

**Klinckenberg** Consultants

# HOW TO DEAL WITH DATA GAPS AND CHALLENGES IN DATA COLLECTION FOR EVALUATION PURPOSES

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# Data Needs in Impact evaluation

- Data needs derive from theory of change:
  - Theory of change describes how a policy intervention is supposed to alter market, technology use and eventually energy use
  - Impact of theory of change needs to be monitored to determine eventual energy and GHG impact
  - Data needs include:
    - What is supposed to change: to determine relative change
    - What is the baseline: to determine base for relative change

# Data collection Challenges & Gaps

- Every evaluation has data collection challenges and data gaps
  - Incomplete understanding of baseline situation
    - Number of technologies in use
    - Types of technologies in use
    - Number of households / users
    - Typical usage per year / day, variability in usage
    - Technology replacement rates (stock turnover)
    - Market structure
    - Technology cost

# Data collection Challenges & Gaps

- Incomplete understanding of policy impact
  - Changes in market for technologies? And to what extent are these in response to policy?
  - Sales data per technology type
  - Changes in technology replacement rates? And are these in response to policy?
  - Changes in technology usage? And are these in response to policy?
  - Changes in cost of technologies? And are these in response to policy?

# Data collection Challenges & Gaps

- Few instances where full and accurate data are available
  - E.g. New cement factories, with new technology; New electric cars – technologies and sales number may be known
- Usually, estimates and approximations are needed, such as:
  - Market research (e.g., for sales data, technologies in use)
  - In-house (or workplace) surveys (e.g. for typical usage)
- Virtually all impact assessments are thus based on estimated and approximated data

# Data Sources

- Some typical data sources
  - Market research company data (e.g. sales data)
  - Customs data (e.g. import data, compliance levels)
  - Manufacturer / supplier data (e.g. technology types)
  - Consumer research (e.g. usage, replacement rates)
- And also
  - Proxy data – from other countries
  - Global trends – in particular for base case developments
  - Time series – before and after policy intervention
  - Stakeholder interviews

# Data Sources

- And some data analysis strategies
  - Consistency calculations, e.g.
    - Sales and stock turnover data must match with technology lifespan
    - Stock level must match number of users
    - Usage data must match overall energy demand
    - Technology development rates
  - NB Calculations can also be used to estimate variables
  - Comparisons with other countries
    - Improvement rate compared to neighboring countries

# For discussion

- What are the biggest / most important data challenges in each country?
  - For the base case?
  - For the policy case?

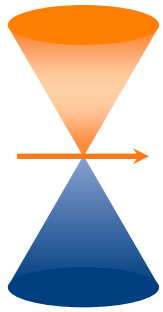


# For discussion

- What data sources could be used to fill those gaps?
  - Market / consumer research?
  - Official statistics / Customs data?
  - Stakeholder data / interviews?
  - Proxy data / Global trends?
  - Time series?

# For discussion

- What are the biggest / most important data challenges in each country?
  - For the base case?
  - For the policy case?
- What data sources could be used to fill those gaps?
  - Market / consumer research?
  - Official statistics / Customs data?
  - Stakeholder data / interviews?
  - Proxy data / Global trends?
  - Time series?



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**QUESTIONS?  
COMMENTS?**

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