



*cutting through complexity*

# Life-Cycle Cost

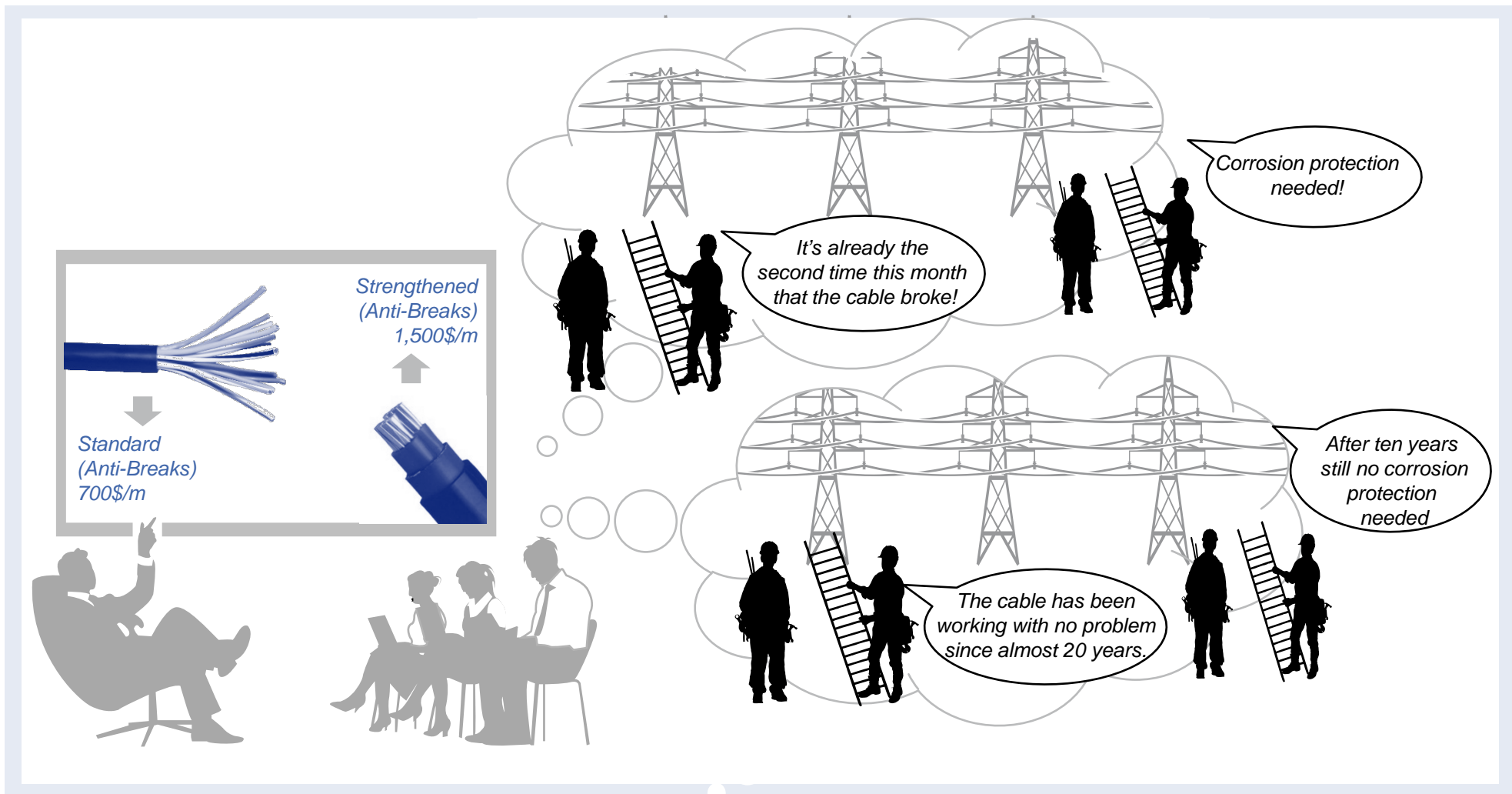
High Quality Electric Power  
Infrastructure from the Perspective  
of Electric Power Companies

Aug. 25, 2015

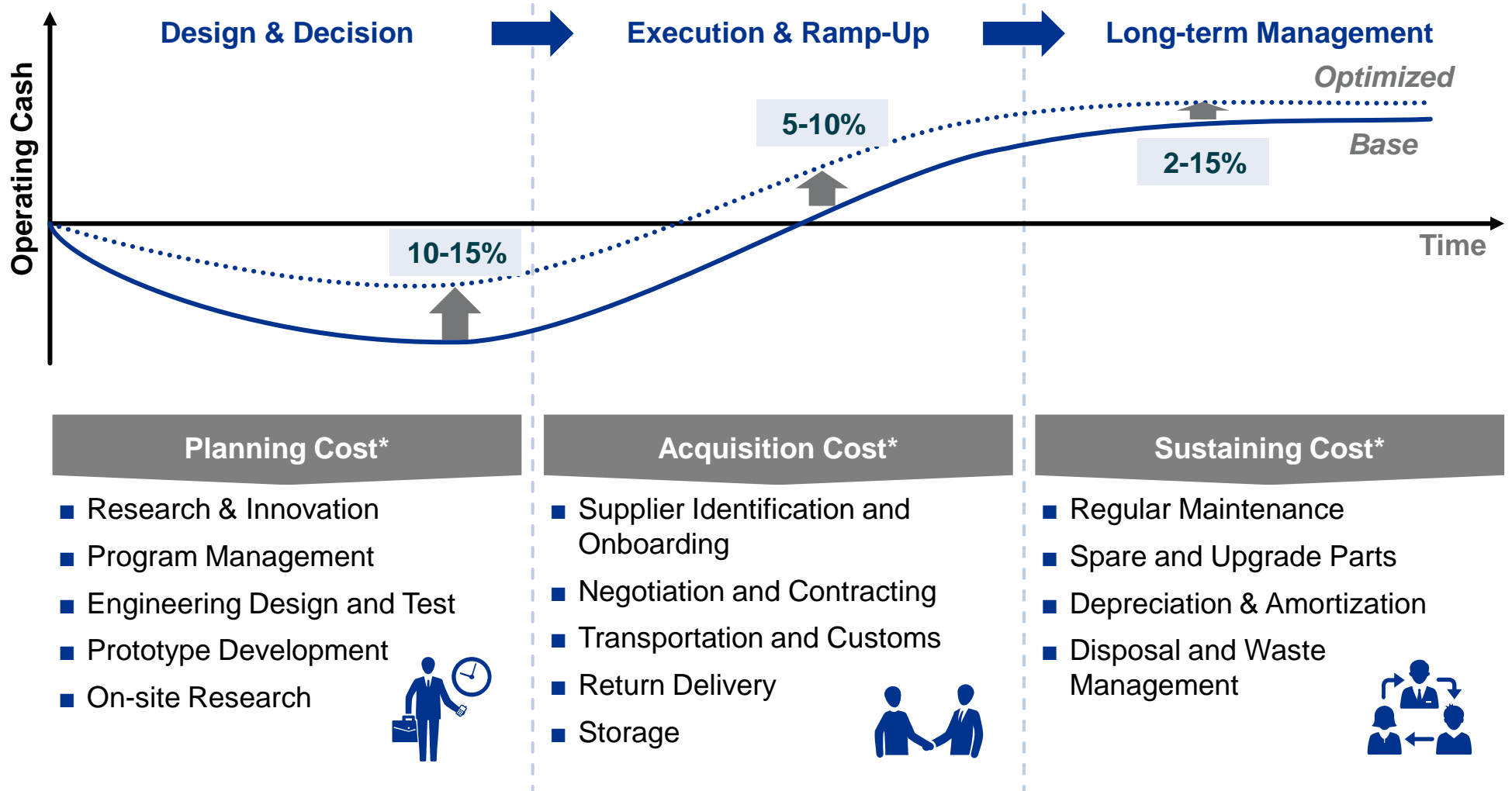
Tokyo



# Case – Which network cable should I pick?



The biggest improvement in ROI for electric power infrastructure projects is achieved by focusing on challenging costs early in the process.



\* Exemplary cost positions



**Success stories of strategic procurement**



*Electricity transmission  
system operator*

**Underground cabling**






- ✓ For the benefit of our stakeholders and the security of supply
- ✓ Complementing overhead lines with partial undergrounding cables



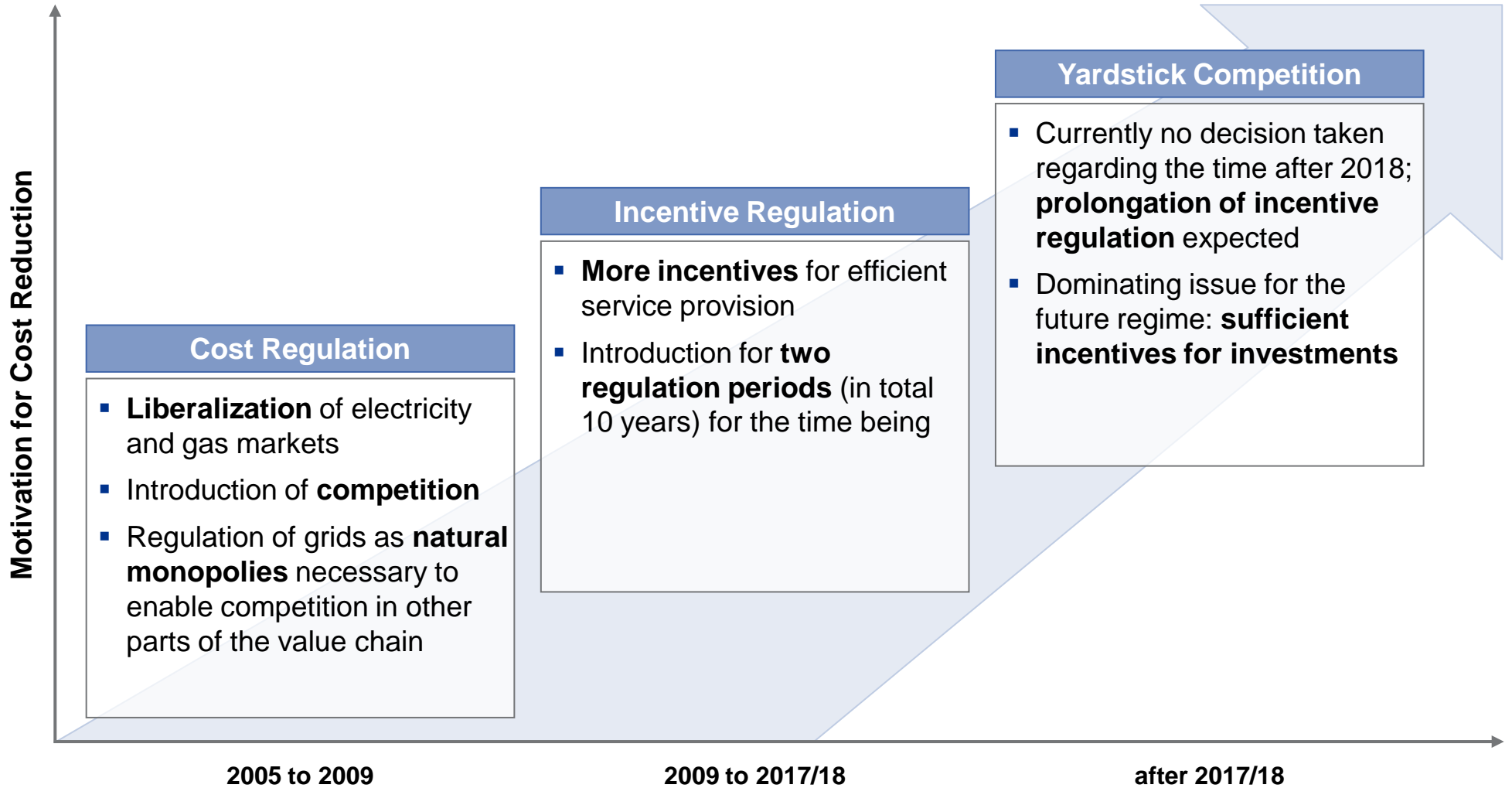
**Expenditures within infrastructure procurement incurred mostly by ordering party for acquisition and upgrading physical assets.**

**Infrastructure Procurement**



Classification	Examples	Typical Life Cycle [years]	Typical Buying Model (extract)
<b>Tools</b>	 <ul style="list-style-type: none"> <li>▪ Drills</li> <li>▪ Dies</li> <li>▪ Lathes</li> </ul>	<b>1 – 2</b>	<ul style="list-style-type: none"> <li>▪ Payment in installments</li> <li>▪ Amortization</li> </ul>
<b>Machinery</b>	 <ul style="list-style-type: none"> <li>▪ Milling machines</li> <li>▪ Assembly</li> <li>▪ Robotic welding</li> </ul>	<b>5 – 10</b>	
<b>Equipment</b>	 <ul style="list-style-type: none"> <li>▪ IT Servers</li> <li>▪ Test equipment</li> <li>▪ Compressor</li> </ul>	<b>1 – 3</b>	<ul style="list-style-type: none"> <li>▪ Cash payment</li> <li>▪ Credit</li> <li>▪ Leasing</li> <li>▪ Rental</li> </ul>
<b>Vehicles</b>	 <ul style="list-style-type: none"> <li>▪ Trucks</li> <li>▪ Vans</li> <li>▪ Trailers</li> </ul>	<b>4 – 6</b>	
<b>Building</b>	 <ul style="list-style-type: none"> <li>▪ New build</li> <li>▪ Extension</li> <li>▪ Refurbishment</li> </ul>	<b>15 – 20</b>	<ul style="list-style-type: none"> <li>▪ Cash investment</li> <li>▪ Signing financing agreements</li> </ul>

**The German Energy Act is the basis for the regulation of grid tariffs, which covers cost regulation and incentive regulation.**

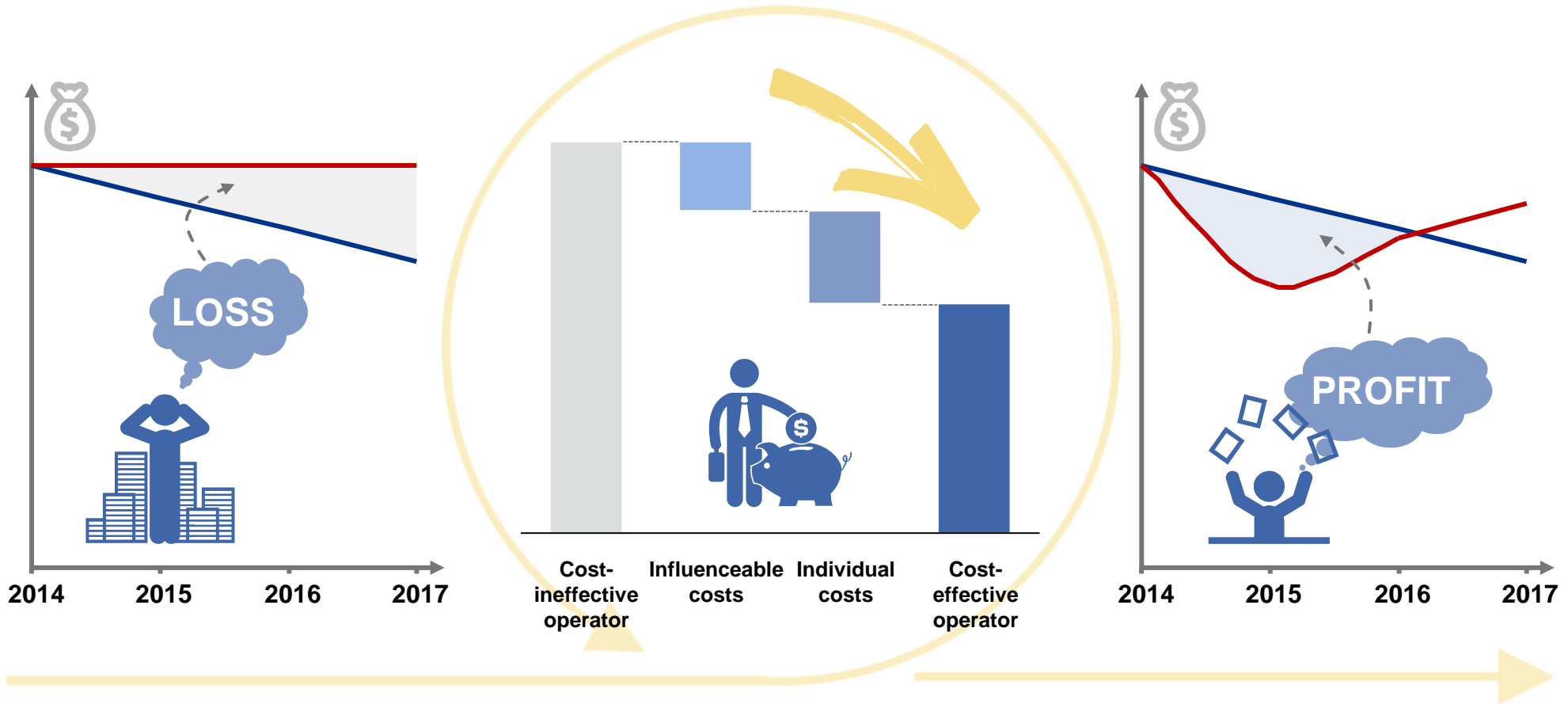


Ex-ante approval of an individual revenue cap for five years based on the costs of the photo-year provides incentive for operator is to reduce costs strongly in order to gain excess profits.

From Investment Loss...

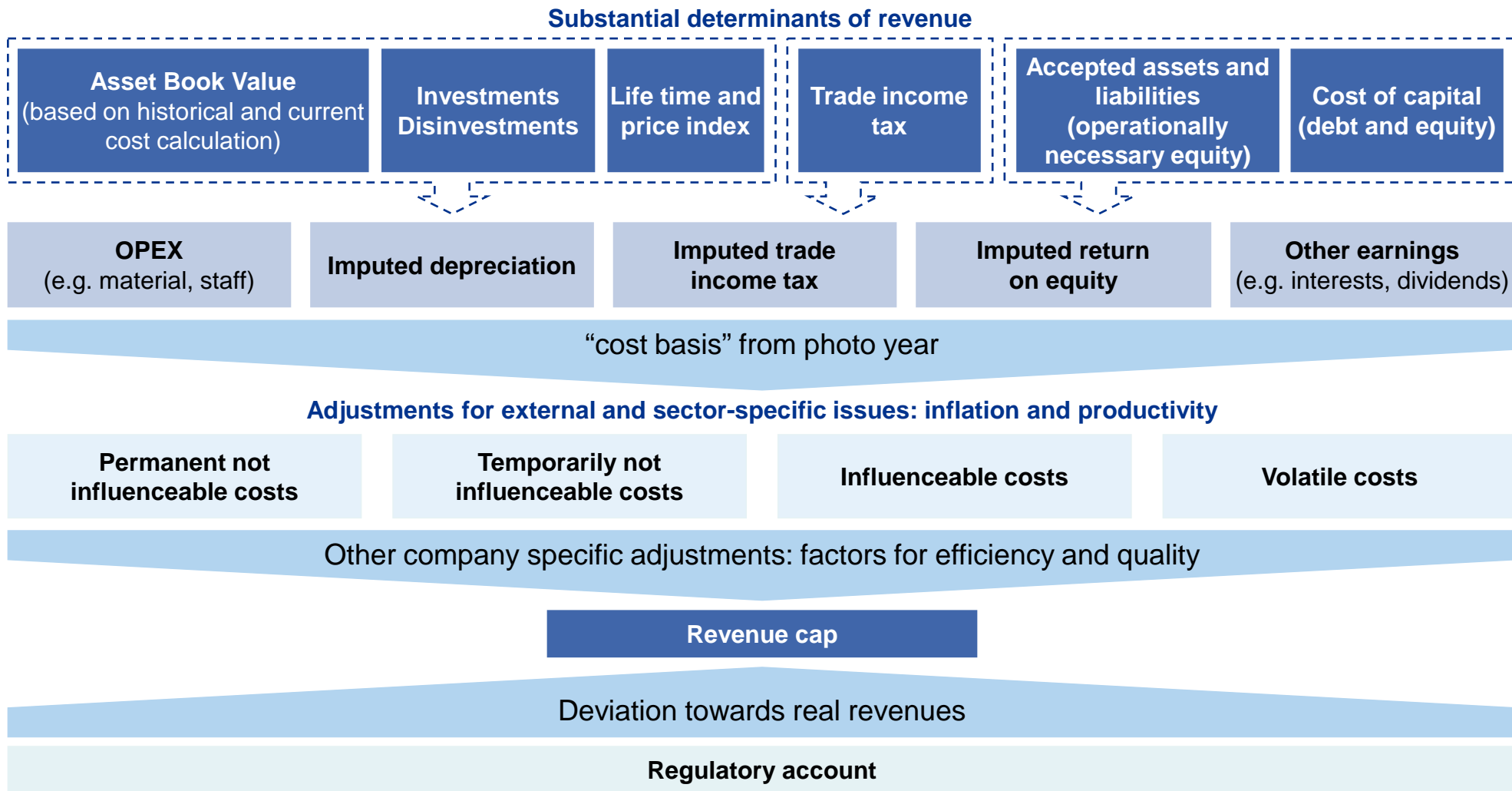
...via Productivity Improvement...

...to Additional Profit



— Cost of grid operator      — Revenue cap

# The ROE on assets war significantly improved in an amount of 2 percentage points on average after introduction of this Incentive Regulation



Source: ARegV





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**Reinhard Frigger**

Director

Consulting

KPMG AG Munich

T +49 89 9282-3762

RFrigger@kpmg.com



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a member firm of KPMG International