

Capturing the Multiple Benefits of Energy Efficiency

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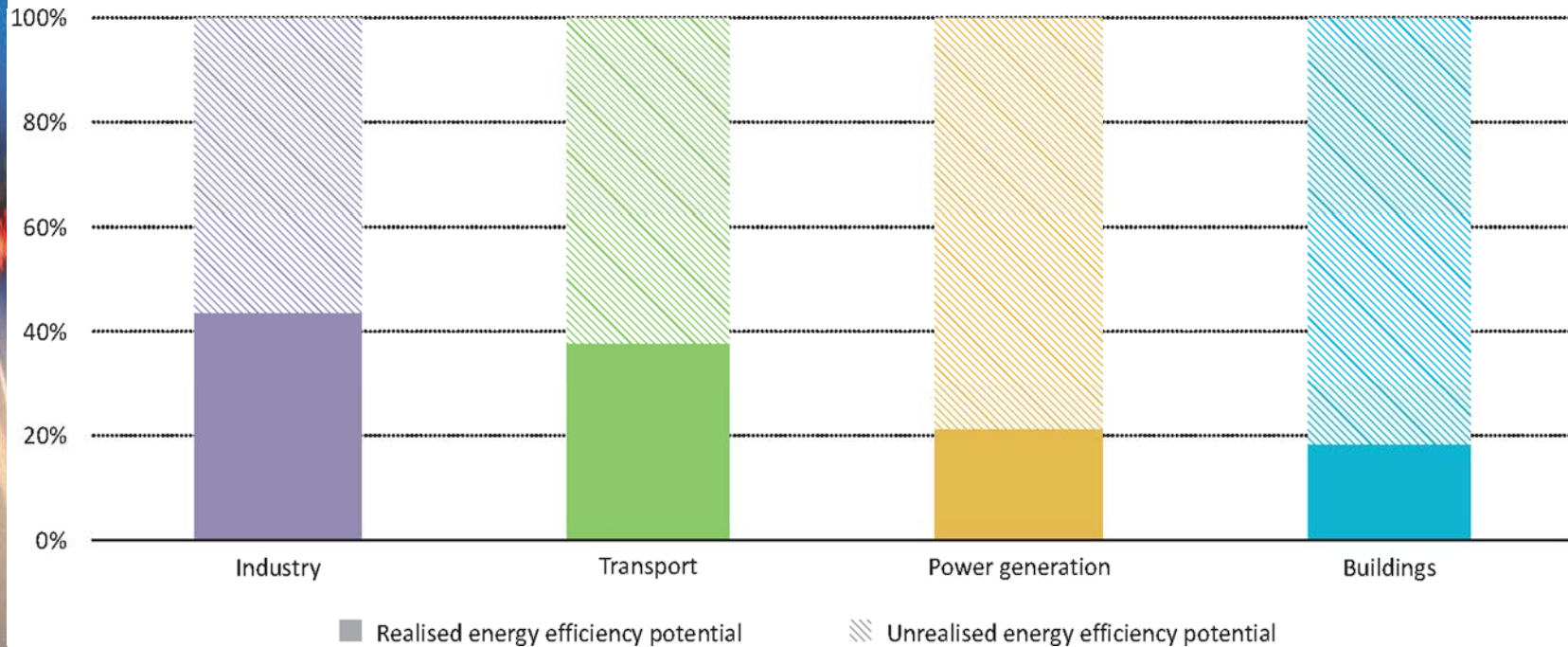
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ENEA, Rome, 15 October 2014



**International
Energy Agency**

A huge opportunity going unrealised



Two-thirds of the economic potential to improve energy efficiency remains untapped in the period to 2035 unless policy activity increases

Building bridges . . .

The Public

International

- Energy prices
- Resource management
- GHG emissions abatement

More Public/Private Stakeholders

National

- Macroeconomic effects
- Job creation
- Energy security
- Public budget impacts

Sectoral

- Increased asset values
- Energy provider and infrastructure benefits
- Industrial productivity and competitiveness

Individual

- Health, wellbeing and social improvements
- Poverty alleviation: energy affordability & access
- Increased disposable income

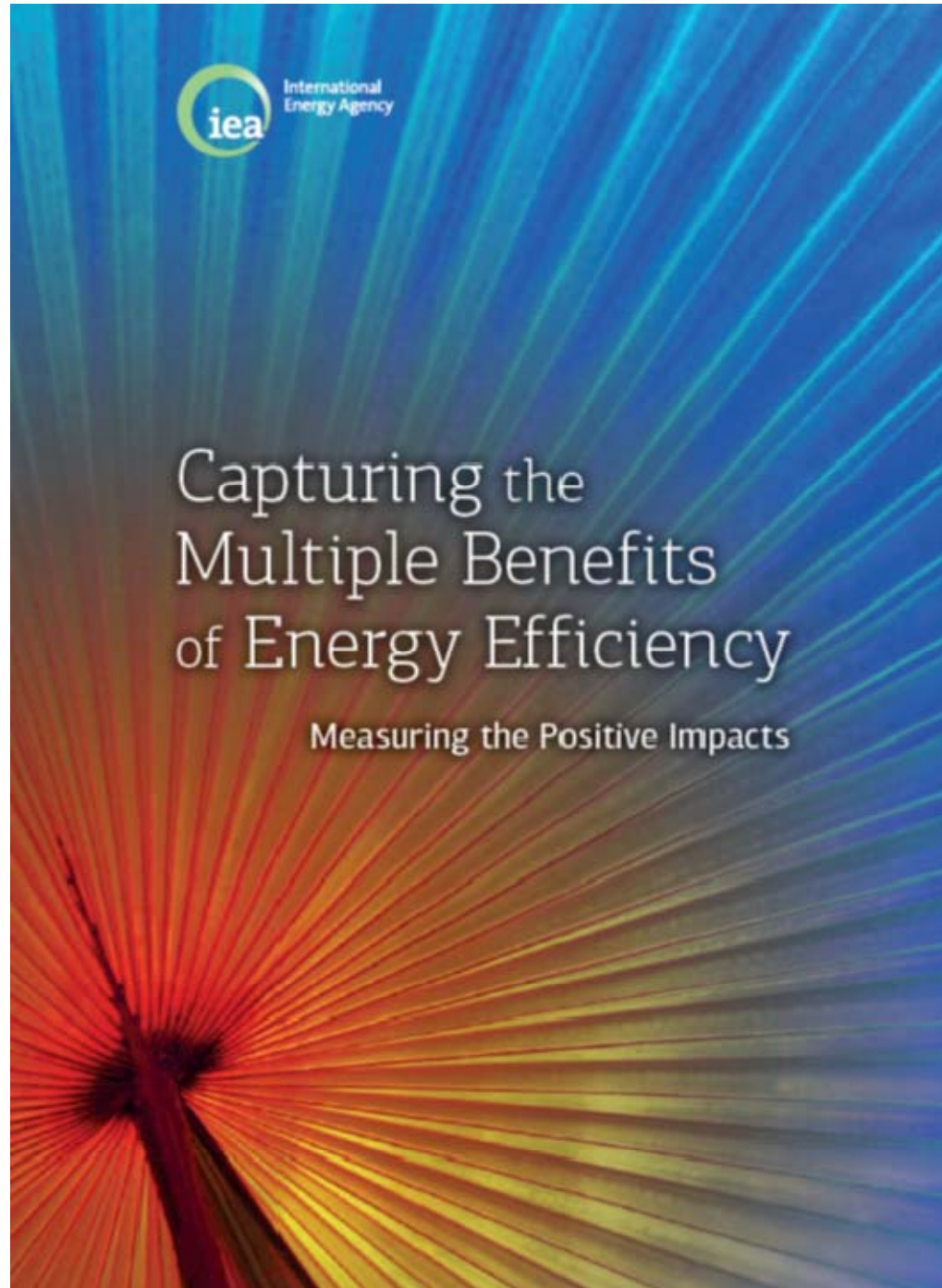


Objectives of the Multiple Benefits work

- **Raise Awareness**
- **Increase Analytical Substance**
- **Identify Methodological Tools**
- **Build Capacity**



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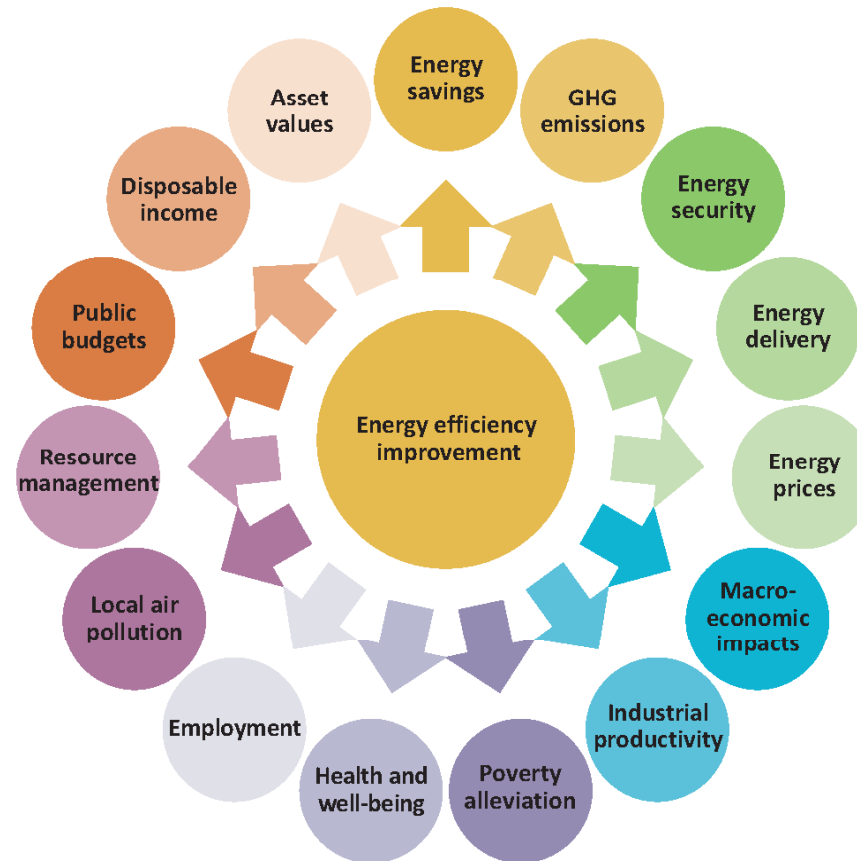
***Launched
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Director at
the 2014
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Conference
in Berlin***

Table of Contents

- **Introduction – context**
- **Macroeconomic**
- **Public budgets**
- **Health**
- **Industrial productivity**
- **Energy providers**
- **Conclusions/Methodologies**



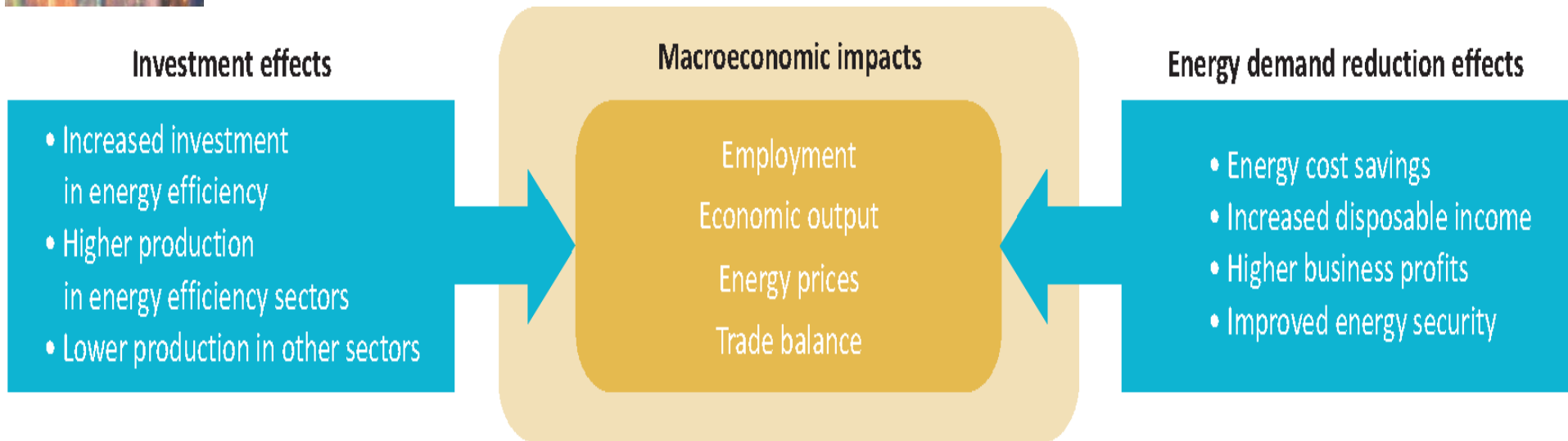
The multiple benefits of energy efficiency improvements



Energy efficiency is a means to enhance energy security, support economic and social development, and promote environmental goals



Overarching macroeconomic impacts



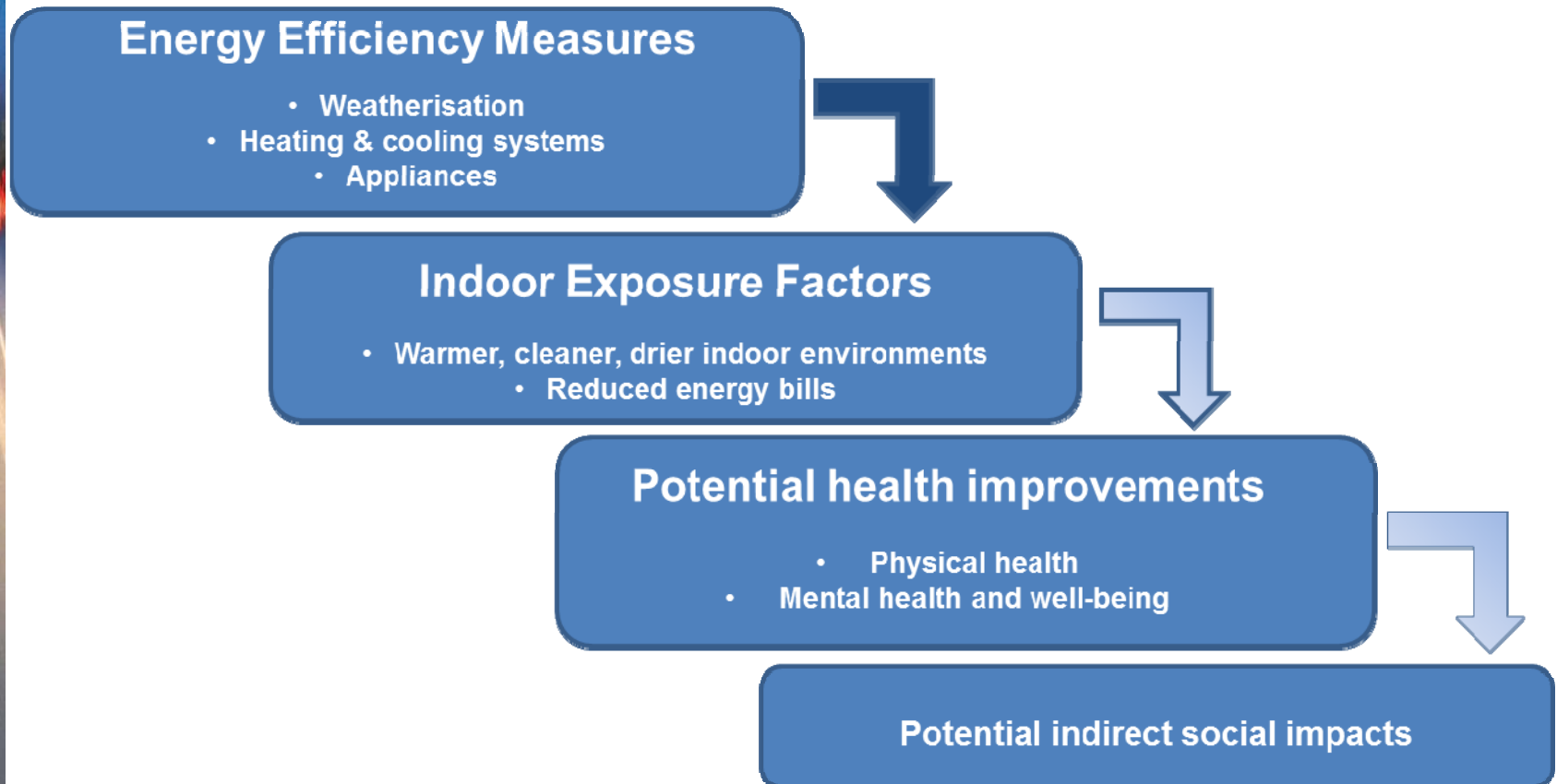
Balancing public budgets

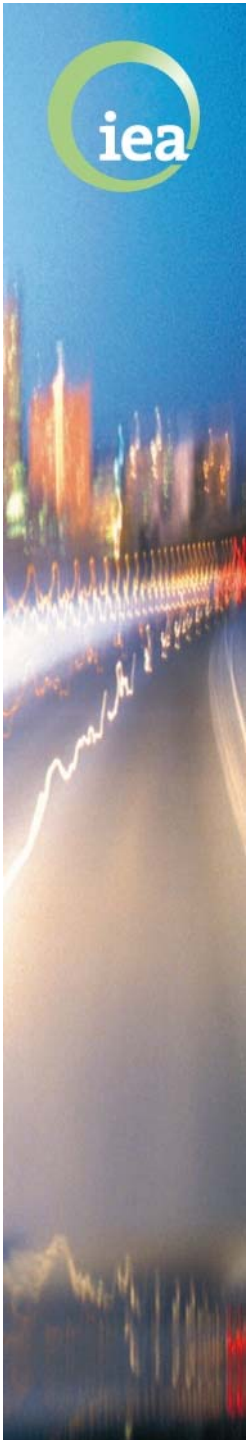
Investment effects

Energy savings effects



Improving health & well-being



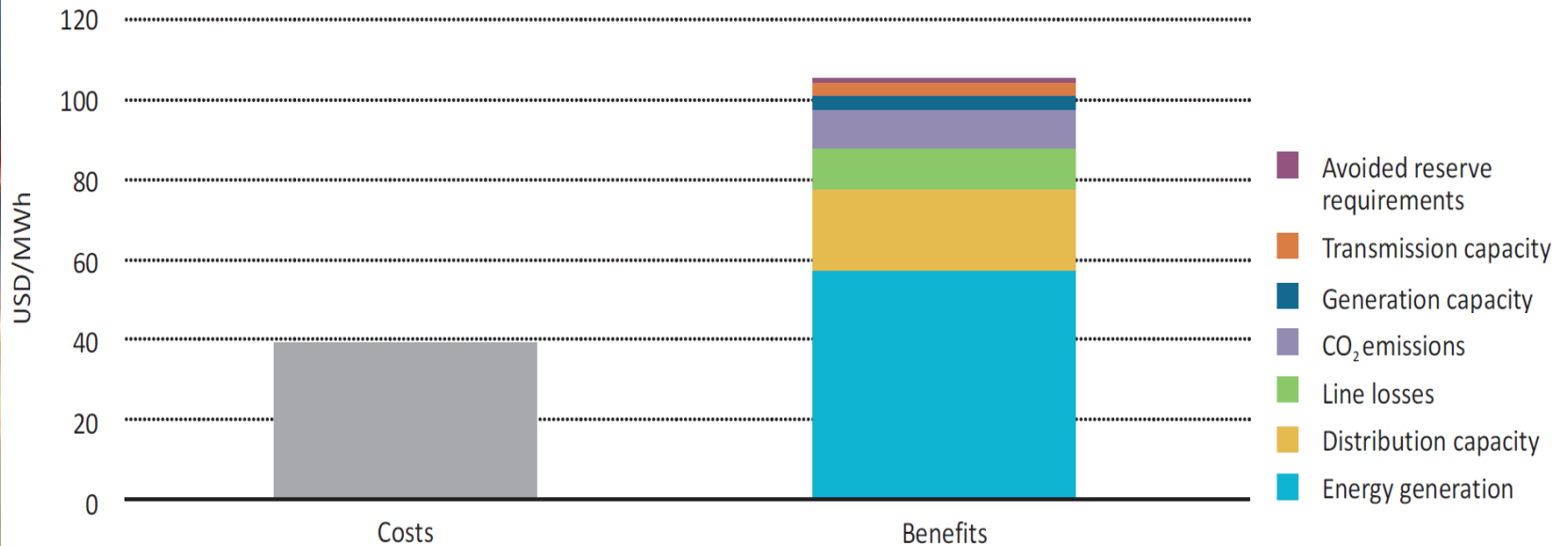


Boosting industrial productivity/competitiveness: from savings to value creation

- **Competitiveness**
 - e.g. ability to enter new markets, reduced production costs
- **Production**
 - e.g. capacity utilisation, improved product quality
- **Operations and maintenance**
 - i.e. improved operation, reduced need for maintenance
- **Working environment**
 - i.e. site environmental quality, worker health & safety
- **Environment**
 - e.g. air pollution, solid waste, wastewater, reduced input materials



Energy provider: supporting a changing business model



- **Benefits for utilities: in resource constrained operating context**
- **Benefits for consumers/indirect benefits for utilities: increased affordability reduces customer default and associated costs**

Rebound effect in the multiple benefits context

- Rebound can be a positive
- Not all benefits are dependant on energy savings – many occur independently
- Some benefits drive a rebound effect, others do not

| Benefit | Energy security | Energy delivery | Energy prices | Macroeconomic development | Industrial productivity | Poverty alleviation | Health and well-being | Employment | Environmental sustainability | Public budgets | Disposable income | Asset values | Development |
|--------------------------------------|-----------------|-----------------|---------------|---------------------------|-------------------------|---------------------|-----------------------|------------|------------------------------|----------------|-------------------|--------------|-------------|
| Entirely dependent on energy savings | Y | Y | Y | N | N | Y | N | N | Y | N | Y | N | N |
| Could drive up energy consumption | N | N | Y | Y | Y | Y | Y | Y | N | Y | Y | N | Y |

Tailoring to national priorities

Benefits vs. co-benefits



multiple benefits

| | Country or stakeholder A | Country or stakeholder B | Country or stakeholder C |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| Industrial competitiveness | Co-benefit | | |
| Fuel imports | Primary | Co-benefit | |
| Poverty alleviation and development | | | Primary |
| GHG emissions | | Primary | Co-benefit |
| Job creation | Co-benefit | Co-benefit | |
| Local pollution | Primary | | Co-benefit |

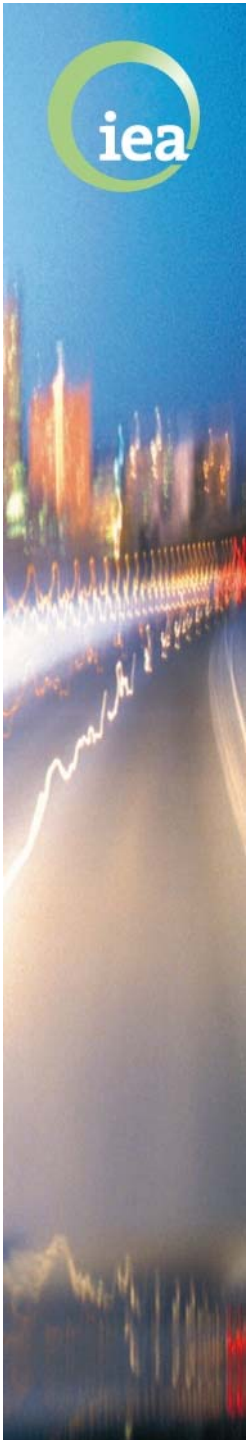
Energy efficiency policies need to be tailored to the country context, and support the national or sub-national priorities for economic and social development



Important for developing countries

| Energy access | Helping countries to expand access, effectively enabling them to supply power to more people through the existing energy infrastructure. |
|-----------------------------------|---|
| Economic development | Supporting economic growth through various aggregate benefits, for example by improving industrial productivity and reducing fuel import bills. |
| Poverty alleviation | Increasing the affordability of energy services for poorer families by reducing the per-unit cost of lighting, heating, refrigeration and other services. |
| Combatting local pollution | Reducing the need for energy generation – and lower associated emissions – through energy efficiency measures on both supply side and demand side. |
| Climate change resilience | Reducing the need for energy infrastructure, energy efficiency reduces the amount of energy assets exposed to extreme weather events. |

Multiple benefits are of particular importance for emerging economies and developing countries



Proposed further research for stakeholders

- **Expand analysis: depth and breadth**
- **Better understand the scope and scale of certain benefit areas**
- **Identify key relevant indicators and metrics and improve data**
- **Refine and develop impact assessment methods and address existing barriers to robust and systematic assessment**
- **Develop collaborative initiatives and data sharing opportunities to build coherency and consensus between approaches.**

Thank You

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