



# Tariff setting methodology for electricity distribution in the Netherlands

Case study on the Dutch yardstick and capacity tariffs

Vincent van Langen

17 October 2019 – Energy Community, Vienna

# A brief intro on ACM



- Founded in 2013 (as a result of a merger)
- Combination of consumer protection, competition oversight and sector-specific regulation
- In total 550 employees, ~80 at the energy department
- Energy department: electricity and gas network operators, European energy markets, heat networks, drinking water, Caribbean NL



# Plan for today

- Context network operators in the Netherlands
- General tariff regulation framework
- Case: DSO yardstick
- Case: capacity based tariffs

Feel free to ask questions at any point!



# Context network operators in the Netherlands



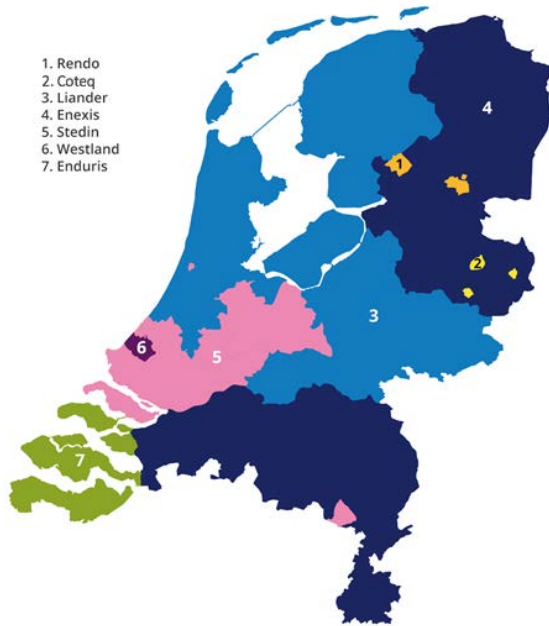
# Energy networks in the Netherlands

## Electricity

## Gas

- 1. Rendo
- 2. Coteq
- 3. Liander
- 4. Enexis
- 5. Stedin
- 6. Westland
- 7. Enduris

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Authority for Consumers & Markets

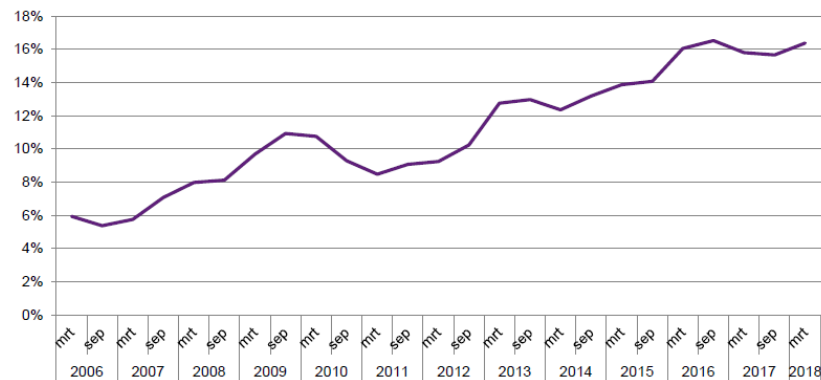


# Energy networks in the Netherlands

- Fully unbundled network operators
- Network operators owned by public bodies (state + local)
- High level of interconnection TSOs
- High quality of service (reliability 99,99%)
- Retail markets in the Netherlands more and more competitive



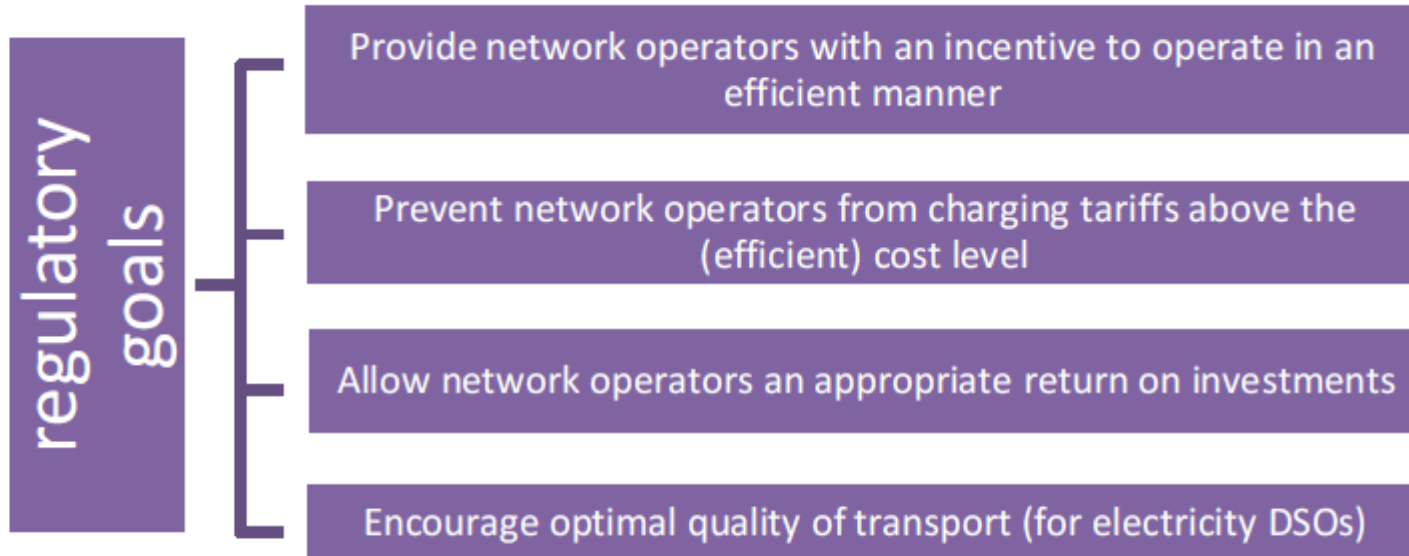
*Annual percentage of households that switched to another supplier*



# General tariff regulation framework



## Regulatory goals



Main principle:

ex ante revenue cap/price cap based on exogenous efficient cost level

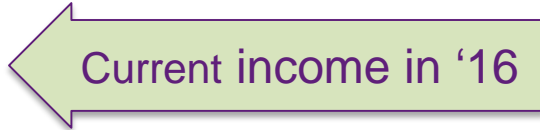


# Network regulation in a bird's eye view: costs, income levels and x-factor (1/4)

Euro  
(cost /  
income)



Current income in '16



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2016

2017

2018

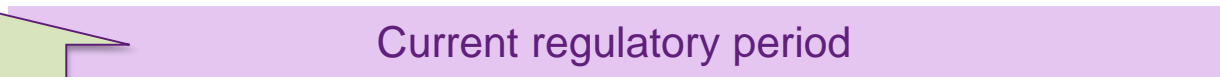
2019

2020

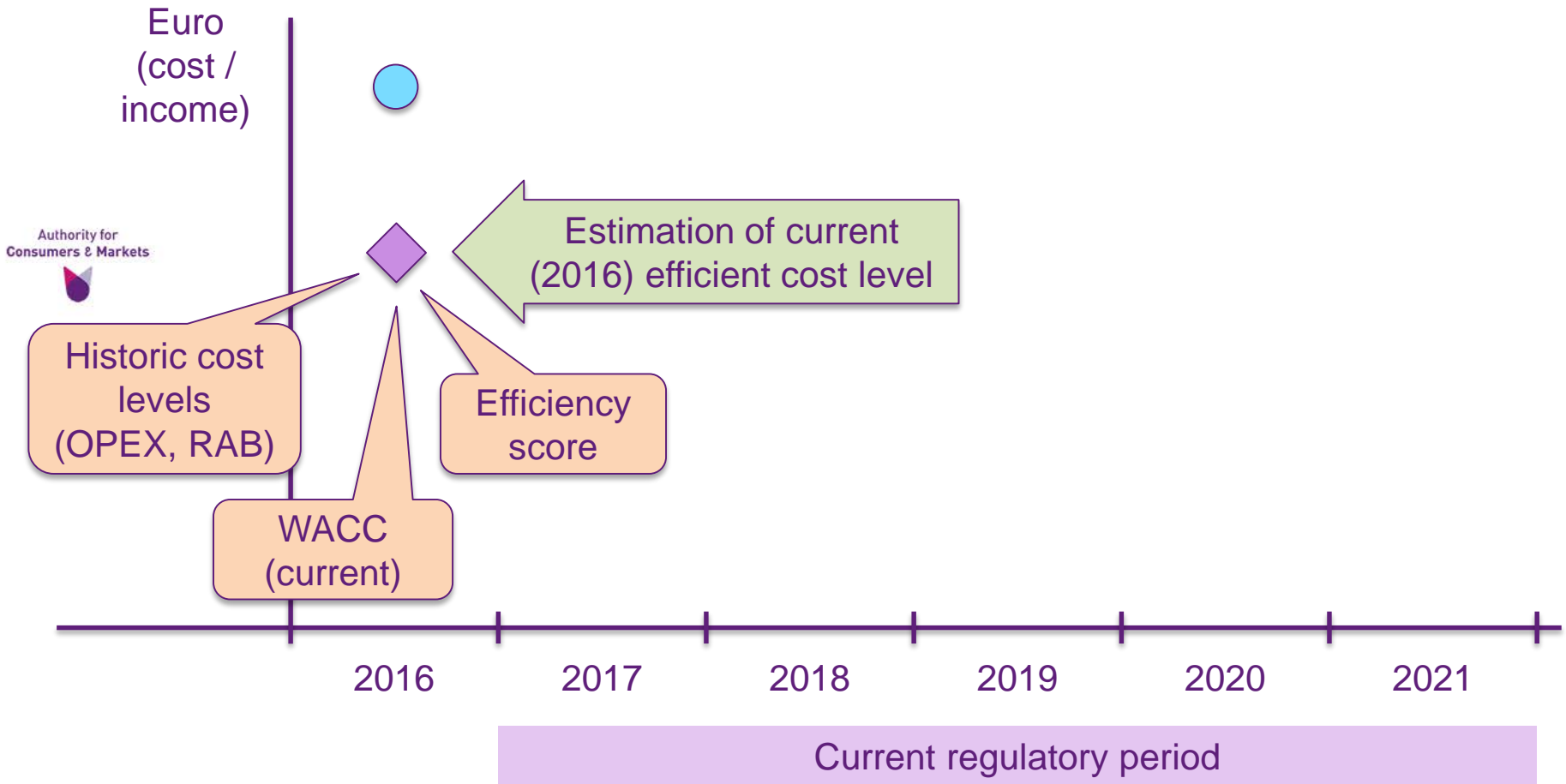
2021

Decision for  
'17 – '21 made  
in summer '16

Current regulatory period

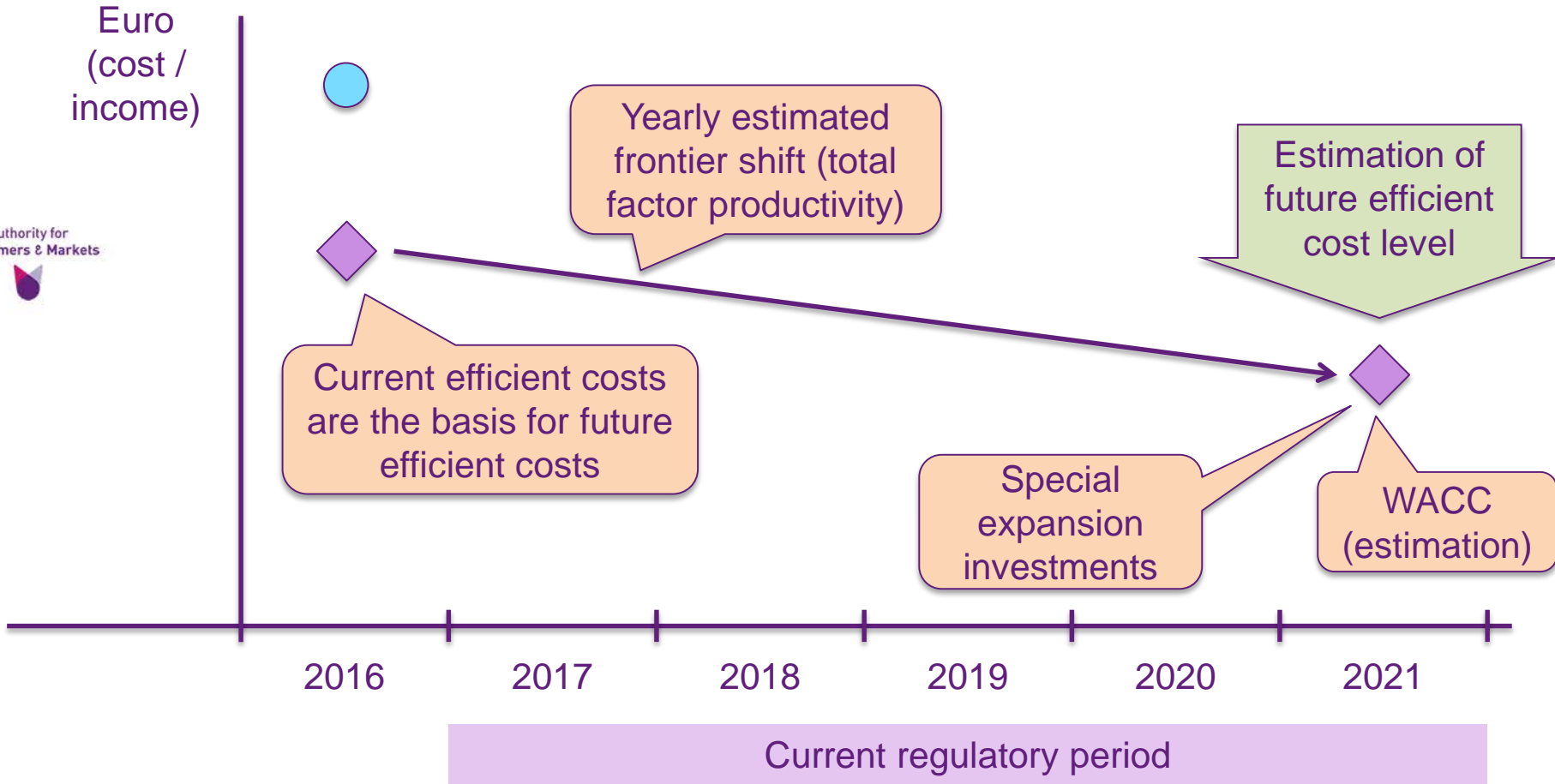


# Network regulation in a bird's eye view: costs, income levels and x-factor (2/4)



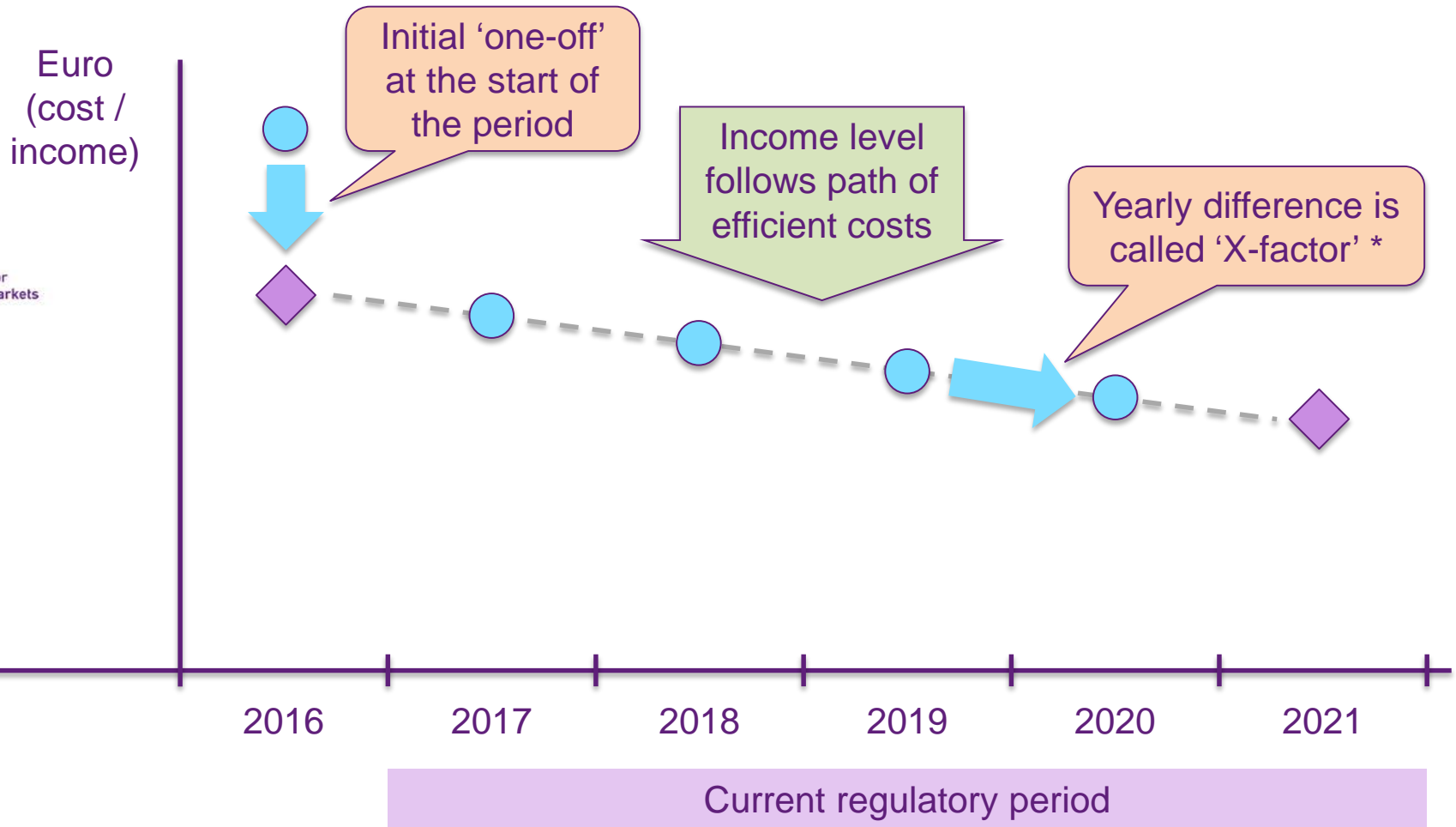
# Network regulation in a bird's eye view: costs, income levels and x-factor (3/4)

Euro  
(cost /  
income)



Current regulatory period

# Network regulation in a bird's eye view: costs, income levels and x-factor (4/4)



\* Although we call it 'x-factor regulation', it is not completely equal to the original UK-based 'RPI-X' system

# Case: DSO yardstick

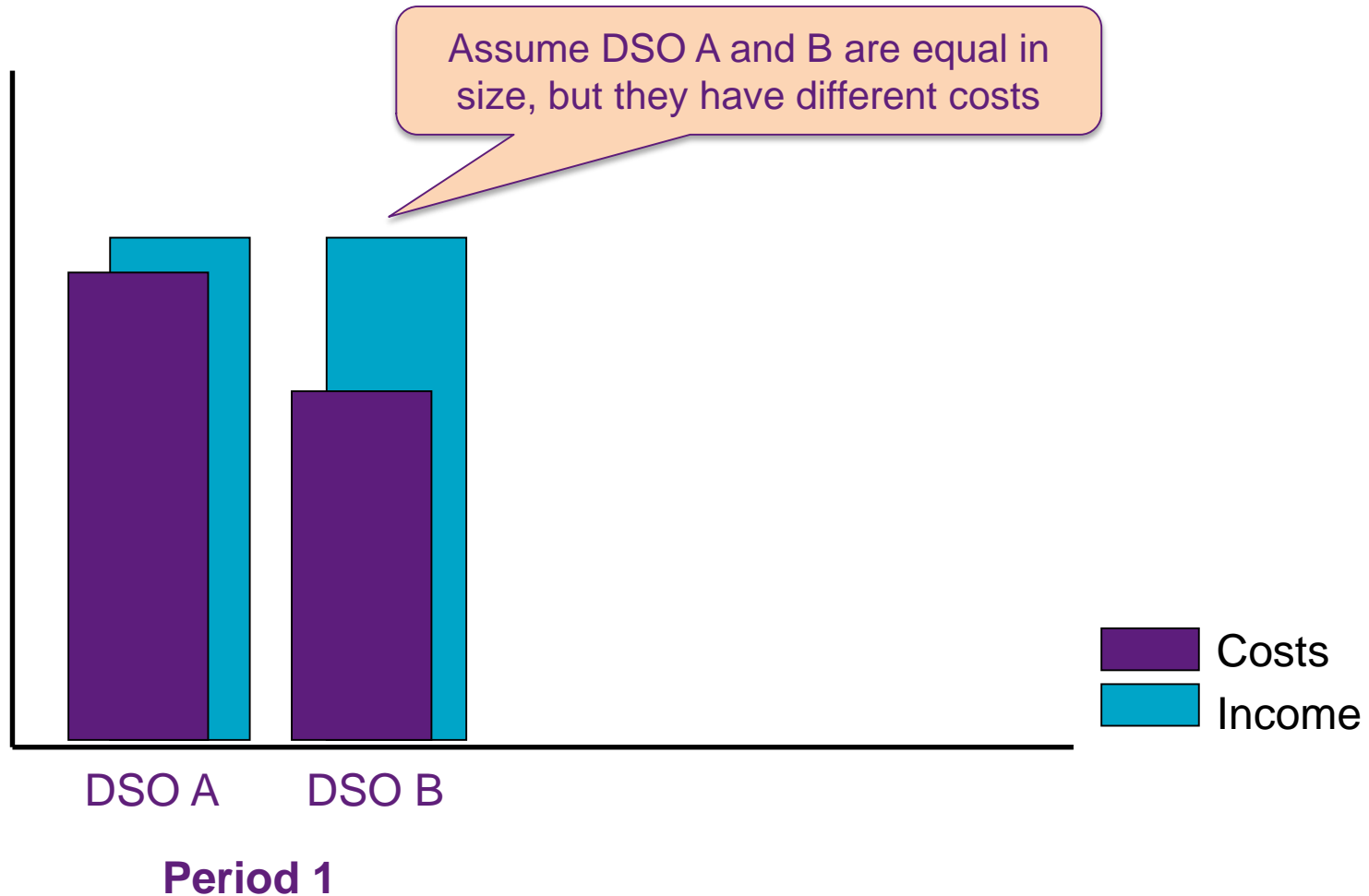


## Yardstick basics

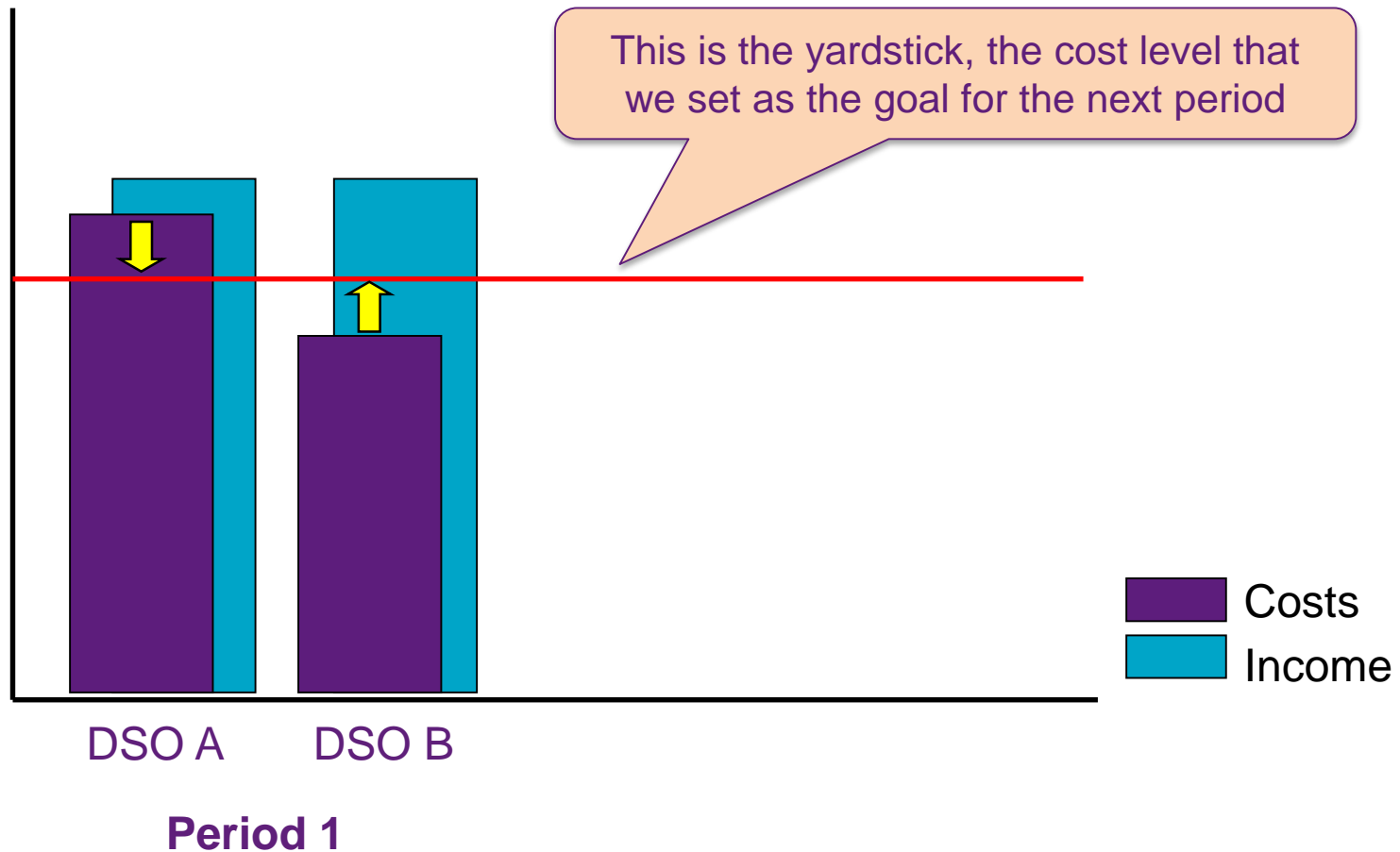
- Comparison of network operators to mimic competition on cost levels
  - Less about finding theoretical 'efficient costs', more about creating incentives to lower costs in a repetitive game
  - Pass through of costs savings to consumers, but not before network operators are 'rewarded' for their achievements
- Incentives should be substantial: winning the game should be rewarded, and there have to be real financial consequences for the 'losers'



In a yardstick, the network operators 'compete' with the other operators on costs

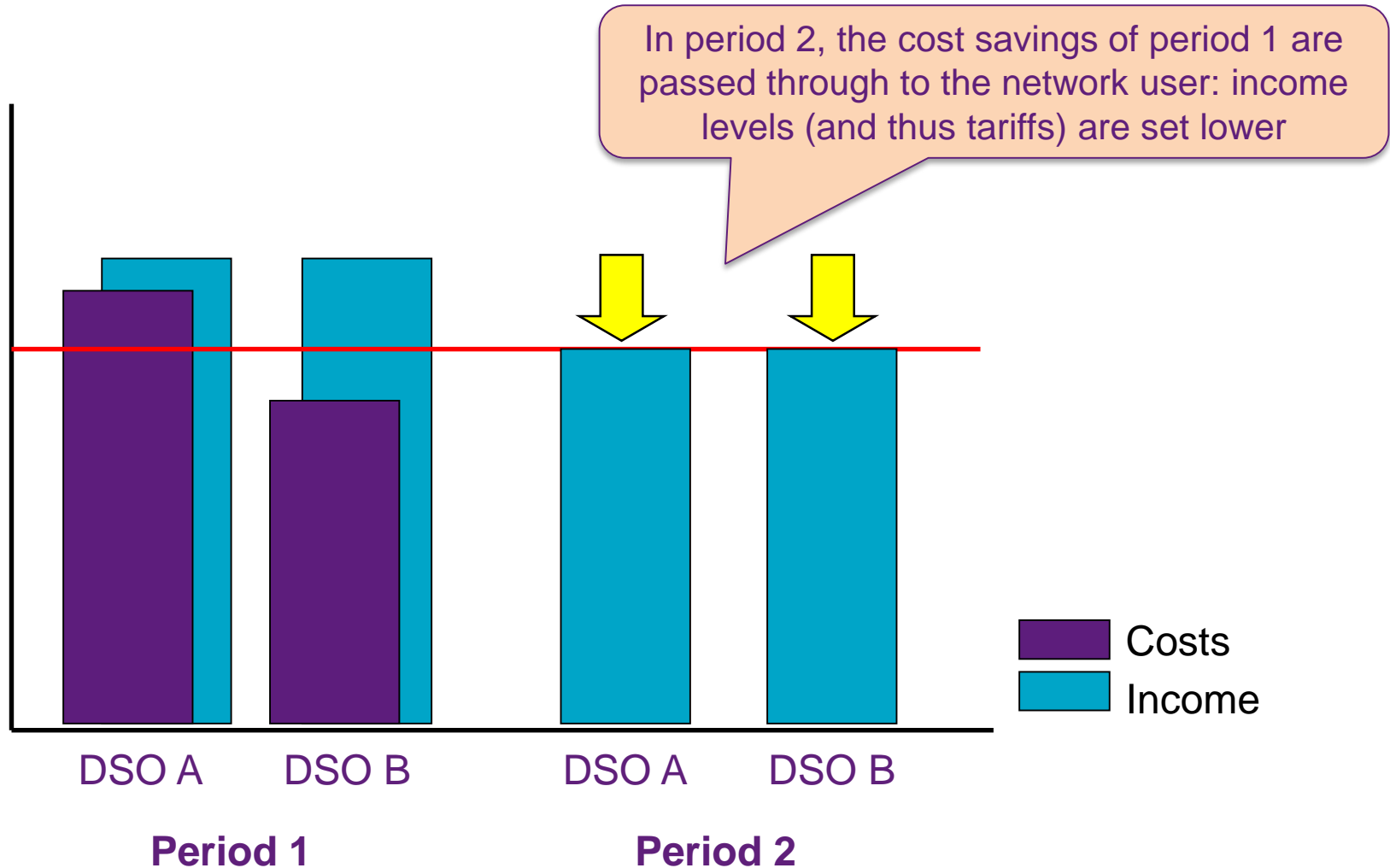


# Yardstick is based on (weighted) average cost per unit of output

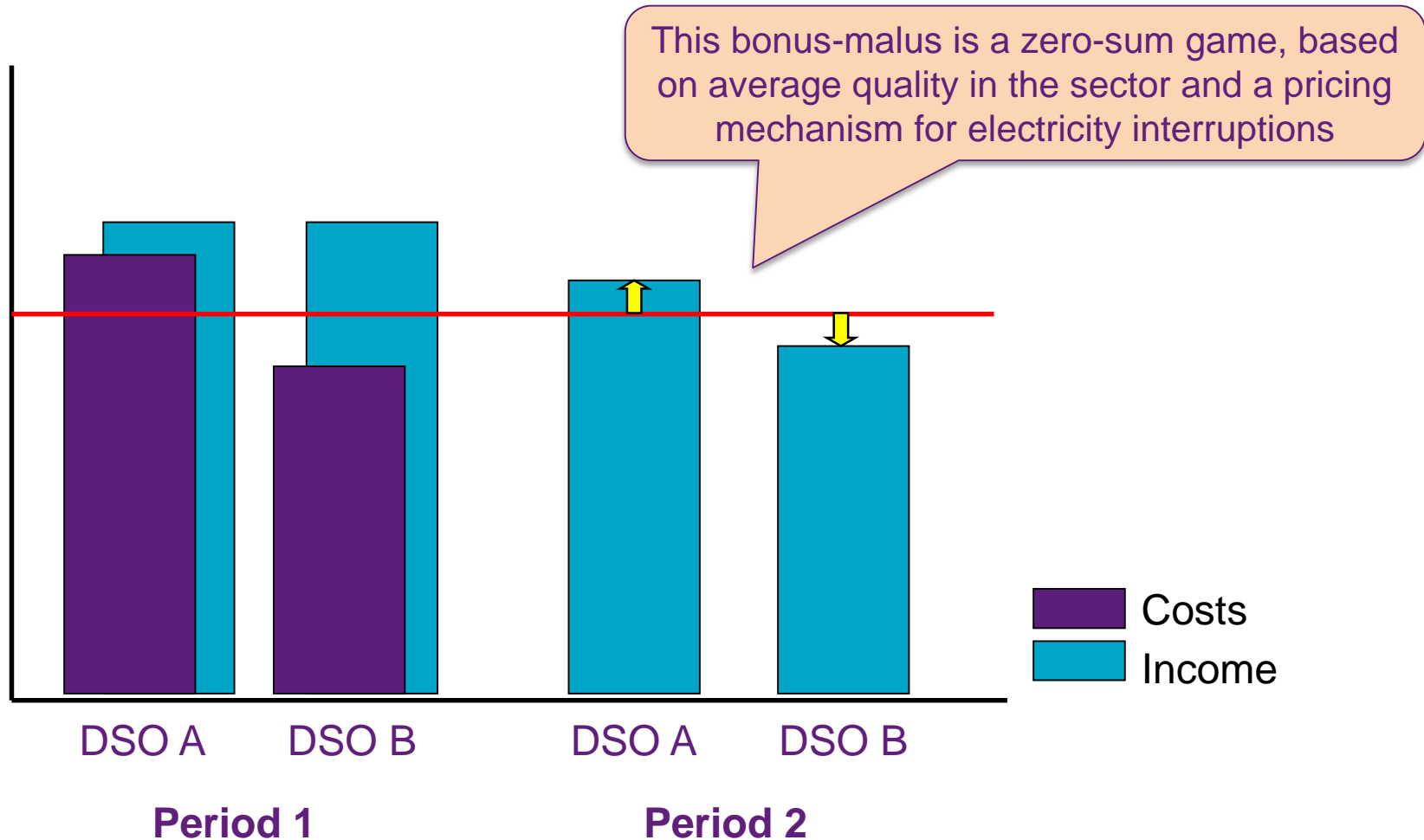




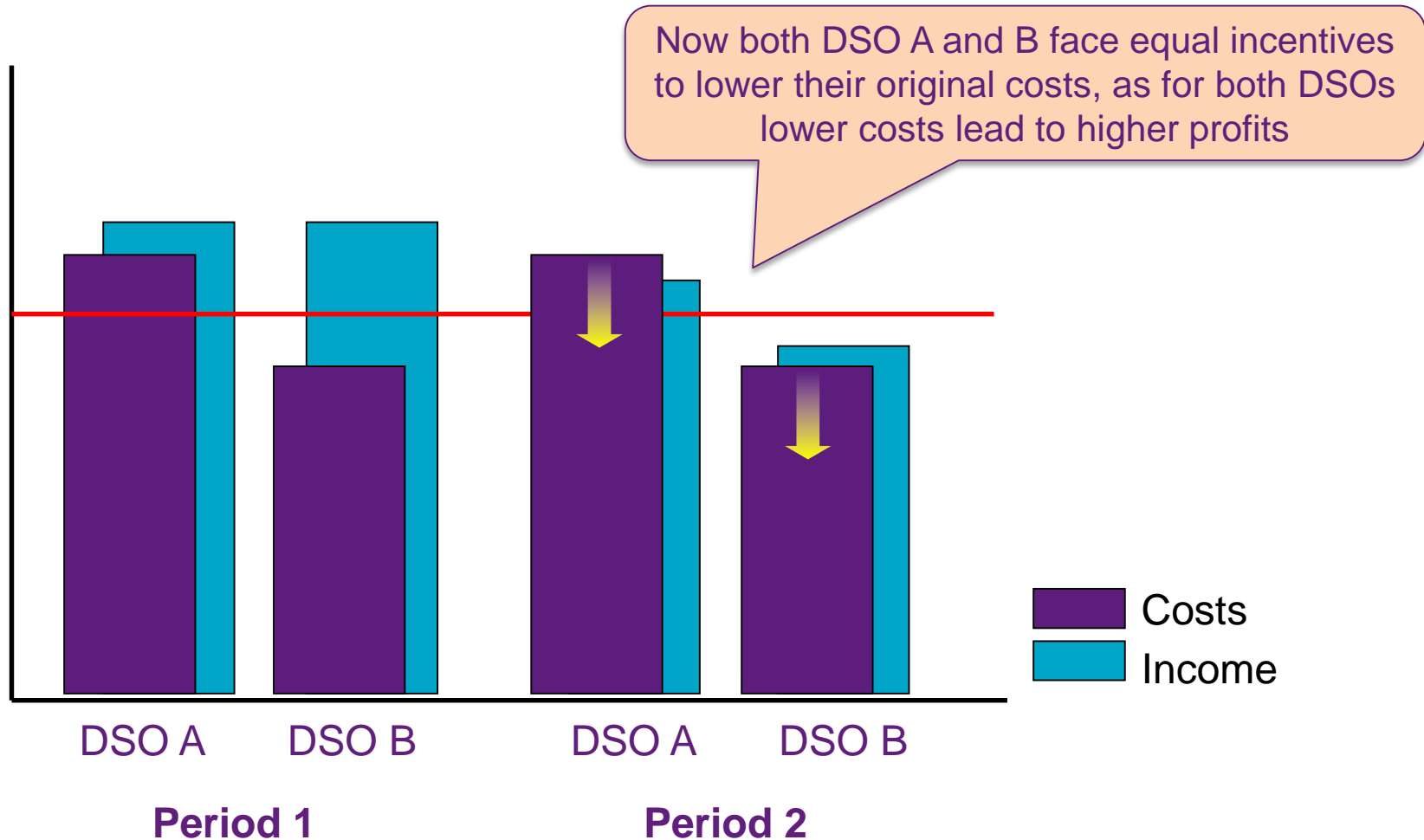
## Cost savings are passed through



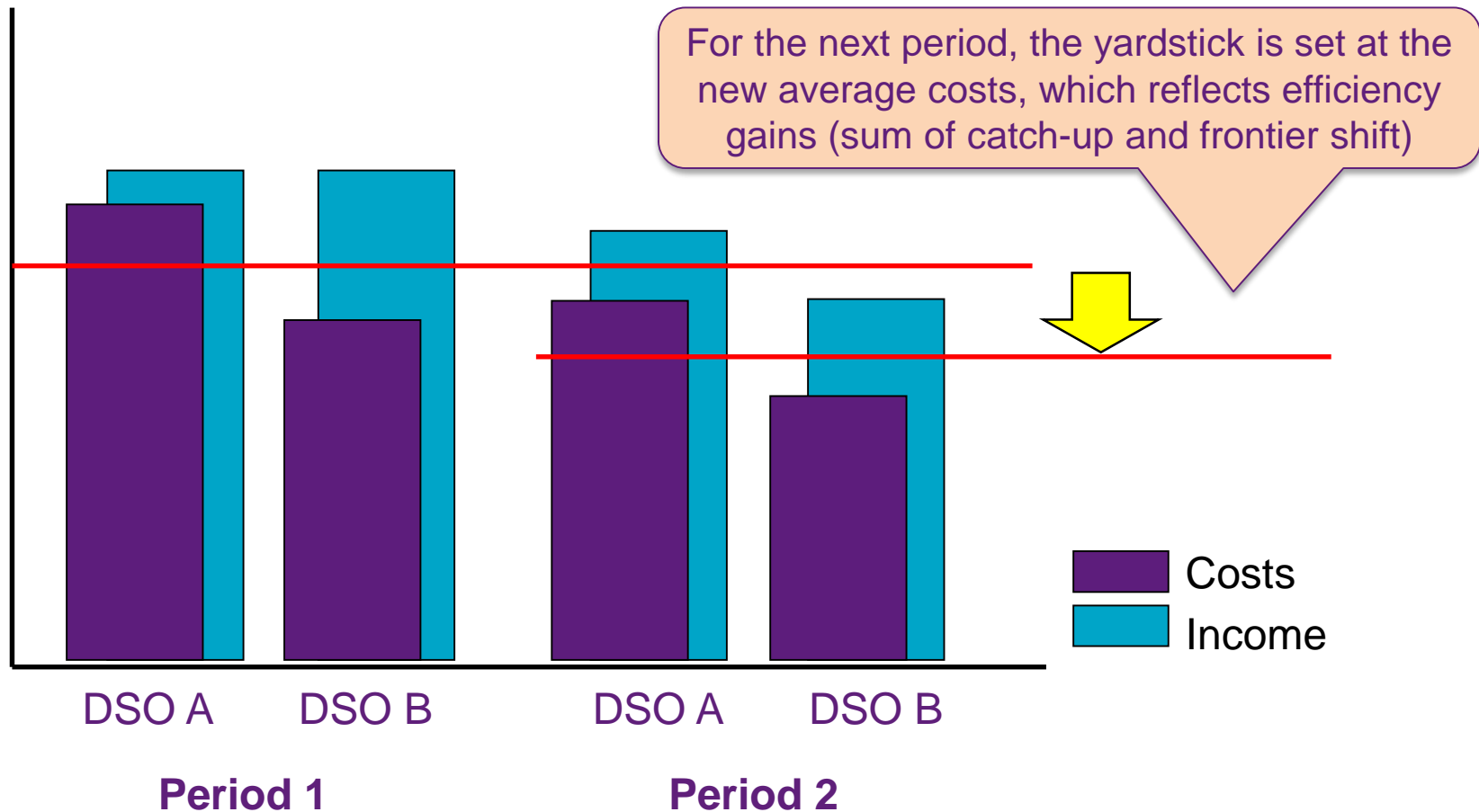
# In addition, a bonus-malus arrangement applies for quality achieved



# Ex ante price/revenue cap gives an incentive to lower costs in order to increase profits



# Cost savings lead to higher profits, and after some time also consumer benefits



## Implementing the Dutch DSO yardstick

- First application in 2001, not very successful: network operators stated they were not comparable, which led to many appeals and court cases
- In 2004 we reached an agreement:
  - Network companies are comparable ‘unless proven otherwise’ (reversed the burden of proof).
  - They dropped all court cases.
- After a first round with a ‘best practice’ yardstick, ACM switched to a ‘weighted average cost’ yardstick.
- Note: for a successful implementation of a yardstick, it is necessary to have a strong and simple output measure (and preferably only one).

## What if a DSO is not completely comparable?

- Possibility of so-called ‘regional differences’
- Regional differences should be factors that lead to significant and persistent costs differences, which can be objectively verified
- Yardstick not applicable to regional differences, efficient costs are directly awarded to grid operator
- Potential regional differences:
  - Connection density
  - Local taxes
  - Soil type
  - Declining soil
  - Salty air
  - Water crossings

→ Which of these factors are real regional differences?

## Discussion

- What do you see as advantages and disadvantages of this application of yardstick regulation?
- What are the main risks in applying this yardstick for a long period (we're still using it currently, since 2004)?



# Case: capacity based tariffs



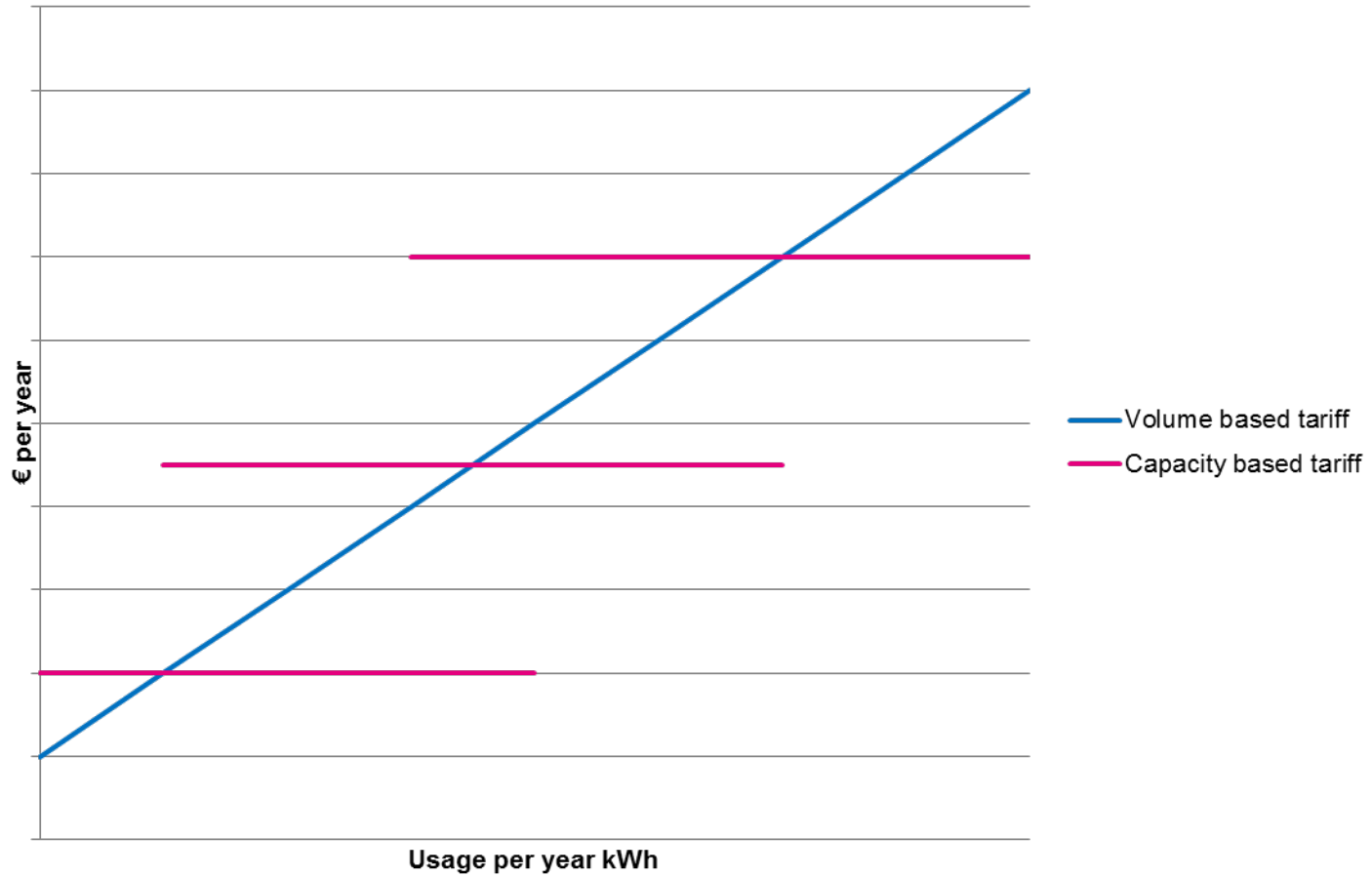


# What are the reasons for introducing a capacity based tariff?

- Grid costs mostly depend on the capacity of the grid rather than the volume of usage
  - Fairness: consumers pay for the actual costs that they cause
- Lower administrative costs because of simplified billing process
  - No need for volume data anymore for the billing procedure of network costs
  - Combined with a remodelling of the invoicing procedure\* cost savings were estimated at €30 million a year

In the new so-called 'retailer model', the energy supplier is now the main contact for both energy and the connection/metering: network users have (in theory) no longer contact with the network operator, everything is arranged through the energy supplier.

# What are the consequences of introducing a capacity based tariff?



# What are the consequences of introducing a capacity based tariff?



## What did we do to mitigate effects for consumers?

- Consumers were given the opportunity to reduce the capacity of their connection at a lower fee (€50)
- Users that could not reduce their capacity were temporarily compensated

→ Why temporarily?



# But what about energy efficiency?

## Energy Efficiency Directive

Article 15(4) complements Article 15(1) and Annex XI(1) and (2) by requiring the removal of network tariff rates for transmission and distribution that are detrimental to the overall efficiency (including energy efficiency) of the generation, transmission, distribution and supply of electricity. This requires assessing tariffs with respect to their efficiency, including energy efficiency, and the removal of tariffs or part of tariffs that are detrimental from an efficiency point of view.

This could for example mean looking at whether the tariff design sends price signals that encourage more rather than less energy consumption or focuses on fixed rather than volumetric charges that do not encourage customer energy efficiency.

→ Does this mean we cannot apply capacity based tariffs?

## Solution: change the energy consumption tax

- Change to capacity based tariff accompanied by a change in the energy consumption tax
  - Increase in the tax-free threshold to +/- € 380 a year
  - Increase in the tax per kWh and m<sup>3</sup>
  - We can maintain the incentive for energy efficiency



## Standardised capacity per category based on average capacity use

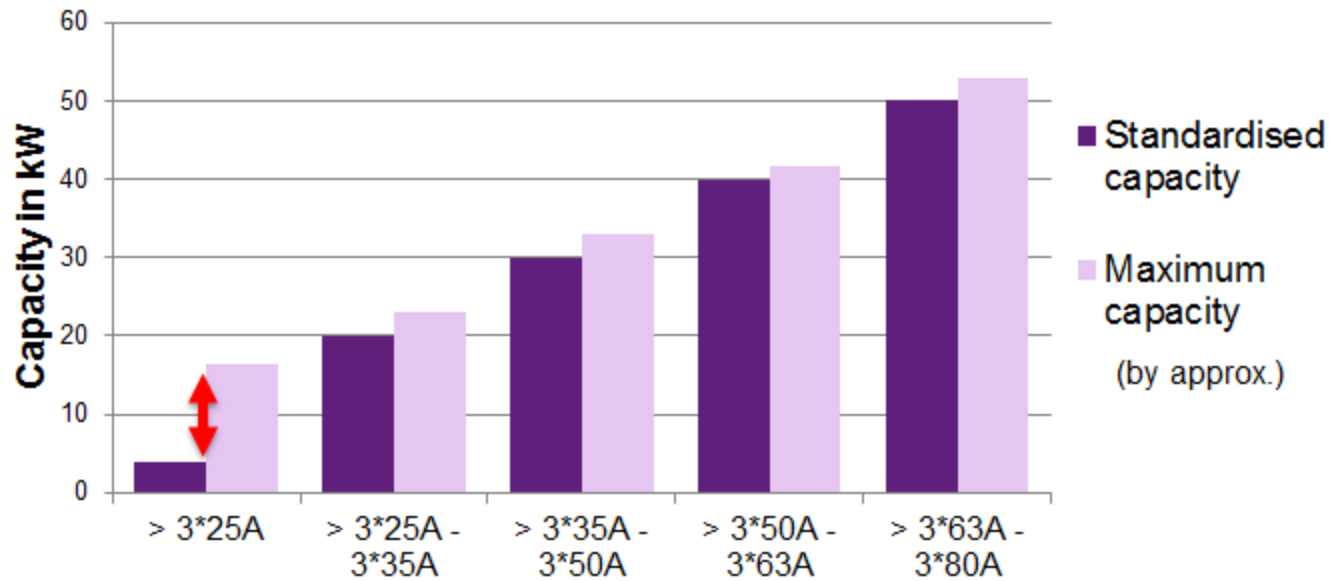
Tariff categories	Standardised capacity [kWh]
Up until 1* 6A	0,05
Up until 3*25A	4
> 3*25A – 3*35A	20
> 3*55A – 3*50A	30
> 3*50A – 3*63A	40
> 3*63A – 3*80A	50

This is a 'standard' household connection (96% of users in this group)

Average capacity use is set to 4 kW, this is a 'relative weight', not real capacity use

# The 'standard household' group has high technical max. capacity but a low standardised capacity

Standardised vs. maximum capacity per connection type





## Totally fair?



→ Is it fair all types of household pay the same towards the network?

**Thank you for your attention!**

Vincent van Langen  
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[Vincent.van.Langen@acm.nl](mailto:Vincent.van.Langen@acm.nl)