



IAEA SCIENTIFIC FORUM 2009

ENERGY FOR DEVELOPMENT

Session 2: Energy Demand

The Role of Infrastructure on Energy Demand

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Is an intergovernmental agency created through formalization of the LIMA AGREEMENT on Ecuador November 2, 1973, and ratified by 26 countries of Latin America and the Caribbean:

Central America and Mexico: Costa Rica, El Salvador, Guatemala, Honduras, México, Nicaragua and Panama.

Andean Region: Bolivia, Colombia, Ecuador, Peru and Venezuela

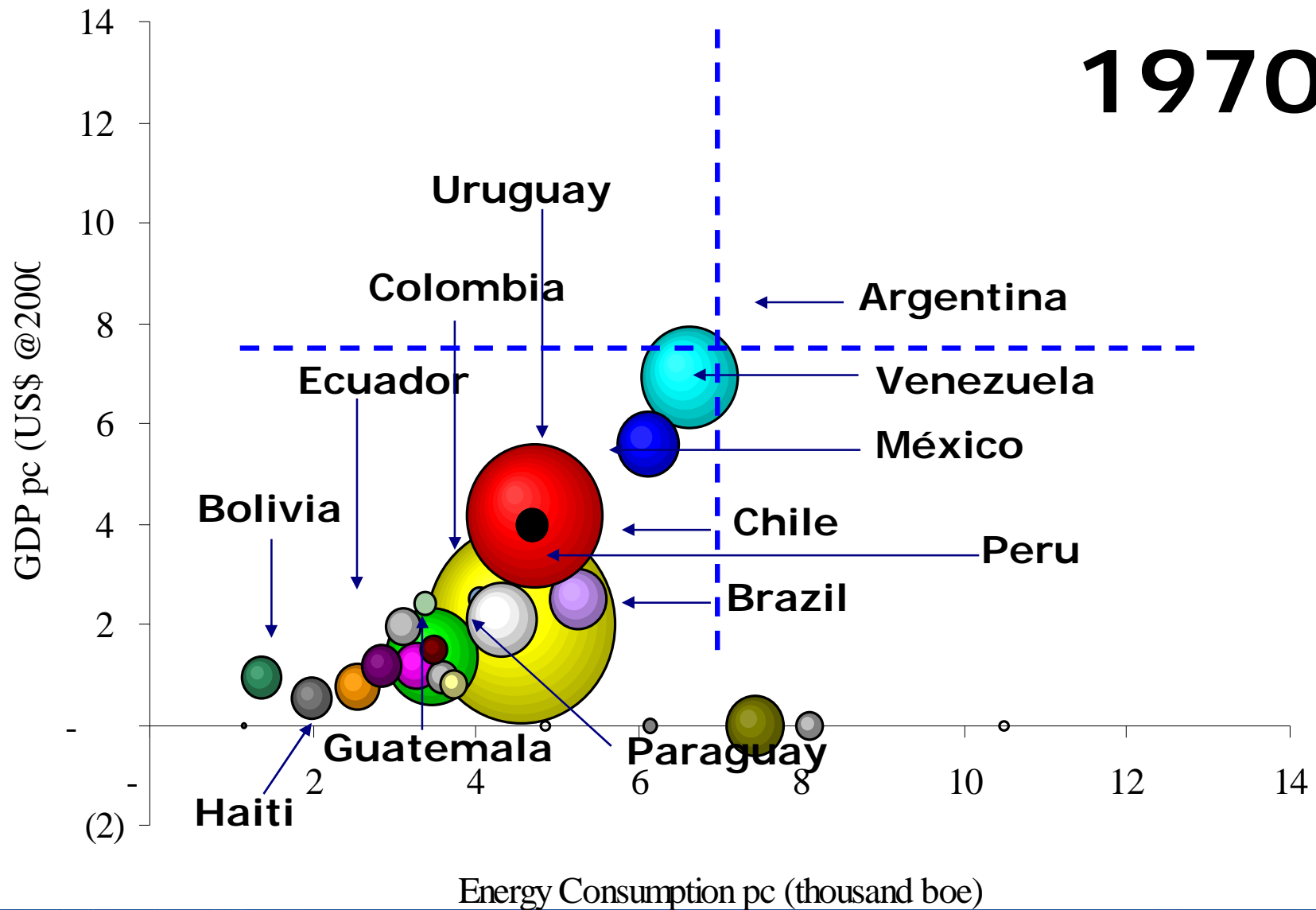
The Caribbean: Barbados, Cuba, Grenada, Guyana, Haiti, Jamaica, Trinidad & Tobago, Dominica Republic and Suriname.

Southern Cone: Argentina, Brazil, Chile, Paraguay and Uruguay.

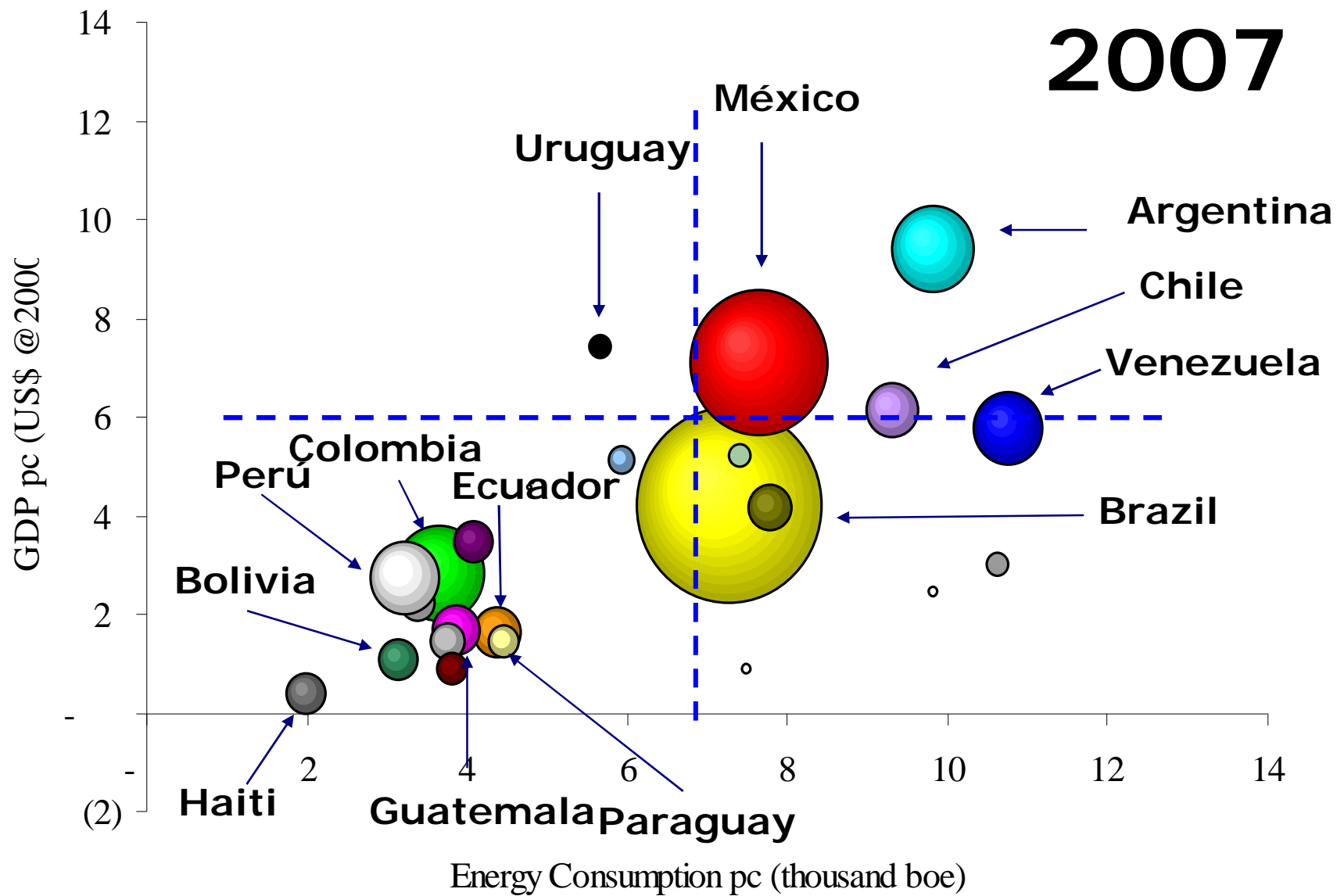
1 participant country: Algeria

Energy Use

1970



Energy Use



Infrastructure and Energy

- Building Infrastructure is highly energy-intensive,
 - It is often “long lived” and expensive to replace,
 - Infrastructure can shape the type of energy forms that are needed
-
- ***Getting the “right” infrastructure is important for development***

Infrastructure: Buildings

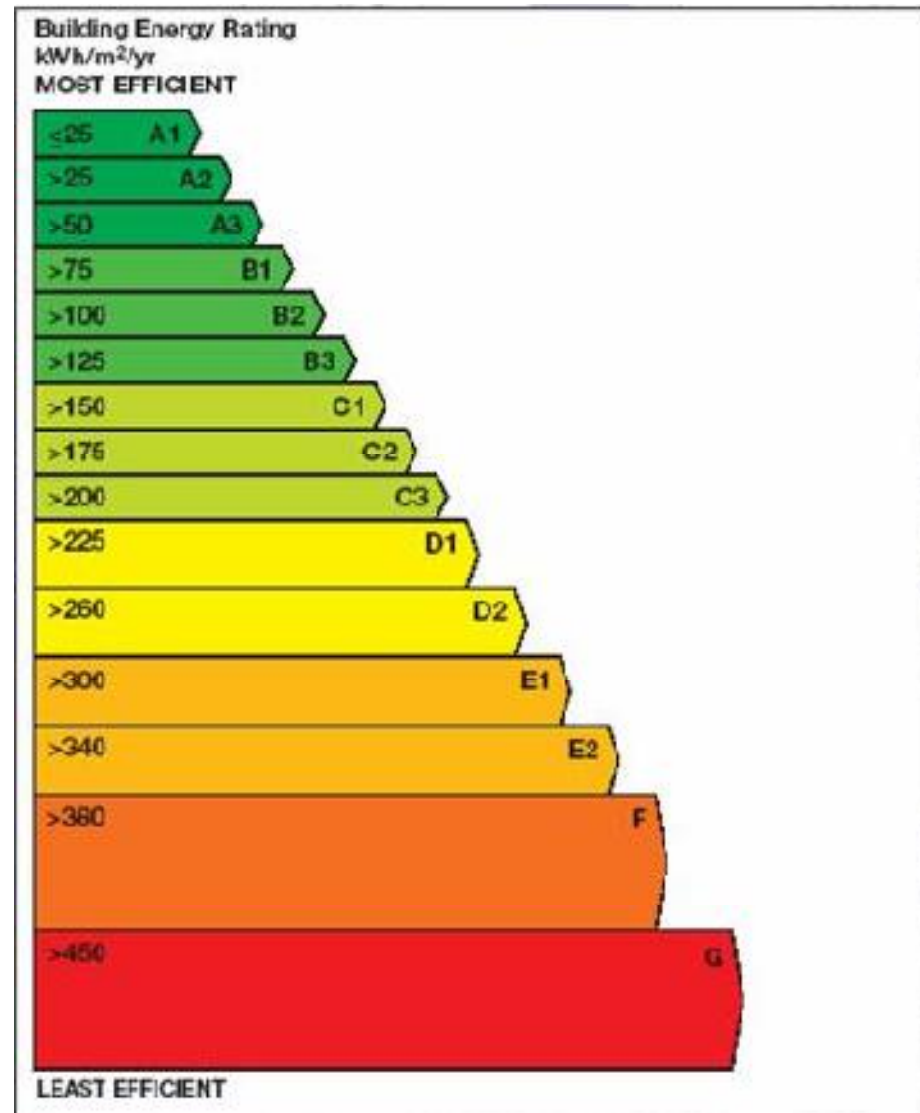
- A large portion of energy is used in Buildings
- “Stock turn” over is slow
- Retrofits are possible but:
 - Can be expensive
 - Don’t reach the same efficiency levels



Bahrain trade center

Infrastructure: Buildings

- Codes and Standards for residential and commercial Buildings can help shape our future energy use



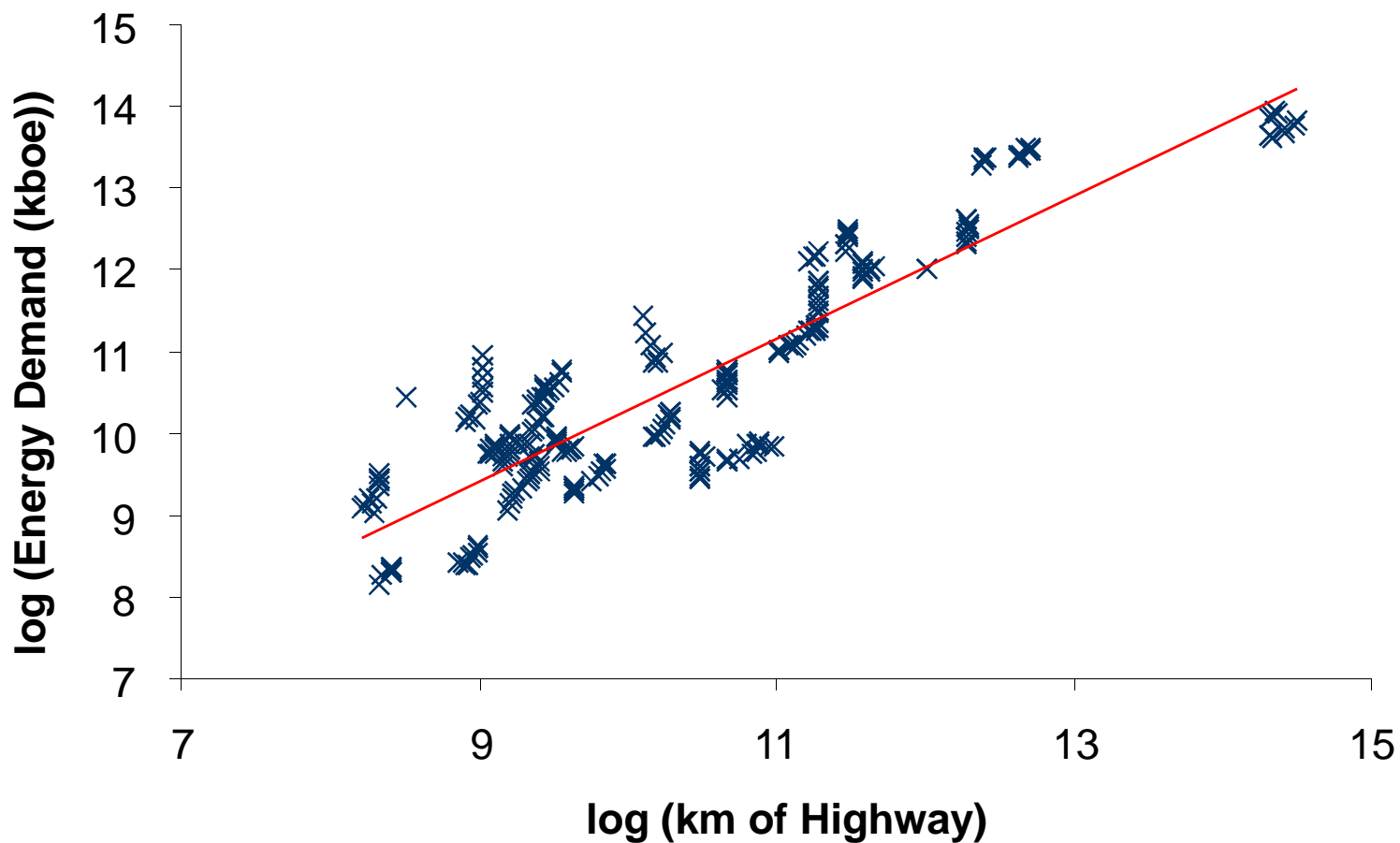
EU Building Energy Rating

Infrastructure: City planning

- Town and city planning influence energy use patterns
- Interplay between:
 - Energy supply systems such as: gas, heating, hot water, electricity networks
 - Energy use: transport systems, building types, urban densities (sprawl versus planned)
- Energy considerations in town planning can lower impacts (on energy use, environment, cost)



Energy Demand Vs. Infrastructure



Infrastructure: Embodied energy

- Infrastructure requires material
- Steel, wood and concrete:
 - require vastly different levels of energy
 - Have vastly different GHG implications

But are (often) substitutable building blocks of much of our “built environment”

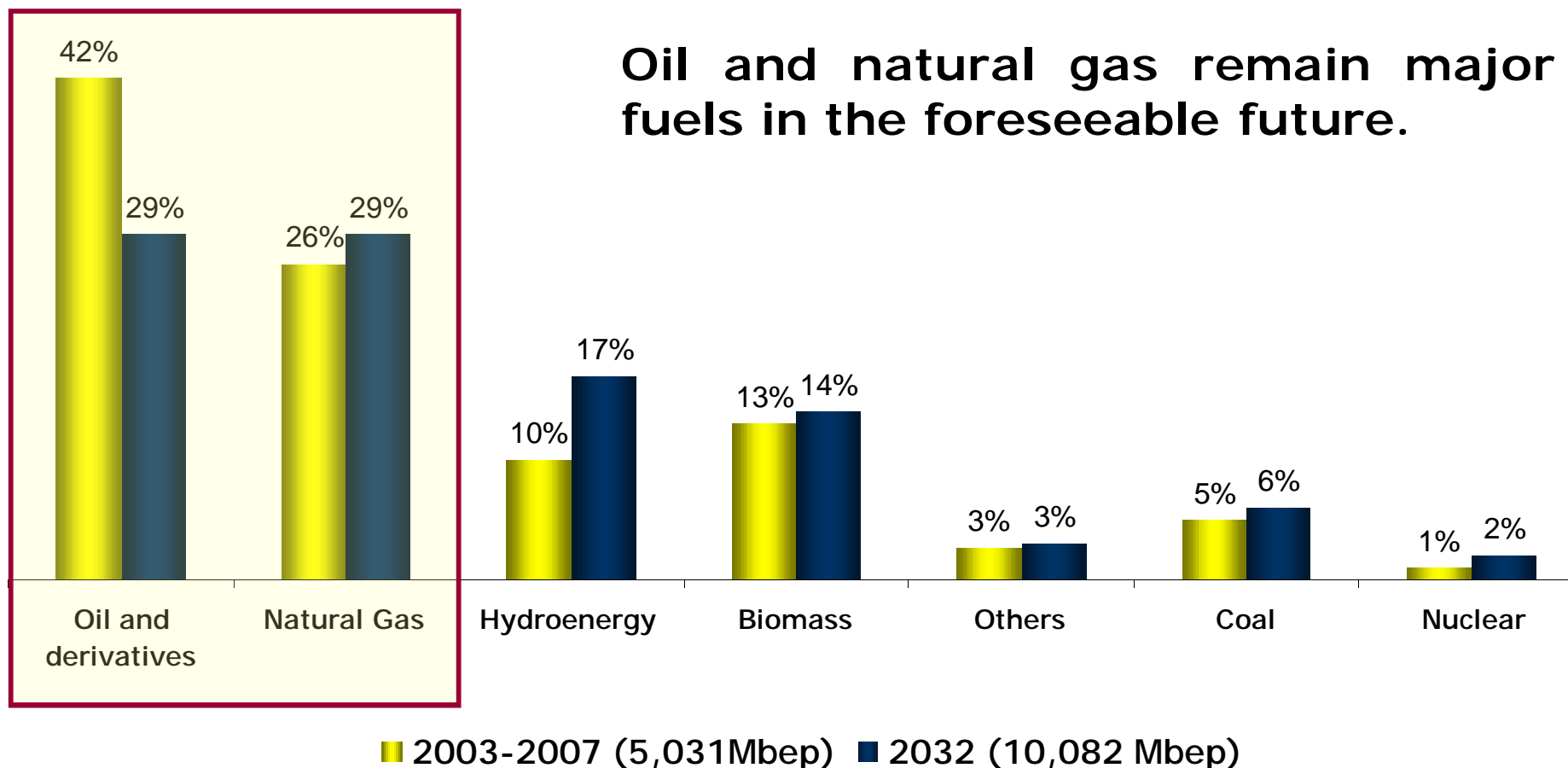


Infrastructure: Regional energy transport

- Help allocate otherwise “locked-in” resources
- Reduces transport costs
- Reduces overall system costs
- Increase regional trade
- Develop long term commitments
- Can lock in dependencies



Perspective - ALC Energy Demand



Source: Economic and Energetic Information System -SIEE

Infrastructure and Developing Countries

- Lower level of development in DC is a blessing in disguise.

It is a chance to build the “right” infrastructure for their development

Infrastructure and Developing Countries



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THANK YOU!!

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