Rijkswaterstaat
Ministerie van Infrastructuur en Milieu

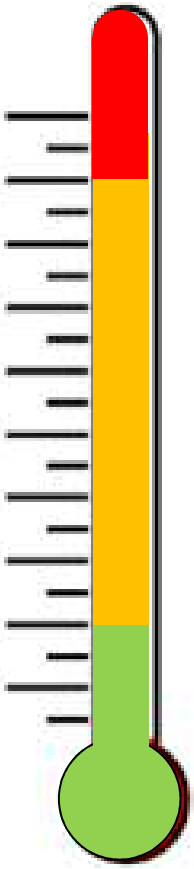
CEA for noise measures in the Netherlands

Renez Nota, Dick van der Gugten

Dutch National Road Authority

Noise legislation in the Netherlands

65 dB



50 dB

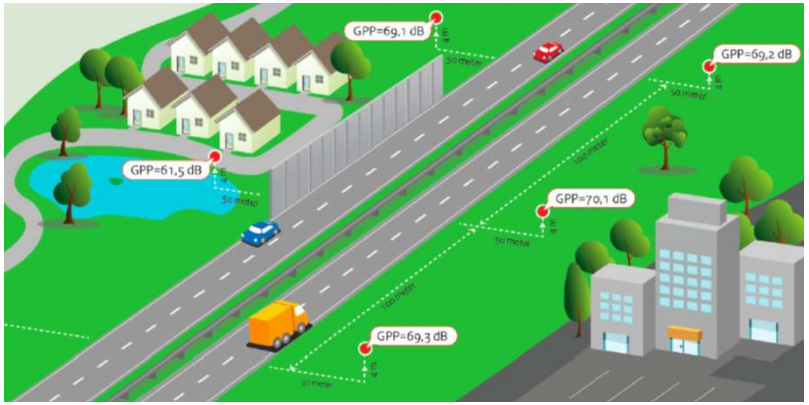
Cost-effectiveness analysis

Legal status of CEA

- Legal status
  - Use of CEA is undisputed
  - Transparency for stakeholders

Inducements for a CEA (1)

- Monitoring of noise limits in reference points
- New road or road enlargement
  - "Stand still" >50 dB



Inducements for a CEA (2)

- Noise remediaton
  - Noise levels >65 dB ➔ 60 dB Lden

How does it work? (1)

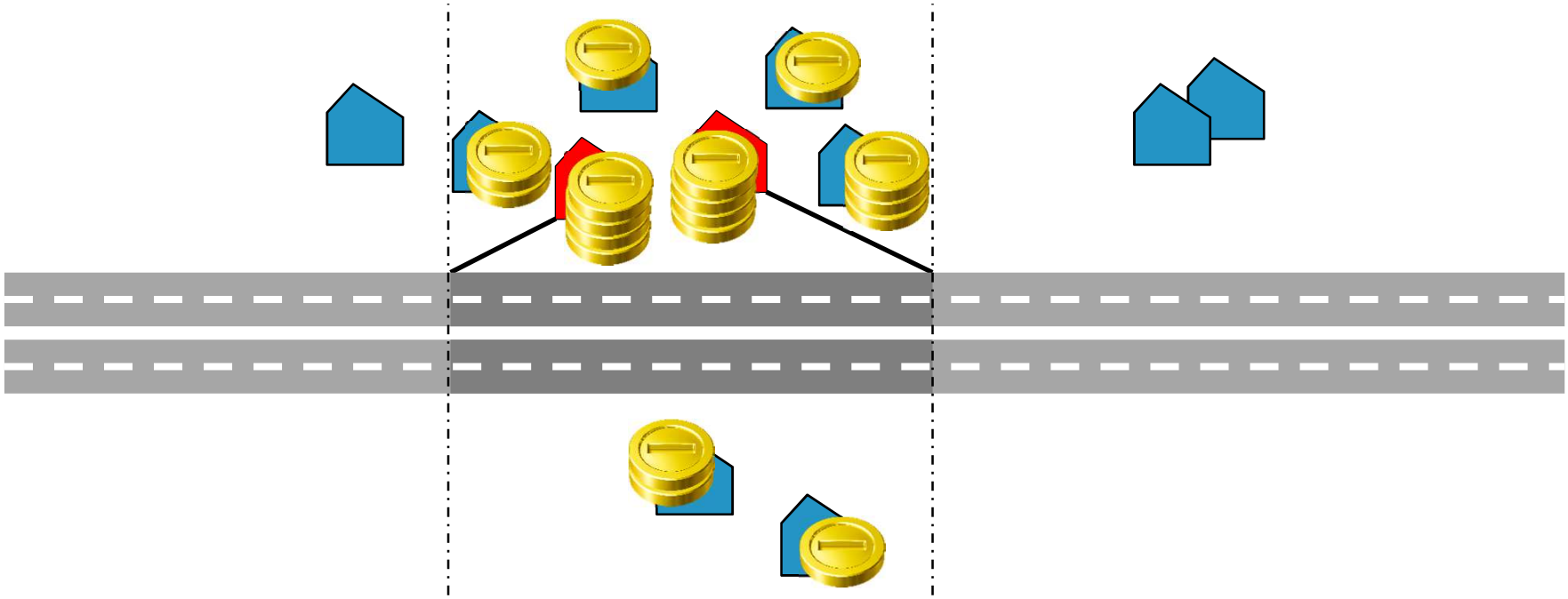
- No real monetary units:
  budget = reduction points; costs = measure points

- Identify exceedance of noise limits
- Design noise measures
- Define clusters of dwellings
- Add up reduction points (‘budget’) for the cluster
- Determine measure points
- In certain cases: evaluate noise reduction

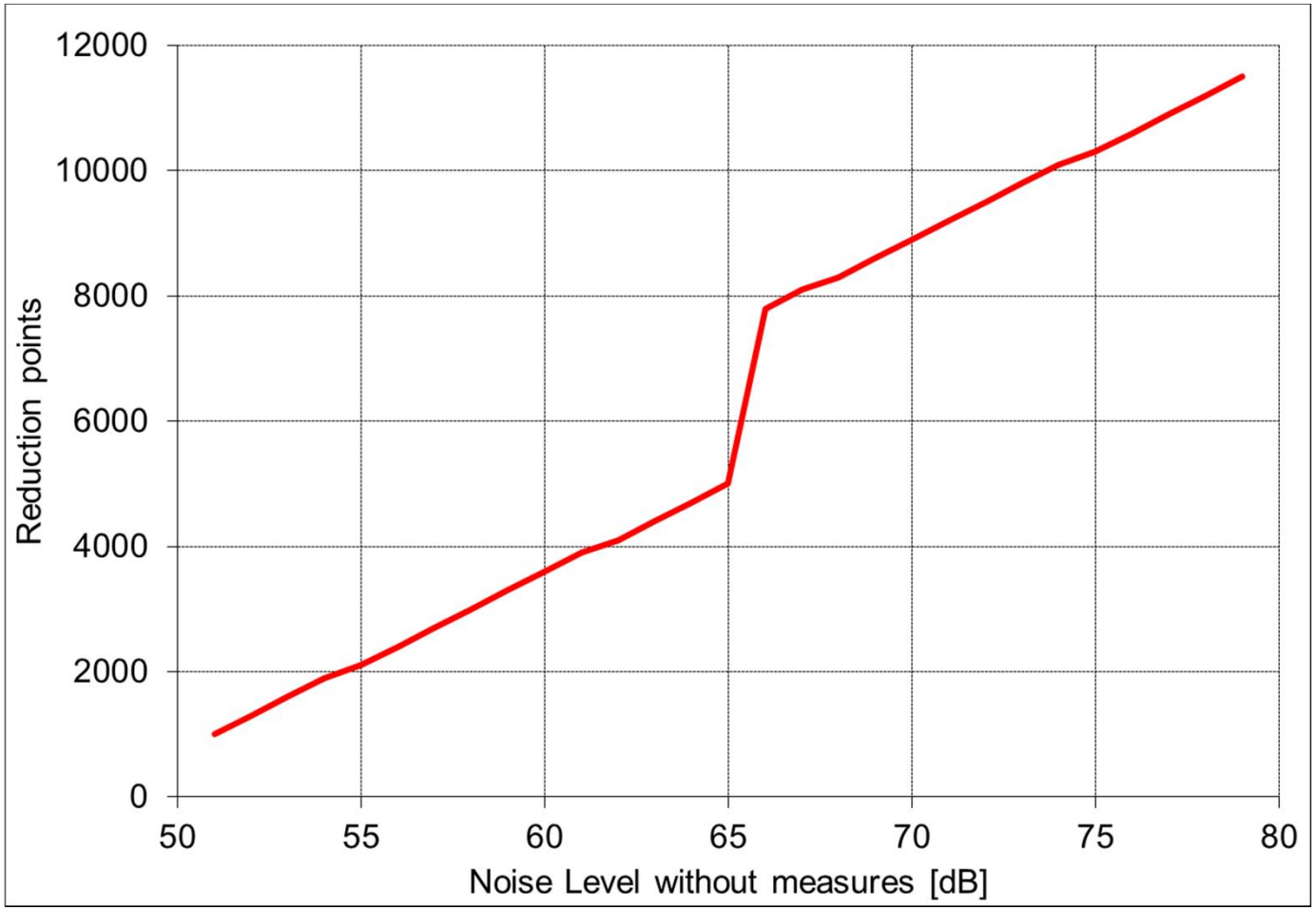
How does it work? (2)

- Main rules:
  1. There must be exceedance of noise limits
  2. Reduction points > measure points
  3. Evaluate noise reduction

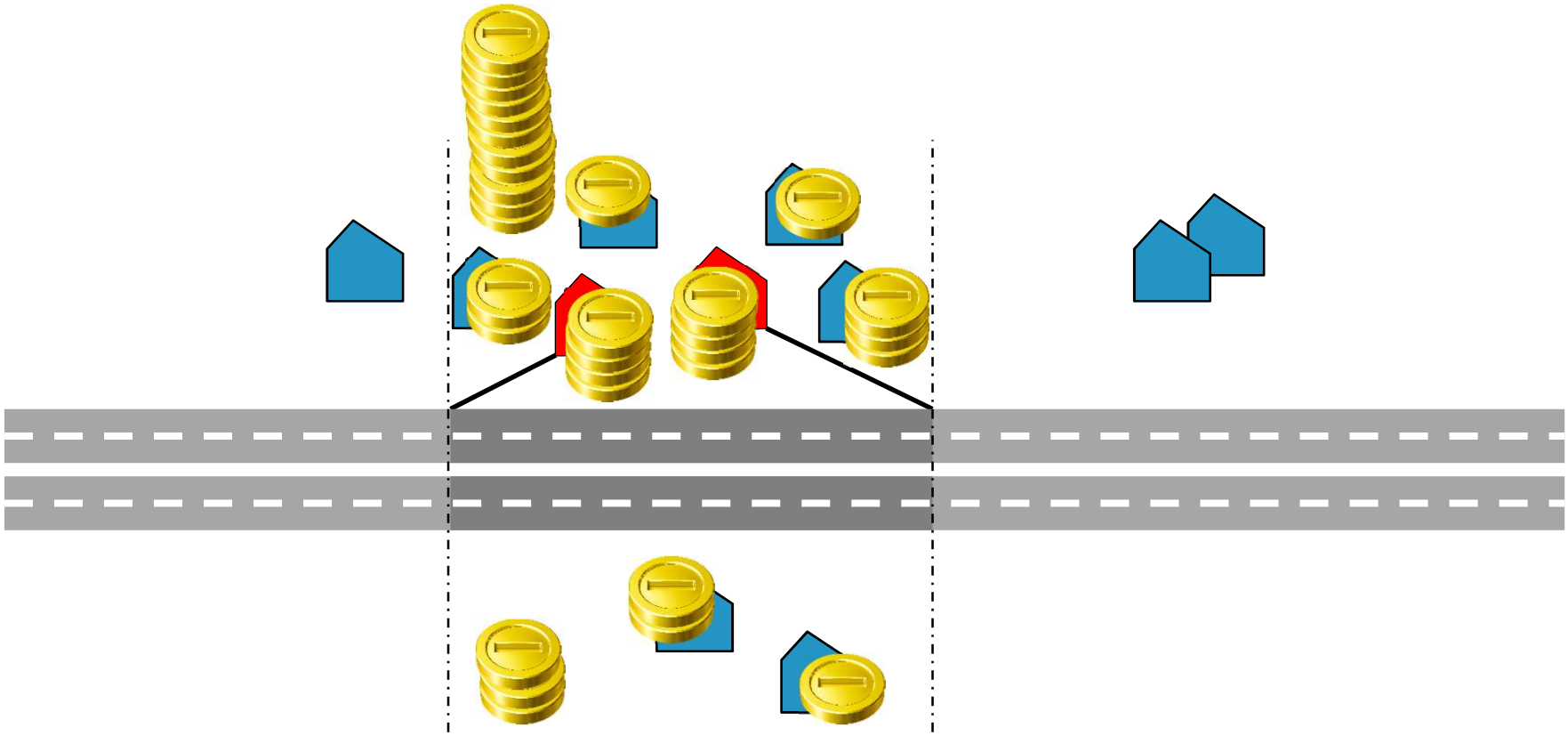
Clusters for source measures



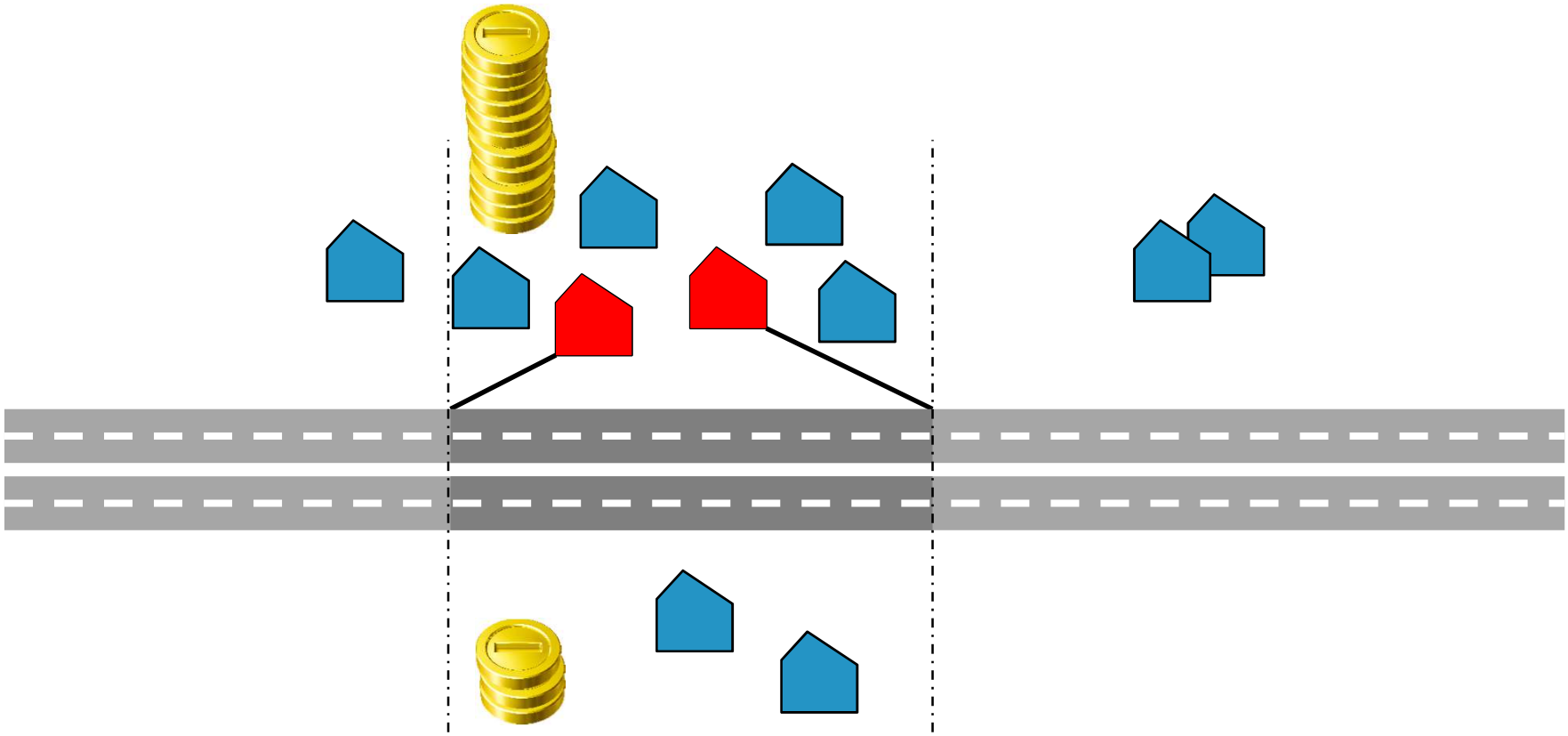
Reduction points



Clusters for source measures

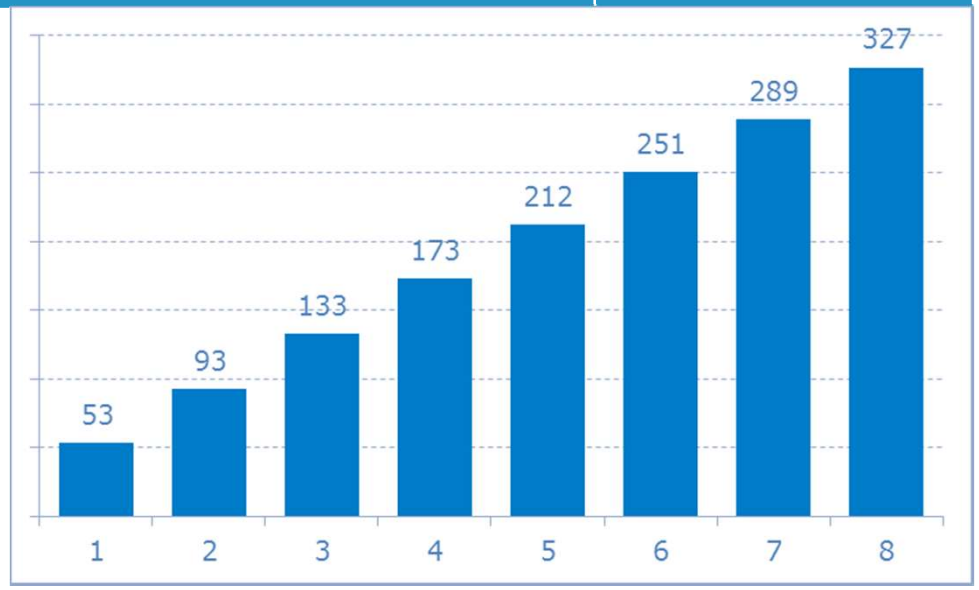


Clusters for source measures

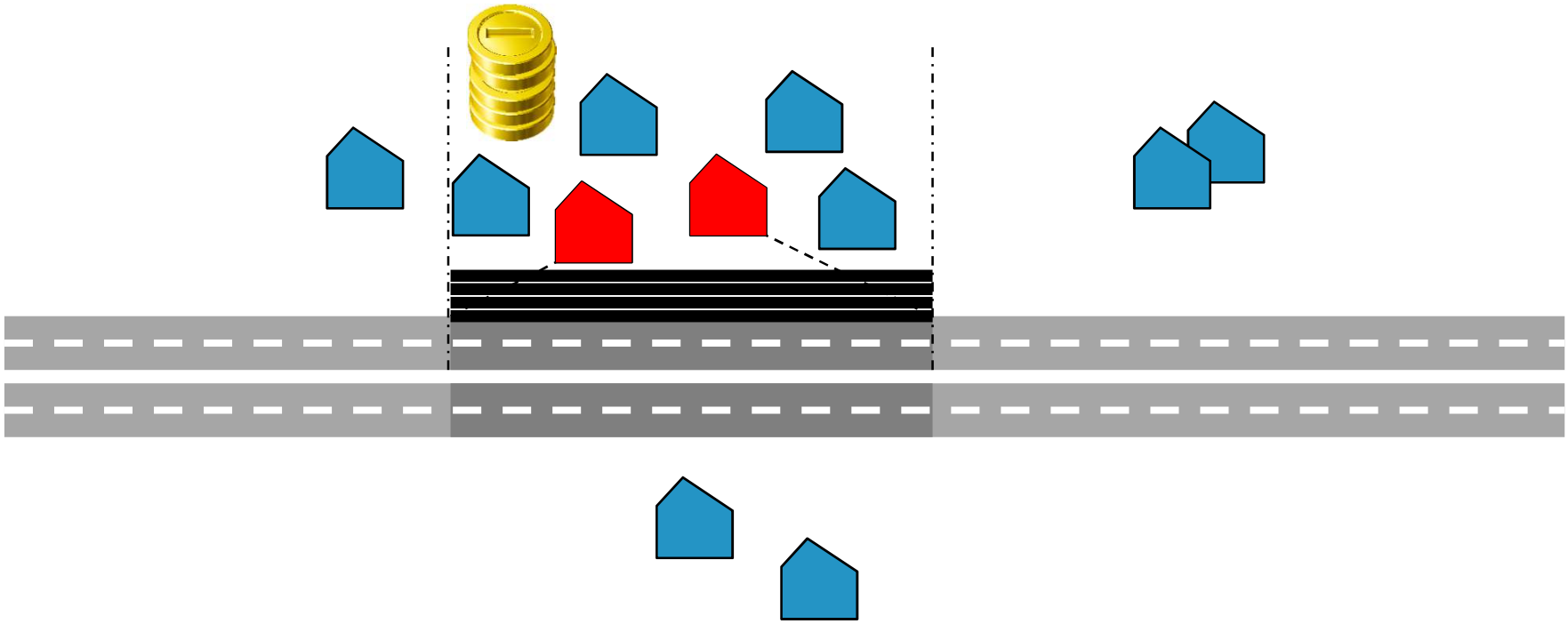


Measure points

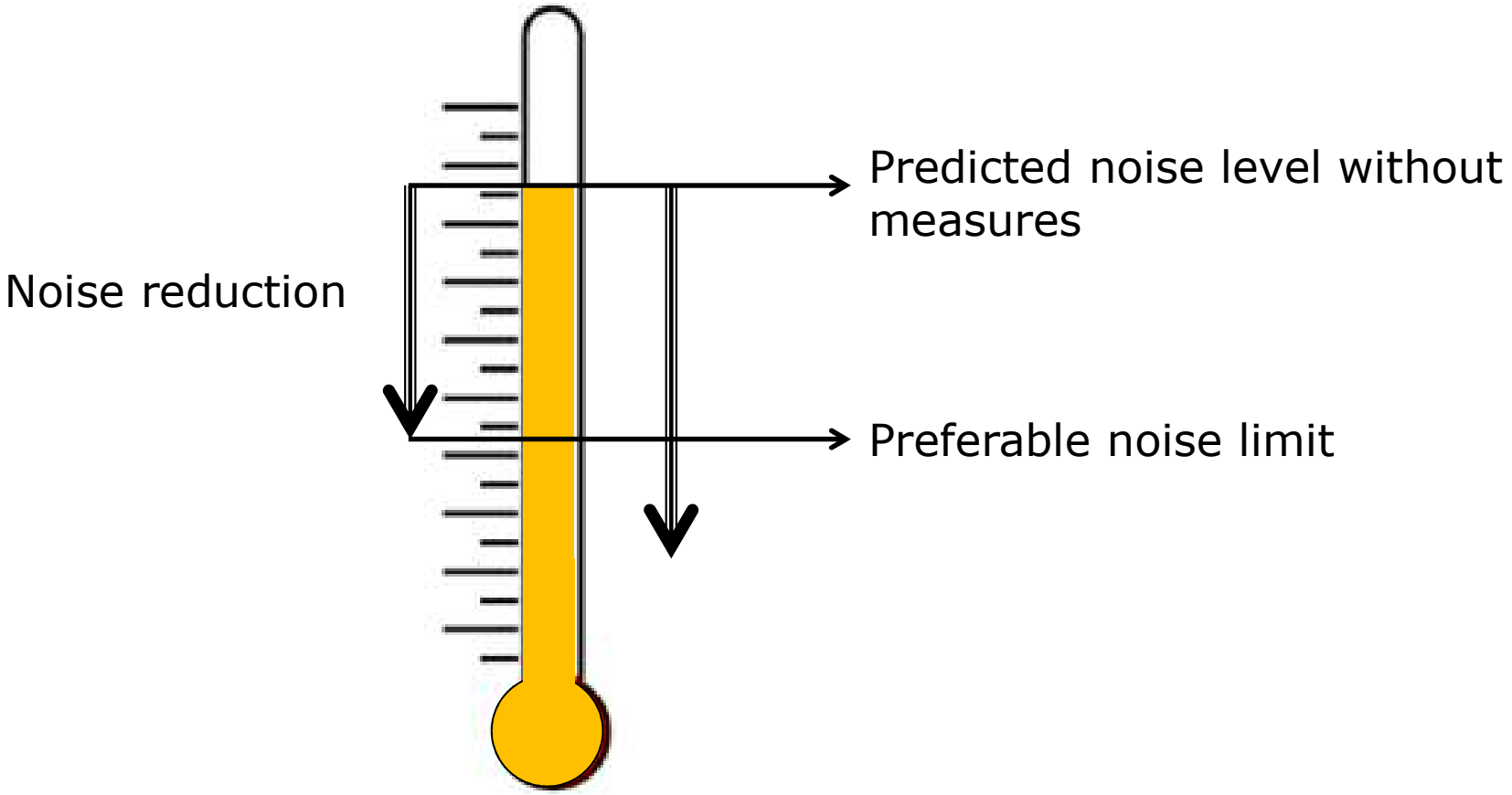
Source measures	mp / 10 m2
2L PAC	22
Thin layer surface	9
Noise barriers / noise wall	**mp / m**



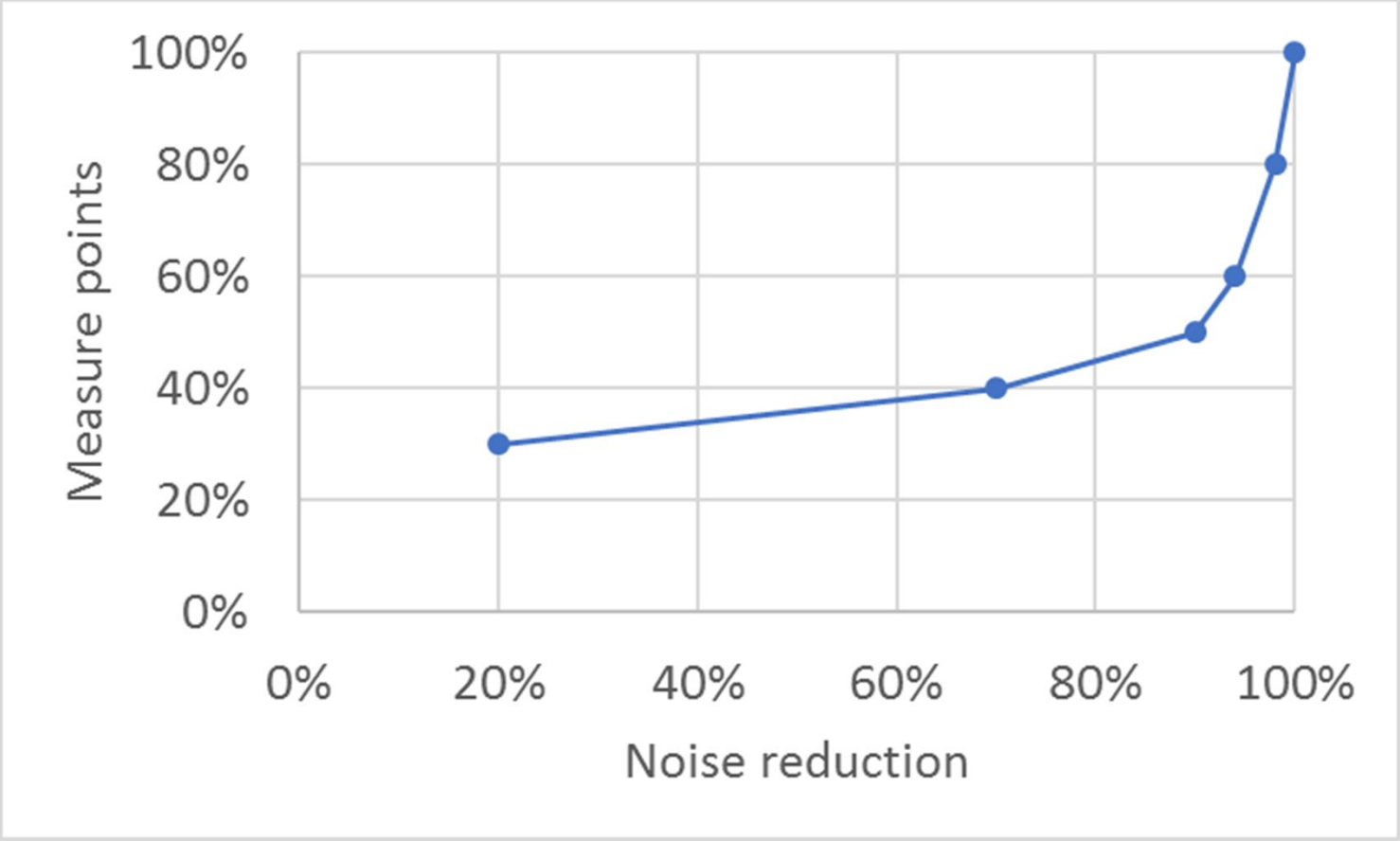
Clusters for propagation measures



Noise reduction



Noise reduction



Conclusion

- Robust and transparent instrument
- But still… certain challenges will always remain:
  - Definition of clusters
  - Evaluation of noise reduction vs measure points
  - Technical limitations
  - Landscaping aspects

Thank you!

- Questions? / Discussion