

# Network losses in the Swedish network regulation

Kristina Östman

The Swedish Energy Markets Inspectorate

# A regulated revenue cap

- The revenue cap sets the upper limit on how much the DSO or TSO is allowed to charge their customers
- Reasonable coverage for their operational costs and reasonable return on the invested capital
- Ex-ante regulation: if forecast does not match the outcome → input to the next period (can save surplus one period)

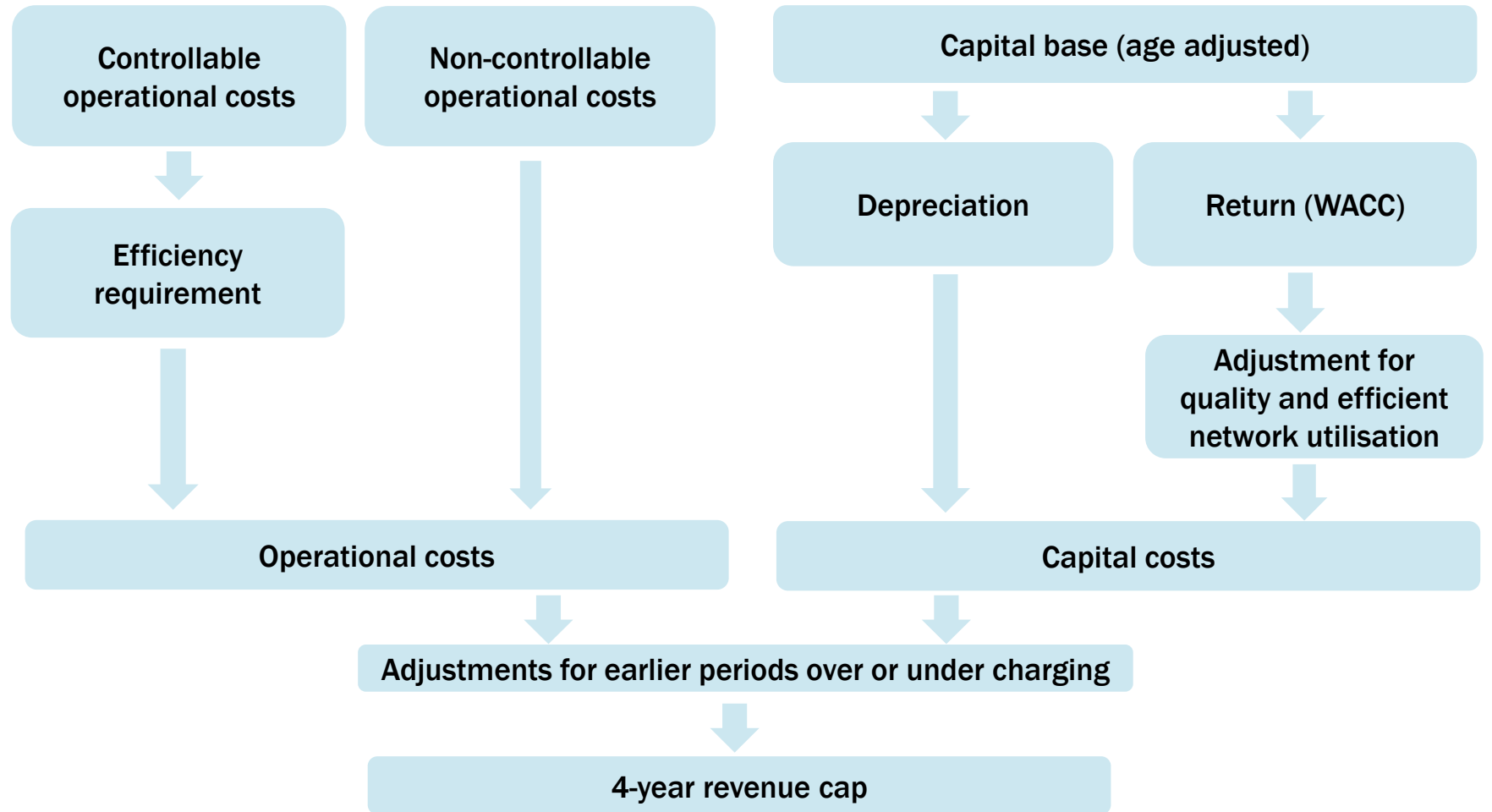
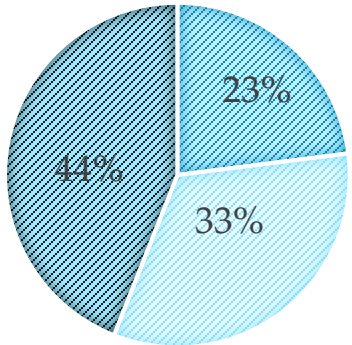


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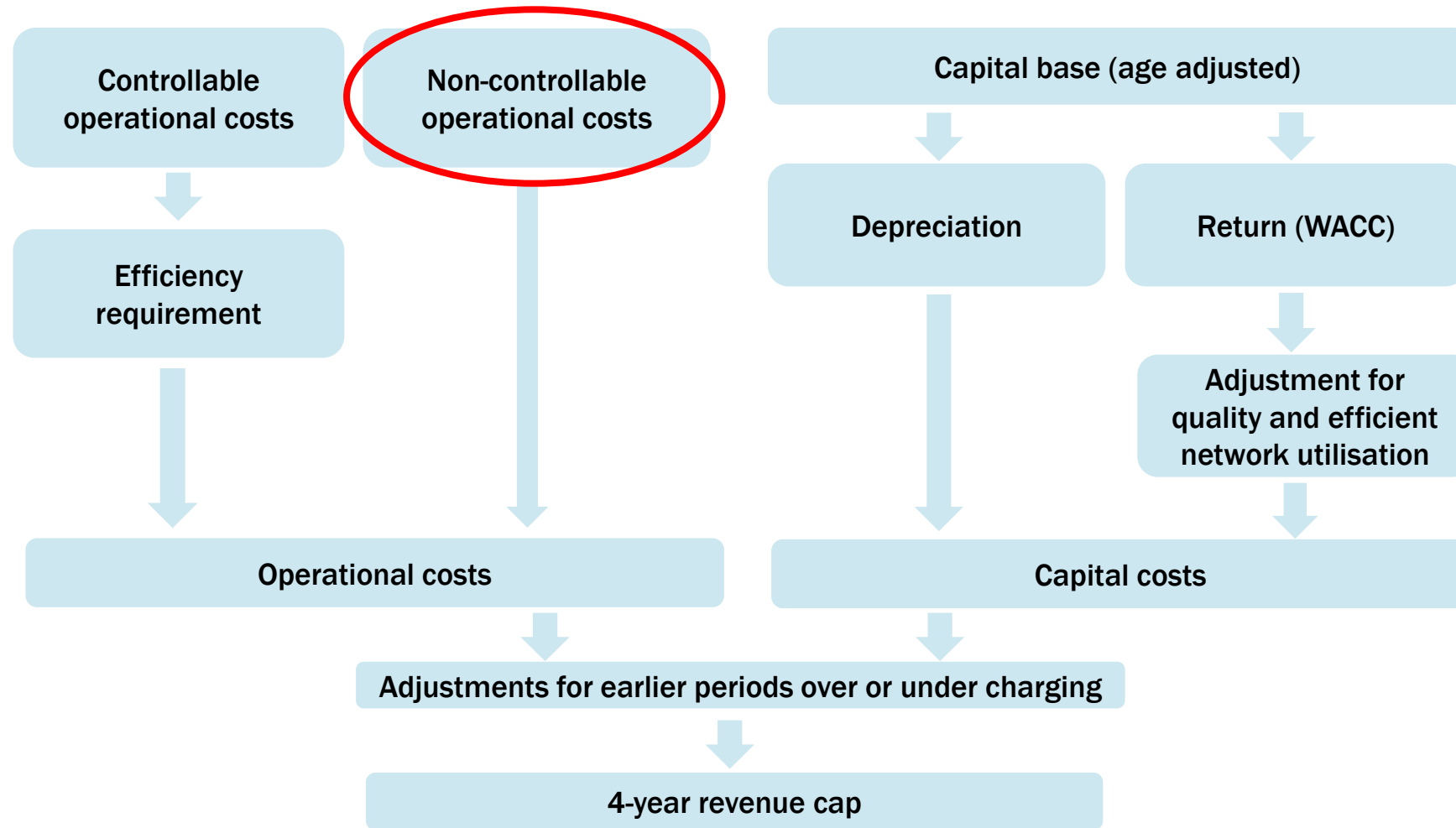
# The Swedish revenue cap

## Average:

- Controllable costs
- Non-controllable costs
- Capital costs



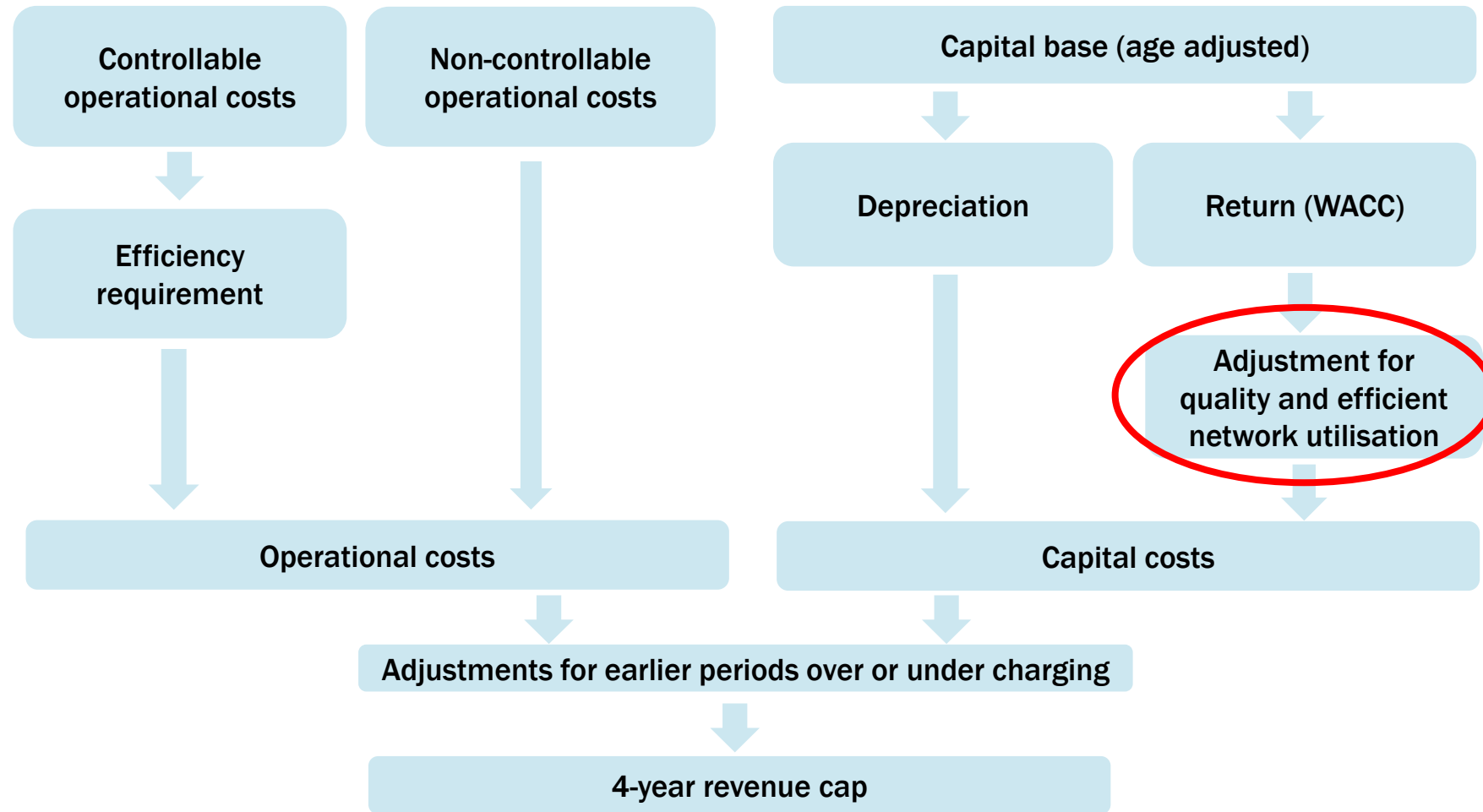
# Losses in the Swedish revenue cap



# Non-controllable operational costs

- Operational costs that the network companies cannot influence
- Includes:
  - **Costs for network losses**
  - Costs for connections to and tariffs for overlying and neighbouring networks
  - Costs for reimbursing production units who reduce network costs ("nätnytta")
  - Agency fees
- Based on forecast by the DSO
- Adjusted after revenue period based on outcome

# Losses in the Swedish revenue cap



# Incentive regulation – adjustment for quality and efficient network operation

- Ei shall take into account the performance of the DSOs when calculating the revenue cap
- Reliability of supply incentive scheme
  - Introduced in 2012, but more detailed method from 2016
- Efficient network utilisation (smart grid) incentive scheme
  - New from 2016

# Incentive scheme for efficient network utilisation

- **EU Energy Efficiency Directive → requirement to incentivise DSOs to utilise networks efficiently**
- **Ei has developed two indicators to measure efficient network utilisation:**
  - **(a) network losses and**
  - **(b) load factor combined with the cost to overlying network**
- **Losses and cost for overlying network are categorised as non-controllable costs, not 100 % non-controllable with the incentive**





# Incentive for reducing network losses

- Incentive scheme: The adjustment is proportional to  $0.5 \times$  [changed cost for losses between the own norm period and the outcome]
- Can be an addition or a reduction to the revenue cap
- $0.5 \rightarrow$  DSO and customers equally share savings and cost increases

# Integrating adjustments in the revenue cap

- The outcomes from reliability and efficient utilization (losses and load factor) calculations are summarised → potential addition or reduction on the return
- Can give a maximum change of the revenue cap of  $\pm 5\%$  (changed from  $\pm 3\%$  in 2016), but never more than the return, for the four year period

# Ongoing regulatory work on network losses

- **Government assignment on overseeing the economic regulation for network companies**
  - Network losses is one part
  - Deadline October 2017
- **Project on developing the incentives for quality and efficient network utilisation**
  - Two master thesis projects on efficient network usage:
    - Developing a benchmarking norm for losses? Aim to give long-term incentive for loss reduction
    - Higher weighting for days with high demand when calculating average load factor?

**Any questions?**

