



## MRV & GHG Inventories

IGES-ERI Policy Dialogue

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## Advantages of current Annex-I Inventories process

- Estimates are Measured, Reported and Verified
- Measured and Reported – Guidelines give standards for Measurement and Reporting of emissions
- Verification – Review - all parties can provide experts
  - Not a private internal matter or limited to commercial experts
- *Transparent*
  - *Clear process, standards and guidelines. Published results.*
- *Consistency between Parties & over time*
- *Accurate and Complete – Quality Guidelines*



## Plans imply Monitoring, MRV

- Mitigation plans should have integral monitoring plans:
  - To monitor their effectiveness and progress
  - To allow plans to be adjusted as circumstances change
  - To show results for funds invested
    - demonstrate "value for money"
  - Without such monitoring it is not possible to show any impact of GHG emissions/removals - credibility
- Any such monitoring plans should include:
  - Guidelines and standards to be followed
  - Baselines and targets
  - Training and capacity development needs (& cost!)
  - Verification approach

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## MRV requirements could differ

- Parties resources & capabilities differ.
  - Unreasonable to expect LDC to use the same resources as more developed parties: Perhaps a staged approach with capacity development goals
- Scale of action. Requirements should be commensurate with financial scale of NAMA
- National Strategies, PAMs, Programs and Projects will all have different (technical) requirements.
  - E.g. boundaries, leakage and additionality
- **HOWEVER** should apply same underlying principles

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## Principles v Flexibility

### Clear Principles

- Guidelines
  - Methods, Pollutants
  - QA/QC
  - Documentation - Transparency
- Need and approach to baseline
- Monitoring of resources & support
- Frequency (Annual?)
- Time Series
- Institutional Arrangements

### Flexibility needed

- Scale – projects v national
- Level of detail
- Capacity/resources available
- Training needed
- LDC v more developed parties



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## Methodological Detail

### Tier 1

- Simple methods
- Default Parameters

### Tier 2

- Similar methods to Tier 1
- Country Specific Parameters

### Tier 3

- Complex models or measurements
- Detailed approach

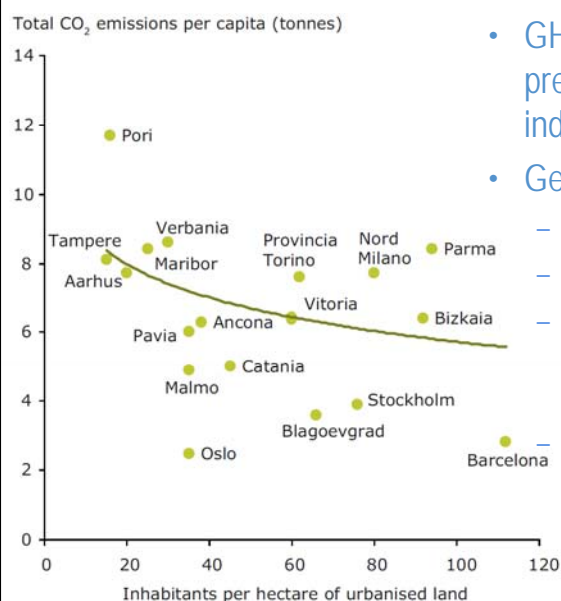
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## Possible GHG Estimation

Scale	Methods
National Emissions	Tier 2 for key categories as in Good Practice Guidance if resource & capacity limited then Tier 1 methods may be acceptable .
Sectoral Mitigation	Use Tier 2 as minimum for these sectors
Policies & Measures	Use Tier 2 as minimum for affected categories or sub-categories, may need Tier 3 to reflect mitigation actions
Smaller scale projects	Aim to use Tier 3 (Tier 2 possible with detailed enough Emission Factors) and clearly defined project boundaries
Baselines	Use same methods as regular monitoring

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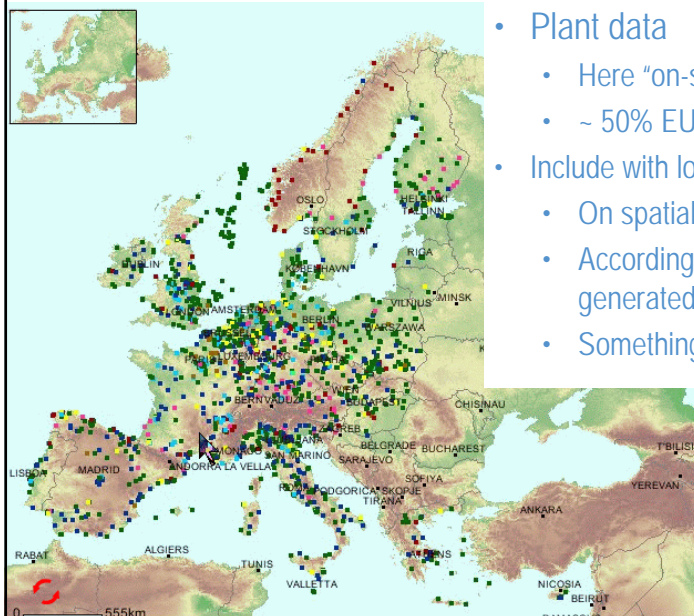
## Local Inventories



- GHG Inventories have been prepared at both municipal and industrial plant level.
- Generally these are
  - Based on IPCC Guidelines
  - Need clearly defined boundaries
  - Need to consider impacts outside (e.g. electricity generation)
  - Need careful definitions and guidance to ensure these are correct and comparable

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## Plant Data



- Plant data
  - Here “on-site” CO<sub>2</sub> emissions
  - ~ 50% EU CO<sub>2</sub>
- Include with local inventories?
  - On spatial basis?
  - According to electricity generated?
  - Something else?

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## Verification A Possible Approach

- Domestic verification
  - is part of essential QA/QC
  - Does this increase credibility?
  - May be needed for project level verification – but with internationally agreed guidelines and standards
    - Process checked internationally?
- International verification
  - May be needed for sectoral and national level activities
  - Provides transparency, openness and consistency
  - Need not be exactly the same as for Annex I review
  - Builds trust between parties

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## **Non-Annex I Inventories Currently:**

- Are not compiled regularly so
  - No trends or time series
  - No build-up of expertise or capacity
  - Little improvement over time
  - Regular capacity building required
- No international review
  - Less transparency
  - Less improvements
  - Less confidence
- No mandatory guidelines
  - Data inconsistency



## **Improvements Needed**

- Regularity
  - Need to report more frequently to track changes (annually?)
  - Need consistent time series
- Review to provide Transparency & QA/QC
  - Need to provide credible data, verification checks, review, clear and open documentation
- Detail
  - More detail on mitigated sectors/categories, with higher Tier methods & with sufficient detail to track changes
  - Need to track & verify actions as well as emissions
- Need resources, training, capacity building



## Implications for UNFCCC Inventory Guidelines

- Extend requirements for using inventory guidelines to all parties
  - Currently non-annex I parties are “encouraged”...
- Extend UNFCCC Guidelines to cover NAI parties
  - Agree regular (annual?) inventories
  - Add flexibility dependent on resources & capability
  - Methodological approaches for specific mitigation actions
  - Parameters to be reported
  - Add a non-Annex I parties review process
- Provide capacity building & resources

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## Time Series: Barriers and Challenges

- Start year. How far back is needed?
  - It would be difficult to get data for 1990!
- Need clear institutional arrangements - “national system”
  - a defined, sustainable centre or network that compiles inventories, preserves knowledge and expertise, leads development and improvement of inventories.
  - “Institutional memory”
- Data availability.
  - Similar, consistent data will be needed for each year.
  - Links to national statistical system.

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## Finally...

- Current Annex I GHG inventories are MRV – this leads to transparent, credible, more accurate consistent numbers
- MRV for non-Annex I inventories could be based on this but:
  - Should take account of resources and capacity
  - Need to focus on specific mitigation actions
  - May need sectoral or local estimates within national estimates
  - Non-Annex I Review process required
  - Regular (annual?) estimates & time series
  - Capacity Building and financing needed

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**THANK YOU**

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