important change in the way conceptual risks linked to the energy savings results are split between the different stakeholders.

## Guaranteed Energy against traditional model



Magnitude of the Risk Share

Towards the Owner

Towards the Contractor

# Volume 3

## Introduction

This Volume reflects some of the most relevant differences and particularities such like how different European Governments lead and promote building energy renovation projects, and the common contractual partnerships that can be usually found in the different EU Markets. Optional reading, interest to see differences and commonalities.

Various National Organizations may contribute to the development of NZEB Projects

Public	Public-Private	Private	Citizen
Vlaams Energiebedrijf	Warm Up North	SUNSHINE	PAJOPOWER
SPEE Picardie	PadovaFit!	PAJOPOWER	Cooperative case - ECOPOWER
Rotterdam Green Buildings	Energy Fund Den Haag	Cooperative case - ECOPOWER	Community based renewables- Saerbeck
REDIBA	Energies POSITIF	Community based renewables- Saerbeck	Brixton Energy Co-op
RE:FIT	EERFS	Brixton Energy Co-op	
OxFutures	Community based renewables- Saerbeck		
OSER	BERLIN		
KredEx			
Fedesco			
ESCOLIMBURG2020			
ENSAMB			
Energy Fund Den Haag			
Energy Efficiency Milan Covenant of Mayors			
EERFS			

# VOLUME 4

## Introduction

This Volume is one of the most important of the BMK as it describes a common renovation process that can be followed for any type of renovation project. It considers the consequences of choosing contractual routes that are based upon guaranteed energy savings.

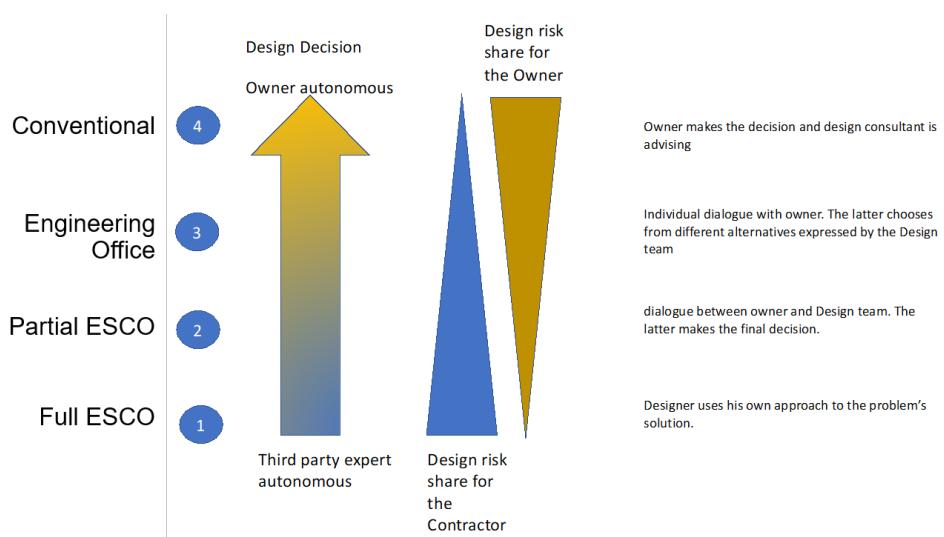
An important part of the BMK approach lies in the proposed four different “contractual” routes or schemes that condense an appropriate set of responses for most of the NZEB renovation projects.

Its reading is a must for understanding the project segmentation (in terms of time, responsibility shares, risk shares).

## A common refurbishment process



With 4 different contractual routes and different risk sharings



# Volume 5

## Introduction

This Volume is the methodological companion of Volume 4. It describes the most important technical tools and methods to be used in conjunction with the processes and routes developed in it.

Volume 5 is to be read by anyone willing to develop a project along one of the routes described in Vol 4.



# Volume 6

## Introduction

This Volume is a “how to” guidance to use the WEB based Contractual Routes that are described in Volume 4. Any NZEB renovation project stakeholder may find its own interest in using this Tool.

## Contractual Routes Selection Tool

This Tool is a kind of dynamic SWOT, which allows for a quick check of the best combination of contractual solutions depending on the given inputs. The latter being represented by the answers of a multiple choice questions in order to assess the positioning of the stakeholders, the financial situation, the building, the expectations in a multidimensional space.

The screenshot displays the ReCoST Contractual Selection Assistant Webtool interface. On the left, a sidebar lists various 'Type of ownership' options such as 'Size of building to retrofit', 'Owner apartment stock', 'One owner who wants to retrofit more than one building', etc. The main area shows three panels:

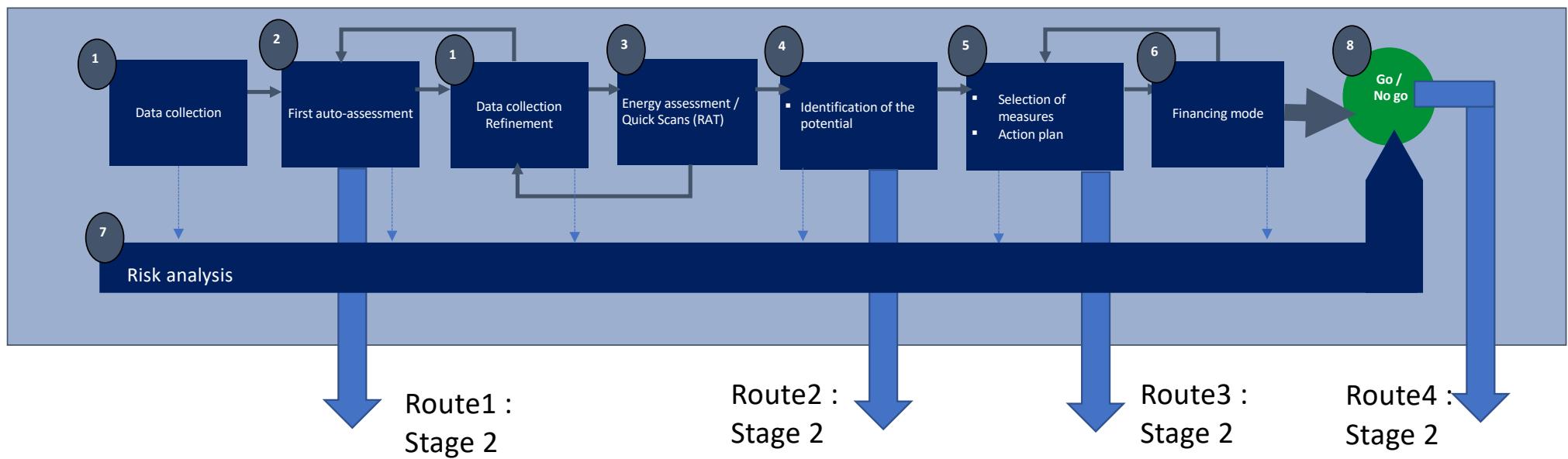
- Public sector:** Describes the owner as a public sector entity or financed by public funds (more than 50%) and subject to public procurement law. It includes a 'Consequences' section: 'The owner is subject to the law on public procurement (cfr Selection of partners)'.
- Private landlords in a condominium; unified renovation scheme:** Describes the owner living in their apartment in a condominium. It includes a 'Consequences' section: 'The owner might have budget debt constraints (Eurostat rules)'.
- Private landlords in a condominium; individual choices and decisions:** Describes the owner living in their apartment in a condominium. It includes a 'Consequences' section: 'If the energy retrofit works are limited to the apartment'.

The interface also features a navigation bar at the top with links to HOME, INNOVATION, PLATFORM, NEWS, KNOWLEDGE CENTRE, and CONTACT. A sidebar on the right lists 'Route's advantages' and 'Route's to avoid'.

# Steps for an energy retrofit project

█ Project Management    
 █ Legal    
 █ Maintenance    
 █ Equipment suppliers

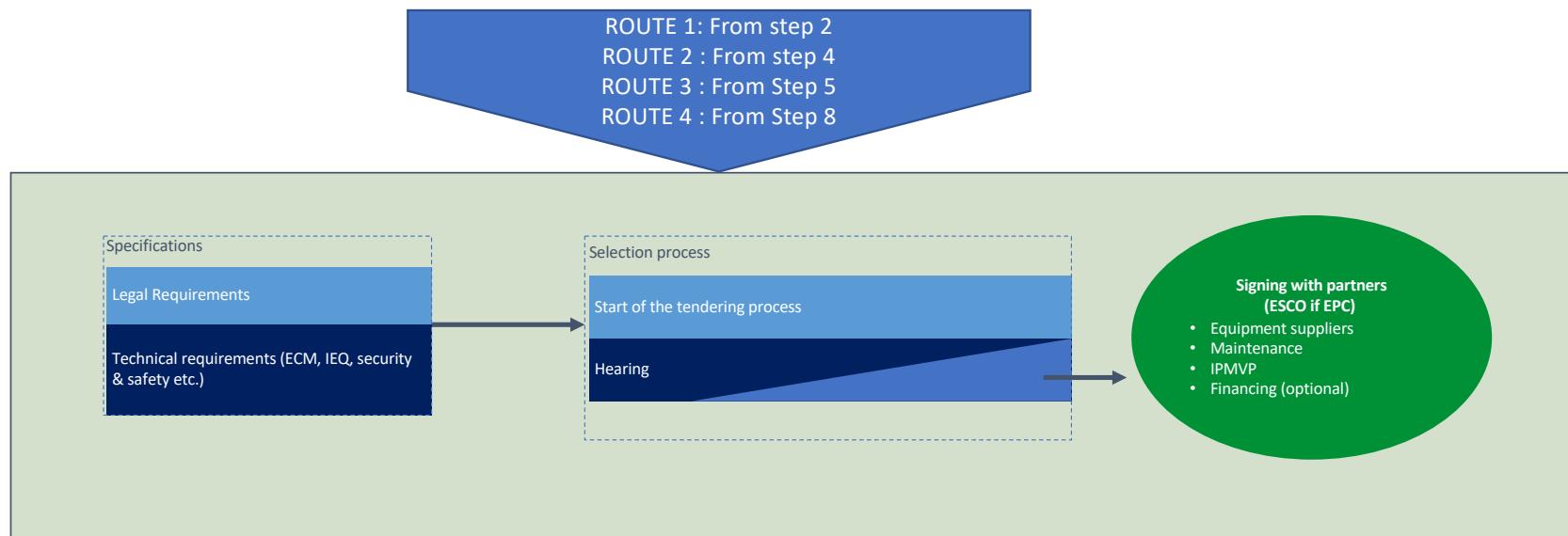
## 1. Identification and stipulation requirements – project preparation



# Steps for an energy retrofit project

■ Project Management ■ Legal ■ Maintenance ■ Equipment suppliers

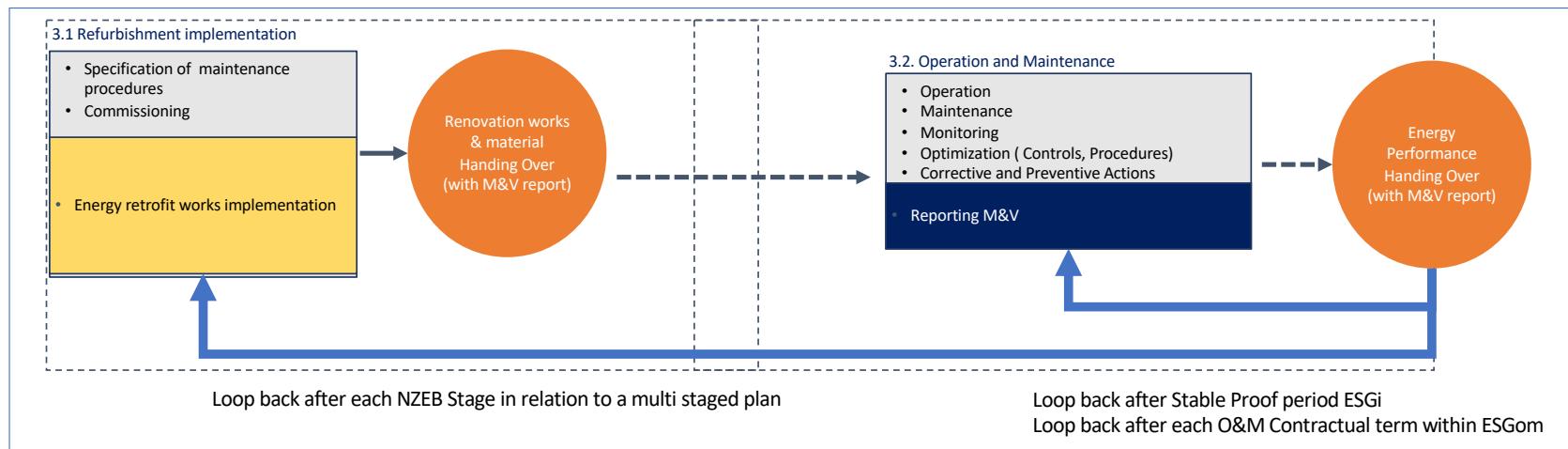
## 2. Selection of partners / contractors (ESCOs if EPC) – tendering procedure



# Steps for an energy retrofit project

## 3. Implementation

█ Project Management    
 █ Legal    
 █ Maintenance    
 █ Equipment suppliers



## GO – No GO

- Key decision factors
  - ✓ Financing scheme fixed
  - ✓ Requested Performance achievable
  - ✓ Selection of EPIAs validated
  - ✓ Project profitability checked (NPV)
  - ✓ Project feasibility checked (RA)
  - ✓ Selection of Partners secured
  - ✓ Contractual route selected/  
amended
  - ✓ Compatible Project Timeline

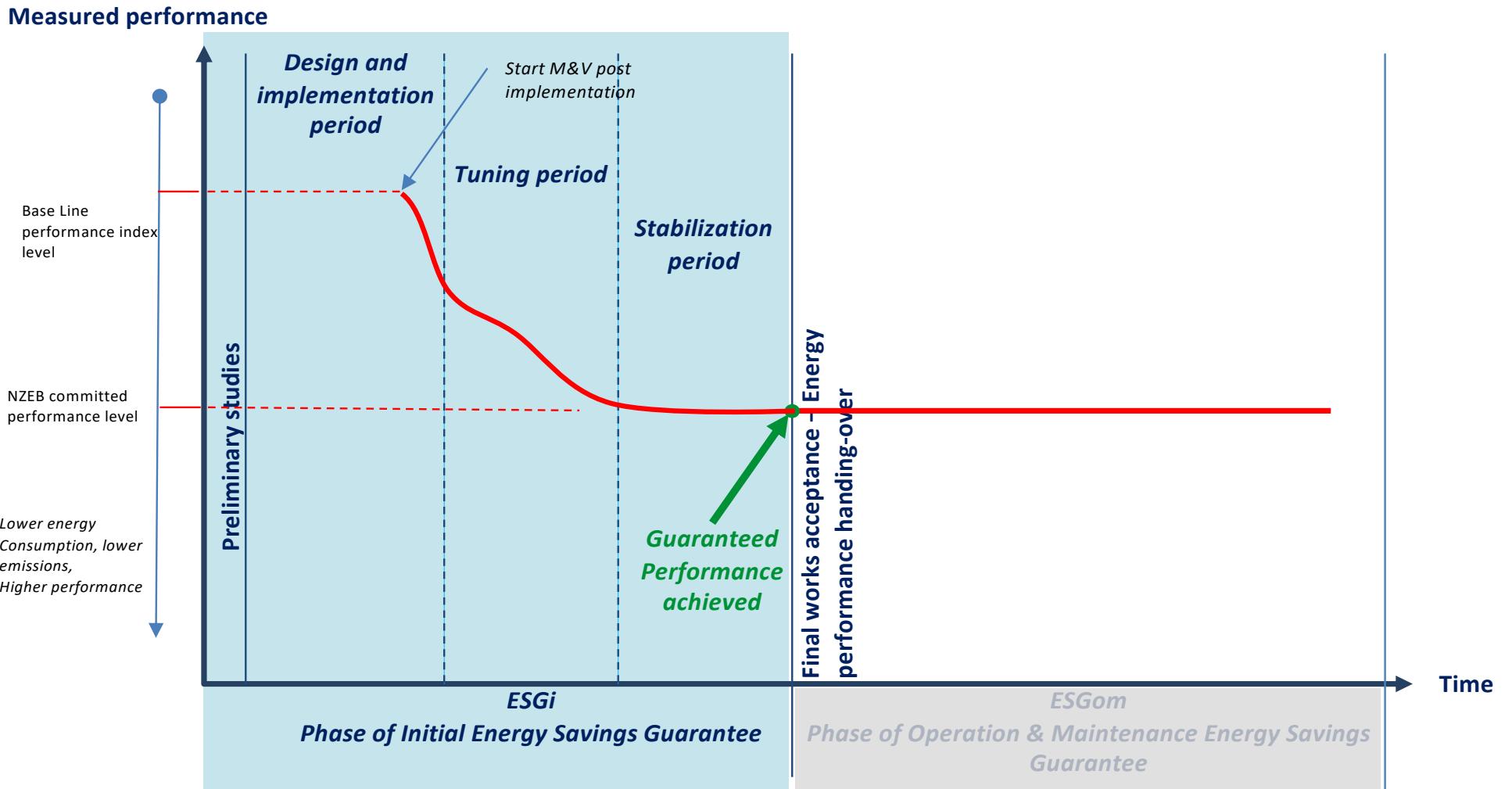
The final decision leads to different consequences depending on the contractual route chosen.

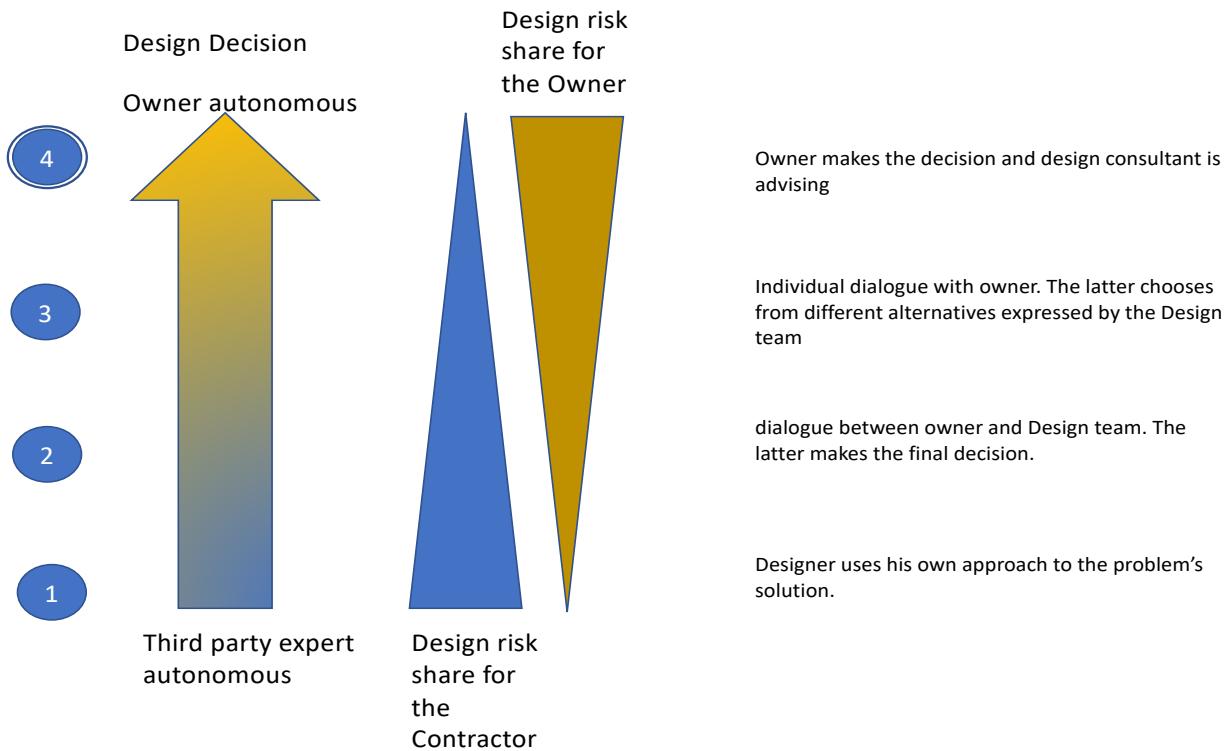
On Routes 1, 2 and Route 3 “Engineering” the Owner may, at the conclusion of the Tendering procedure, decide to abandon the project for budgetary or technical reasons. It would be fair to have considered financial compensation for tenderers having fully completed their proposal while fitting into the specified requirements.

On Route 3 “IPD” in case of No-go, contractual obligations may dictate the type of compensation to cover the costs incurred by the IPD Contractor for the preliminary studies.

On Route 4, in case of a no-go, all costs are borne by the Owner.

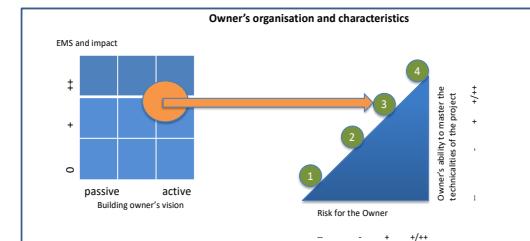
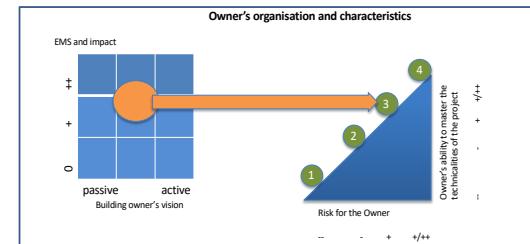






# ROUTE 3 : IPD or ENGINEERING SCHEME ?

- Route 3 is subdivided into two flavors:
  - The Consulting's engineer Contractual Route where Engineering and Design performance & fees are deemed to cover a part of the design risk,
  - The extended IPD route, where there is a share of all risks between the Owner and the Contractor(s).



IPD may be contracted with other Routes. See explanations

