

Defining Operations and Maintenance under Design-Build-Operate Contracts as Applied to ADB Infrastructure Projects

ADB Joint Regional Workshop

11 December 2018

Matthew Giesemann

Session 1: DBO Scope

Why use a DBO?
Over what time?

Why Choose a DBO

Why Choose a DBO Contract?

Lower
Costs
(15% DB,
20% to 40% LC)

- a) Design, Construction and Operation obligations brought together under a single responsibility
- b) Contractor must consider whole-of-life cost and not just cheapest construction cost

You build it and walk away

or

You build it so that **you** can efficiently and reliably operate it

“The results of the financial analysis indicate clearly that DBO is the most efficient in terms of owner’s costs.”

Ostergard, K., *What’s the Cheapest Way to Keep Getting You There?* Construction Forum on the Construction Industry, American Bar Association, July 2012

Why Choose a DBO Contract?

Faster Schedules

Project planning, design, construction and operations undertaken by the same team.

All team members must collaborate to achieve the SAME goal.

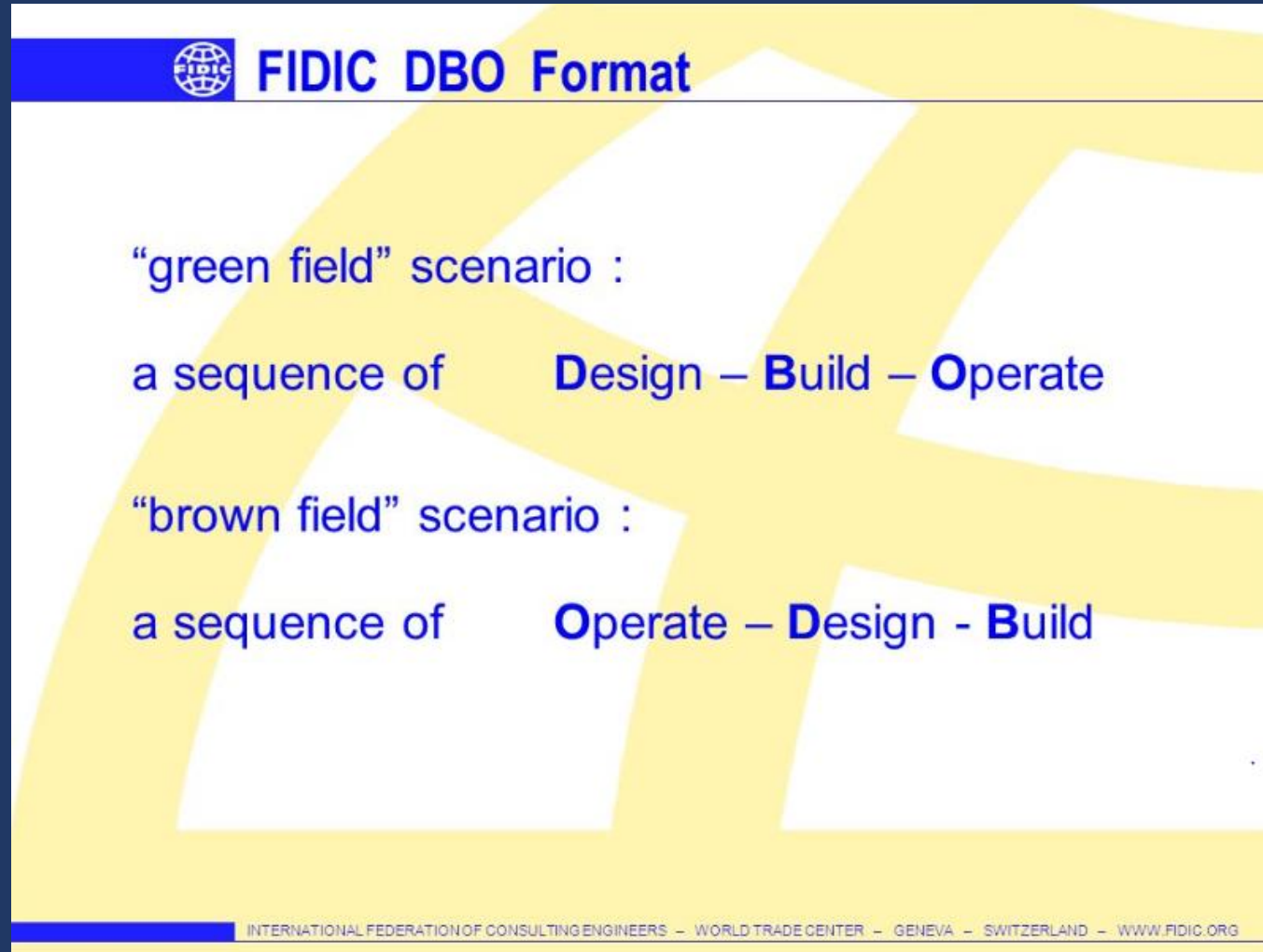
No down time during transition from one phase to the next.


- a) Overlap design, construction, operation ('agile')
- b) Single procurement process

Very powerful tool for **brownfield** sites

Can use early delivery incentives

Why Choose a DBO Contract?

The slide features a blue header with the FIDIC logo and the text 'FIDIC DBO Format'. The main content area has a yellow background with a large, stylized 'A' shape. The text describes two scenarios: 'green field' (Design - Build - Operate) and 'brown field' (Operate - Design - Build). The footer contains the FIDIC organization's name, location, and website.

 **FIDIC DBO Format**

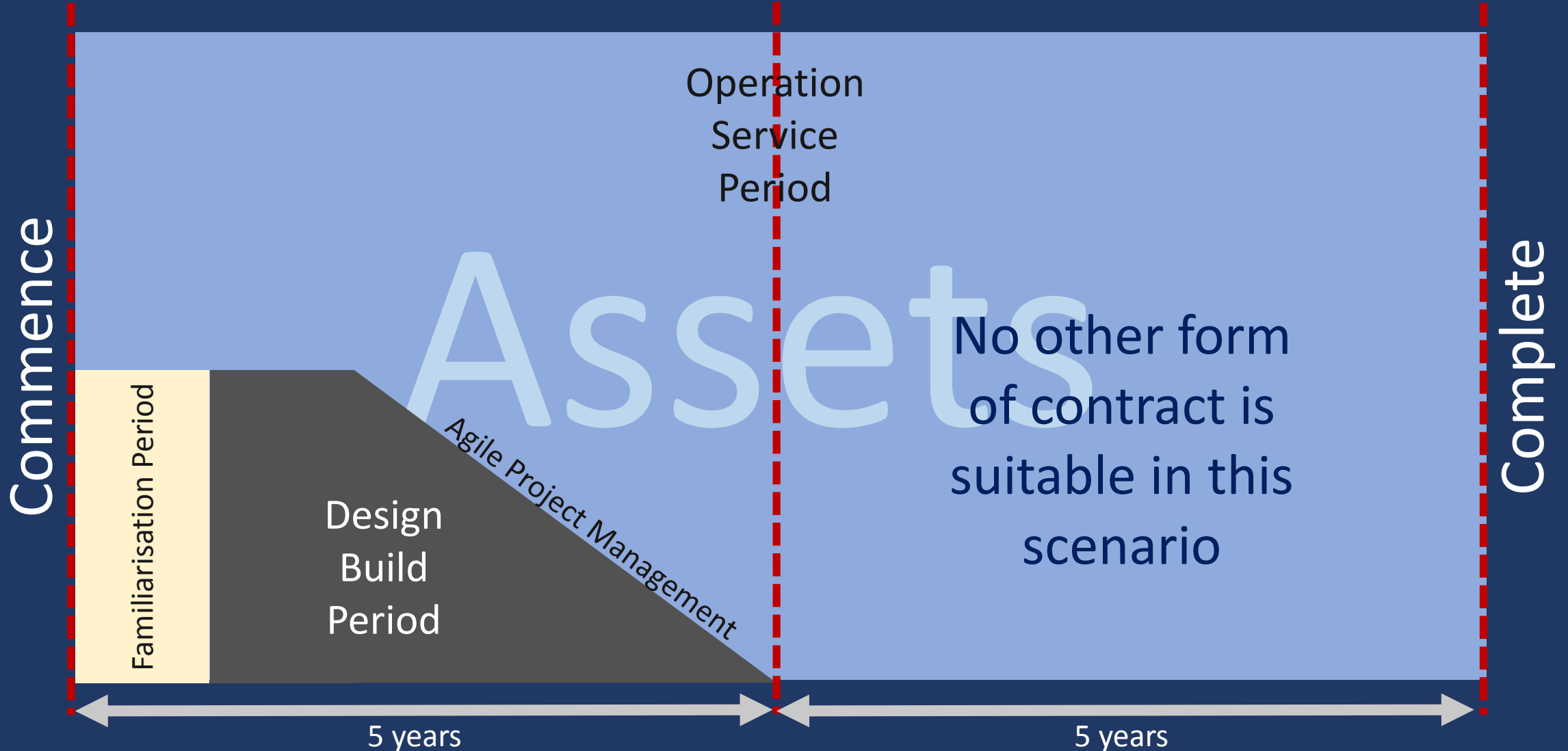
“green field” scenario :
a sequence of **Design – Build – Operate**

“brown field” scenario :
a sequence of **Operate – Design - Build**

INTERNATIONAL FEDERATION OF CONSULTING ENGINEERS – WORLD TRADE CENTER – GENEVA – SWITZERLAND – WWW.FIDIC.ORG

Brownfield
from
DBO
to
ODB

Why choose a DBO contract?



Why Choose a DBO Contract?

Lower Risks

Owner: Maintains control of the works

Contractor: Accepts performance and compliance risks

Owner manages contract risk and liability using

- a) Performance guarantees (financial incentives)
- b) Cap on consumables: for example electricity
- c) Quality assurance and control processes
- d) Insurances

Why Choose a DBO Contract?

Lower costs

Faster delivery

Lower risks

Are there other reasons?

Why Choose a DBO Contract?

Access to expertise	Particularly when international
Access to resources	Greatly increases speed and delivery
Access to technology	Particularly when international, other states
Financial certainty	Budgets can be set for ten years or more
Financial return	The 'O' in DBO maintains assets
Focus on customers	The 'O' in DBO delivers services
Focus on other concerns	Not distracted by contracted out issues
No alternative	Brownfield sites that need to keep running

Over what time?

Over What Time?

Design Build Period: 2 years

Operation Service Period: 10 years

Intermediate Planning Year: 15 years

Ultimate Planning Year: 30 years

DBO Contract

Asset Lives: 3 years to 100 years

Typical Project

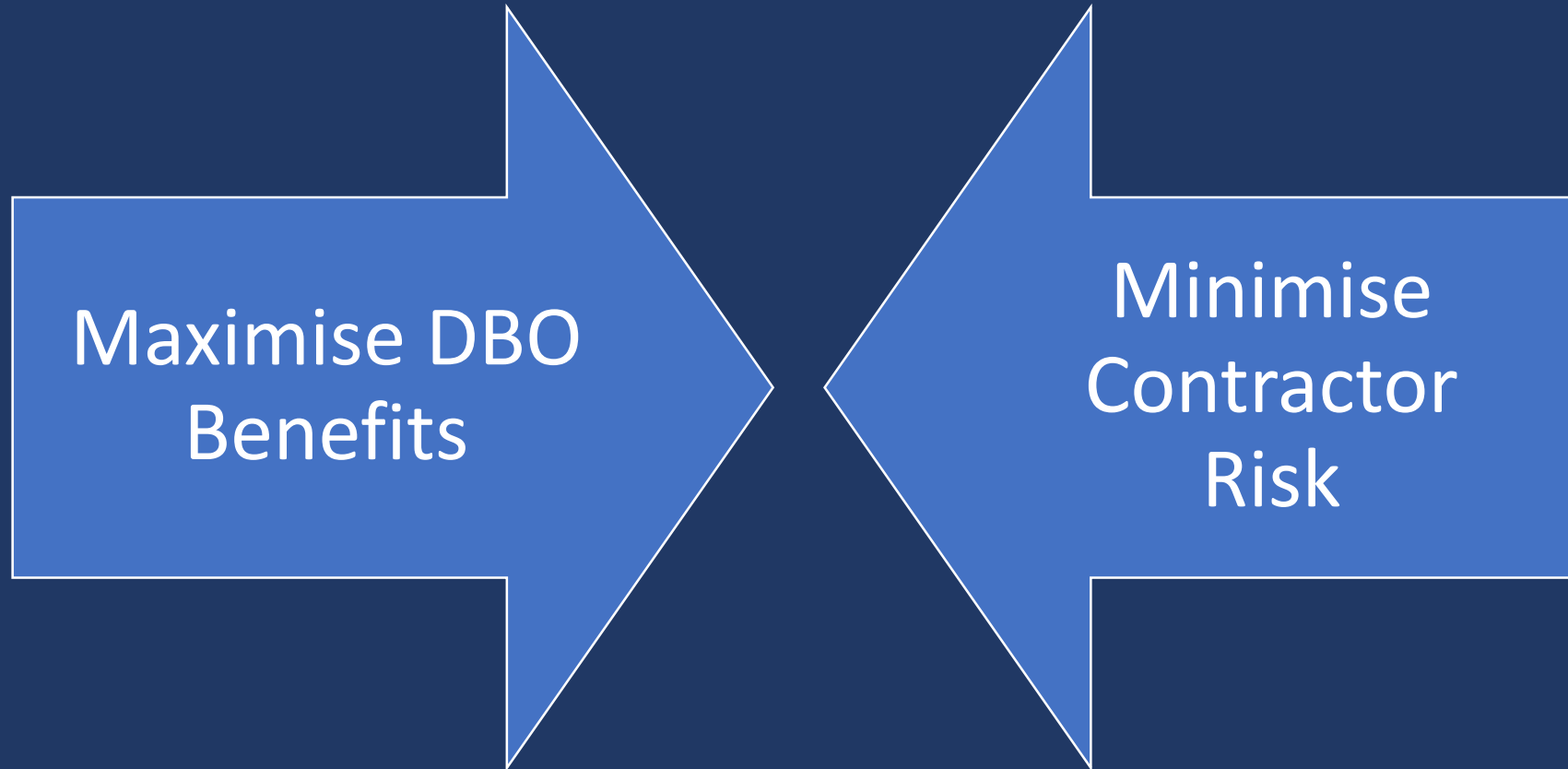
Over What Time?

Case Study: Treatment Plant

Design-Build Period			Operation Service Period		
Design	Build	Commission	Prove	Operate	Hand Back (Transition)
6 months	21 months	3 months	12 months	48 months (84 months)	24 months
30 months			84 months (120 months)		

Over What Time?

What do the contractor's say?



Asset Replacement Fund
Minimum 5 years

Recommend 10 years to get
this balance right

Talking about DBOs?

Project management roles

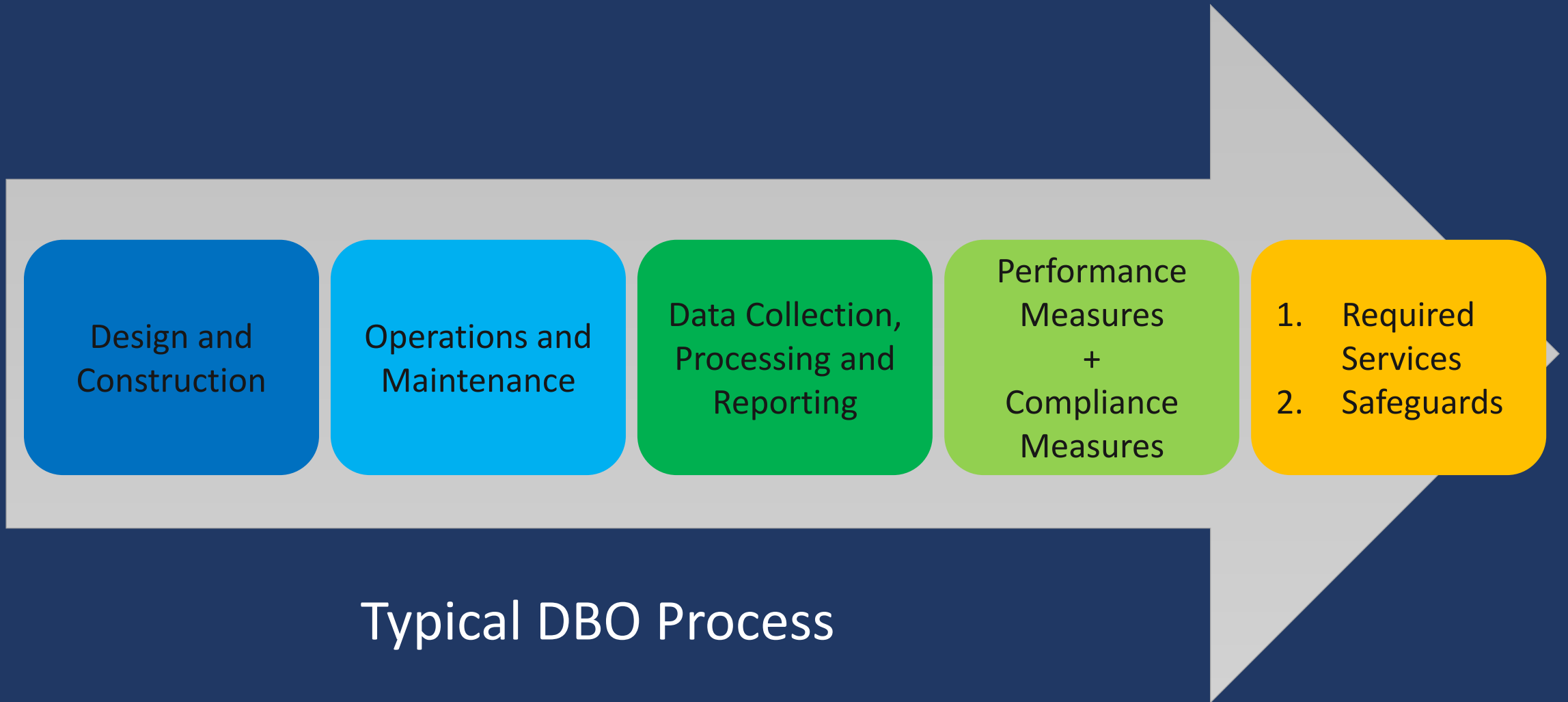


Project Funder

Project Manager

Project Owner

Talking About DBOs?



Talking About DBOs?

Design and
Construction

Operations and
Maintenance

Data Collection,
Processing and
Reporting

Performance
Measures
+
Compliance
Measures

1. Required
Services
2. Safeguards

Project Funder
Interest

Talking About DBOs

Design and
Construction

Operations and
Maintenance

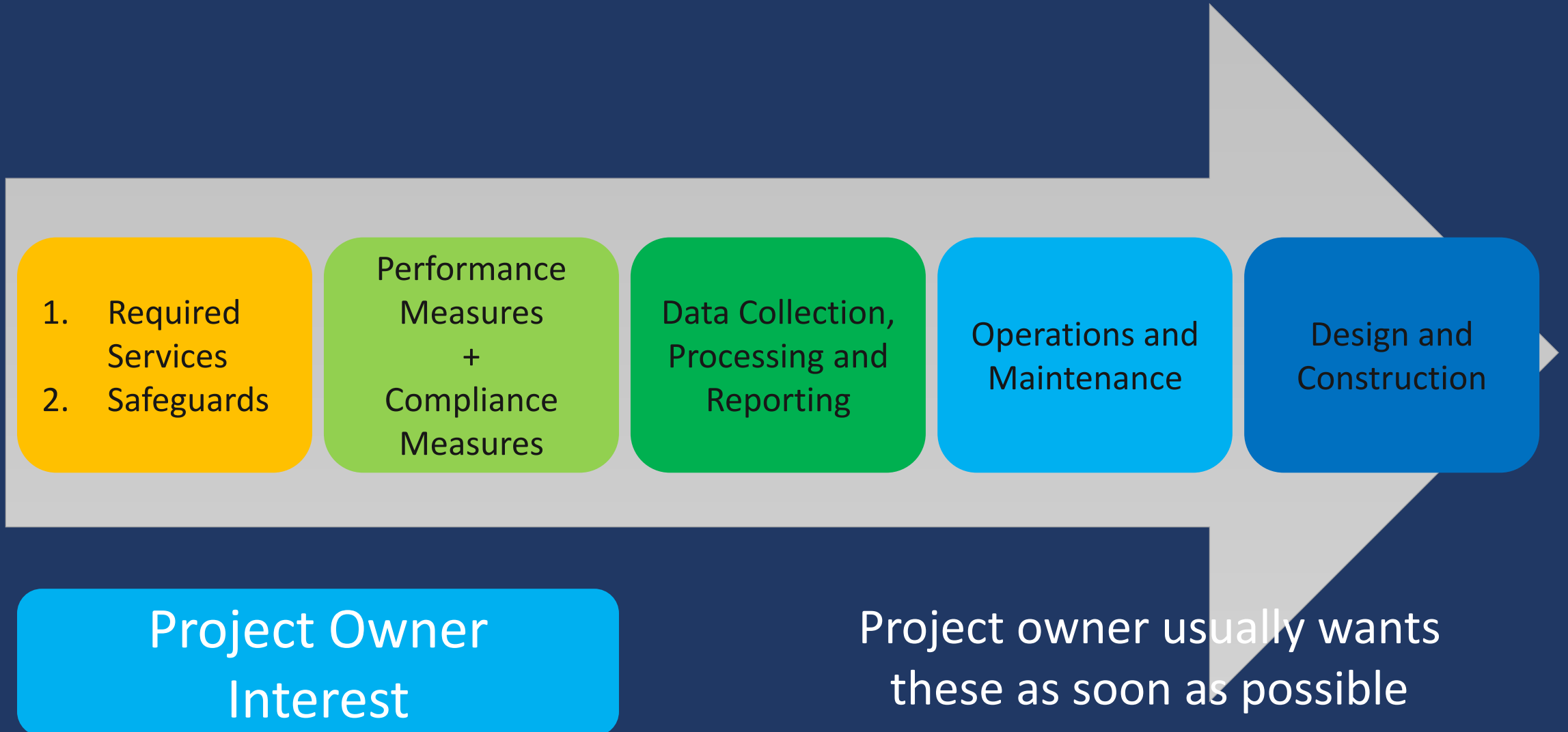
Data Collection,
Processing and
Reporting

Performance
Measures
+
Compliance
Measures

1. Required
Services
2. Safeguards

Project Manager Interest

Talking About DBOs?



Talking About DBOs?

Build this to deliver this
Or
Deliver this by building this

1. Required Services
2. Boundary Conditions

Performance Measures
+
Compliance Measures

Data Collection,
Processing and
Reporting

Operations and
Maintenance

Design and
Construction

Project Owner

Talking About DBOs?

What

How

Customers

1. Required Services
2. Safeguards

Performance Measures
+
Compliance Measures

Data Collection,
Processing and
Reporting

Operations and
Maintenance

Design and
Construction

Project Owner

Talking About DBOs?

DBO Contract

1. Required Services
2. Safeguards

Performance Measures
+
Compliance Measures

Data Collection,
Processing and
Reporting

Operations and
Maintenance

Design and
Construction

Contractor: From **Builder** to **Service Deliverer**

Session 1: Summary

The required outcomes from a project are:

- An improvement in the delivery of services; and
- For the improvement to be sustained over the life of the assets

To get the required outcomes from the new infrastructure

- It must be constructed properly; and
- It must be maintained properly thereafter

DBO projects are undertaken to deliver services, not to build works

DBO contractors are moving from a constructor to a service deliverer

There is much more to a DBO contract than a DB contract

End of Session 1