Reasons for inefficiency

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WP2 Objectives

• To document efficient and inefficient uses of resources over their life cycle
• To determine the magnitude of the problem
• To analyse the main underlying reasons for inefficiency

• Review of existing literature and data using qualitative and quantitative methods
IDENTIFICATION OF INEFFECTIVE USE OF RESOURCES

• What is efficient?
  – “doing more with less”
  – Output/Input = 100%
  – No waste
  – Theoretical physical efficiency?
  – Technologically feasible? Economically feasible? Practically feasible?
  – Depleting natural resources and degrading ecosystem services?
  – When we can’t imagine anything better?
  – ...?
IDENTIFICATION OF INEFFICIENT USE OF RESOURCES

• Example: Meat

Origin:
local vs. best climatic conditions

Packaging:
minimal vs. protection

Slaughter:
manual vs. machine

Protein:
vegetable vs. animal

Waste:
leftovers vs. compost

Agriculture
Slaughter
Food processing
Distribution
Retail
Food preparation
Eating
Disposal

Agriculture: organic vs. intensive
Transport: truck vs. train
Storage: fresh vs. frozen
Cooking: raw vs. slow cook
IDENTIFICATION OF INEFFICIENT USE OF RESOURCES

• Resource perspective
  – Materials
  – Energy
  – Water
  – Land

• Consumption and production perspective
  – Food
  – Transport
  – Buildings
Drivers of inefficient use of resources

- Example: Car

Artifact

TECHNOLOGICAL

ECONOMIC

ORGANISATIONAL

LEGAL

INFORMATIONAL

BEHAVIOURAL

Actor

Activity

Driving

Decoupling growth from resource use and environmental impacts
DRIVERS AND CAUSES OF INEFFICIENT USE OF RESOURCES

- Inefficiency > Drivers > Causes
- Example: Building

INEFFICIENCY

Excessive heat demand

DRIVERS

- Poor building design / insulation
- Inefficient heating products and systems
- User behaviour
  - High indoor temperatures
  - Leaving appliances on when not needed

CAUSES

- Principle agent
- High investment costs
- Poor choice of heating technology and products
- Standards
- Lack of information of energy performance
- Low energy costs
- Low awareness of energy consumption
- Comfort

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CONCLUSION

• Categorisation of key inefficiencies, drivers and causes
• Different perspectives (e.g. resources, sectors, production, consumption) are needed
• The identification of key inefficiencies, drivers and causes tell us what policies and policy mixes should target
Discussion 1

- Reflection on reasons of inefficiency (9:30 – 10:15)
  - Three groups (15 minutes each)
    - Food
    - Transport
    - Buildings

1. Five minutes to study the poster and ask questions
2. Five minutes to suggest other key inefficiencies, drivers or causes
3. Five minutes to vote for the three most important inefficiencies, drivers or causes to address with policy to achieve decoupling
DISCUSSION 2

- Storylines and megatrends of 2050 (9:30 – 10:15)
  - Parallel session on external context scenarios
  - Discussion of the validity, challenges and plausibility of the proposed context scenarios in the DYNAMIX project