

# Rethinking Growth: Energy Optimization and GHG Reduction at PIC

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إحدى شركات مؤسسة البترول الكويتية

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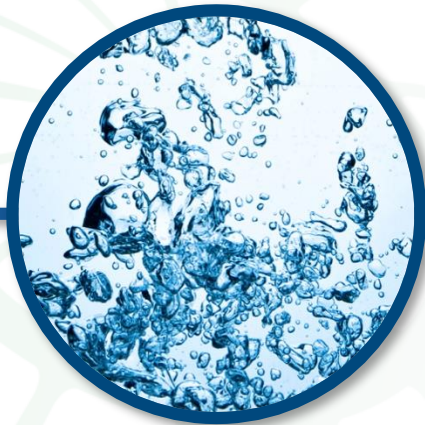


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# Middle East: New Era, New Challenges



Population  
Growth



Environmental  
Scarcity



Need for  
Economic  
Diversification



Changing  
Energy Landscape



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# Energy as Engine for Growth

## Middle East:

- More than 48% of global oil reserves
- 40% of global gas reserves

Yet **gas production in the Middle East is struggling to meet demand**, especially in the industrial and power generation sectors.



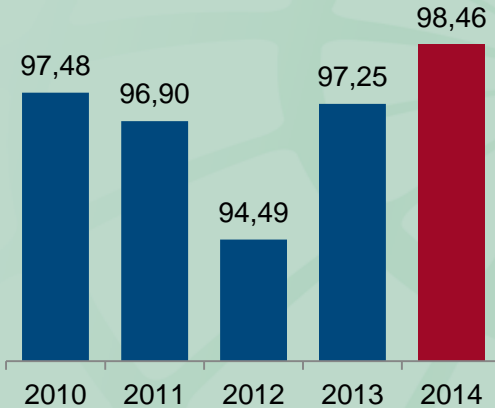


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# Energy Efficiency: The Hidden Resource

## 1 Helps address growing energy demand

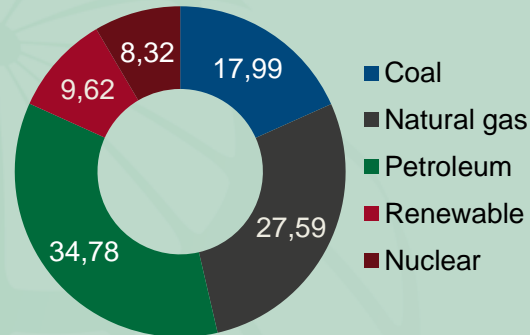
Energy consumption  
in Quadrillion Btu



Source: EIA, 2015

## 2 Contributes to energy security

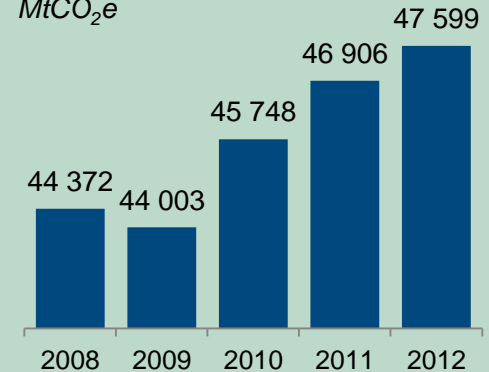
Energy consumption mix,  
2014 in Quadrillion Btu



Source: EIA, 2015

## 3 Helps global efforts to mitigate climate change

GHG emissions,  
MtCO<sub>2</sub>e



Source: World Resources Institute, 2015

With additional benefits of:



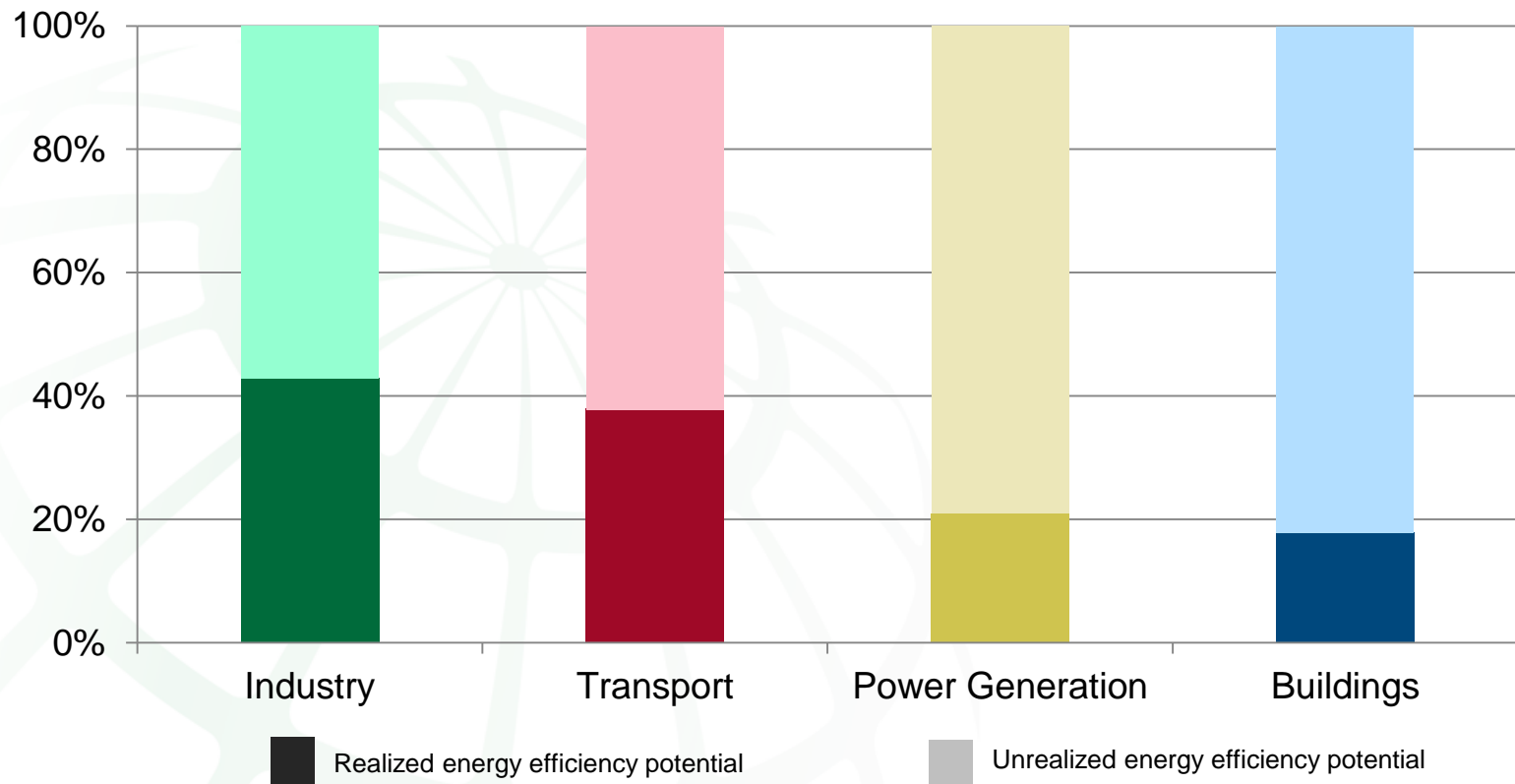
Source: World Resource Institute, 2015



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# Energy Efficiency: The Opportunity Is Huge

## Potential for \$18 Trillion in Economic Growth Worldwide



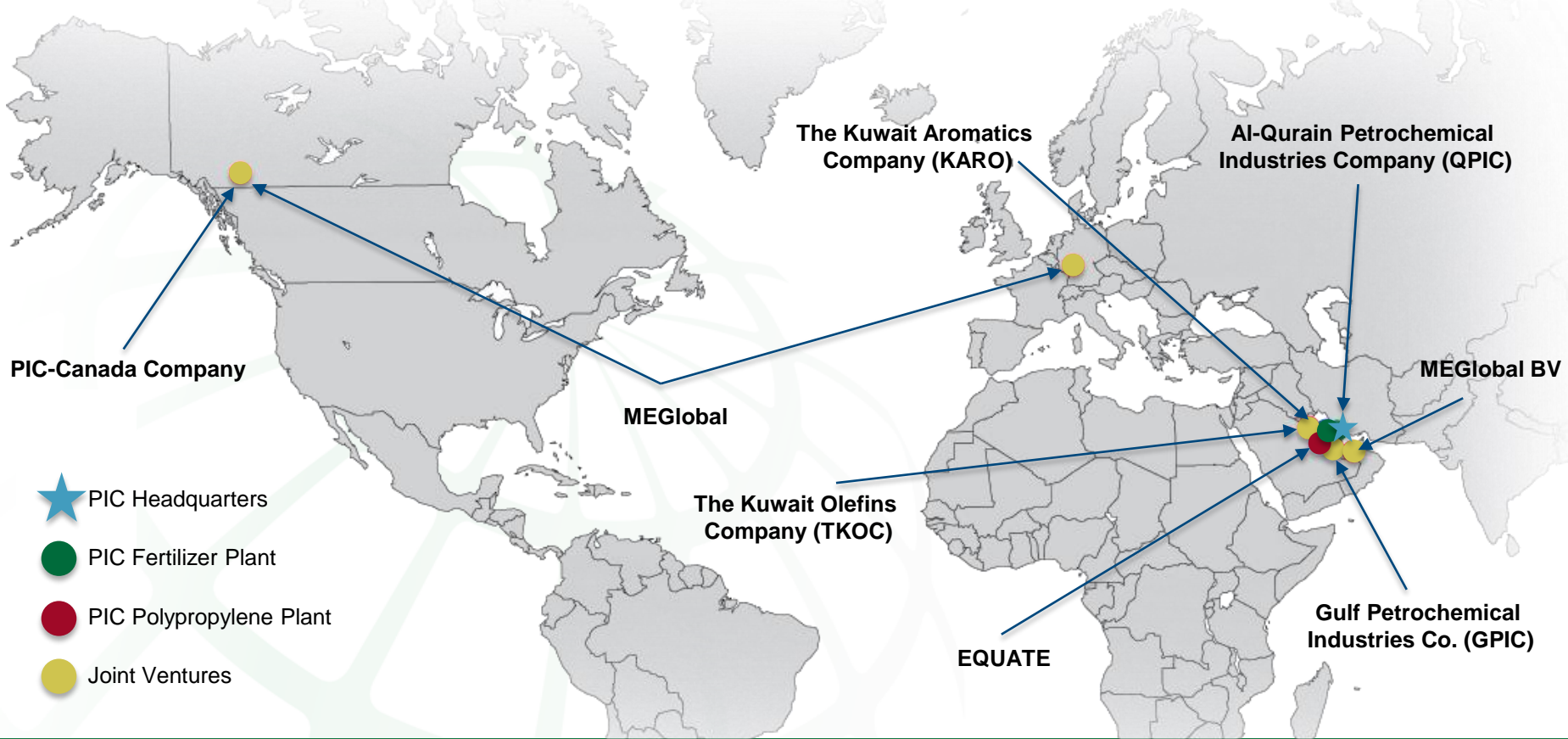
Yet projections to 2035 show up to  $\frac{2}{3}$  of energy efficiency potential will be untapped





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# Who Is PIC? – Our Global Operations



Primary products: Fertilizers, olefins and aromatics



# Why Does PIC Care About Energy Efficiency?

## Key risks to which energy efficiency is a solution



### Financial Risks

- Price fluctuations in traditional energy sources impact the bottom line
- Energy spend becoming a growing share of operational costs



### Energy Security

- Production in high-growth emerging markets faces energy quality
- Energy portfolio flexibility need to ensure operational consistency



### Brand Equity

- Increasing consumer focus on sustainability
- Industry leadership being defined outside of traditional metrics



### Regulatory Risks

- Long-term carbon penalties in major markets
- License-to-operate issues as governments focus on energy efficiency

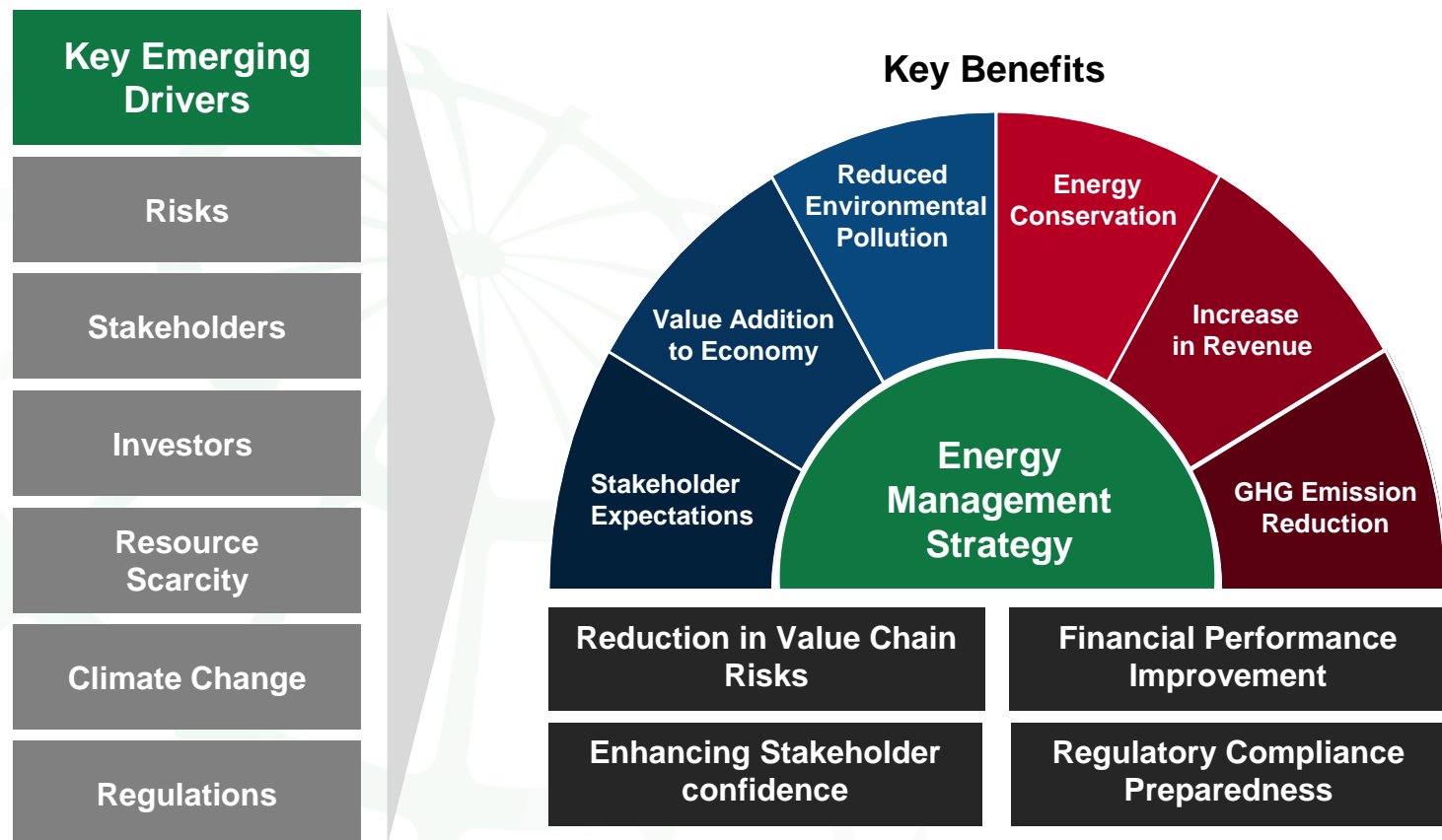


### Competition Risks

- New reality of resource-constrained, low-carbon economy changes the basis of competitive advantage
- Operational efficiency becomes a key differentiator
- Clean tech (energy efficiency and renewable)



# Emerging Drivers Forcing Organizations to Rethink Energy Management

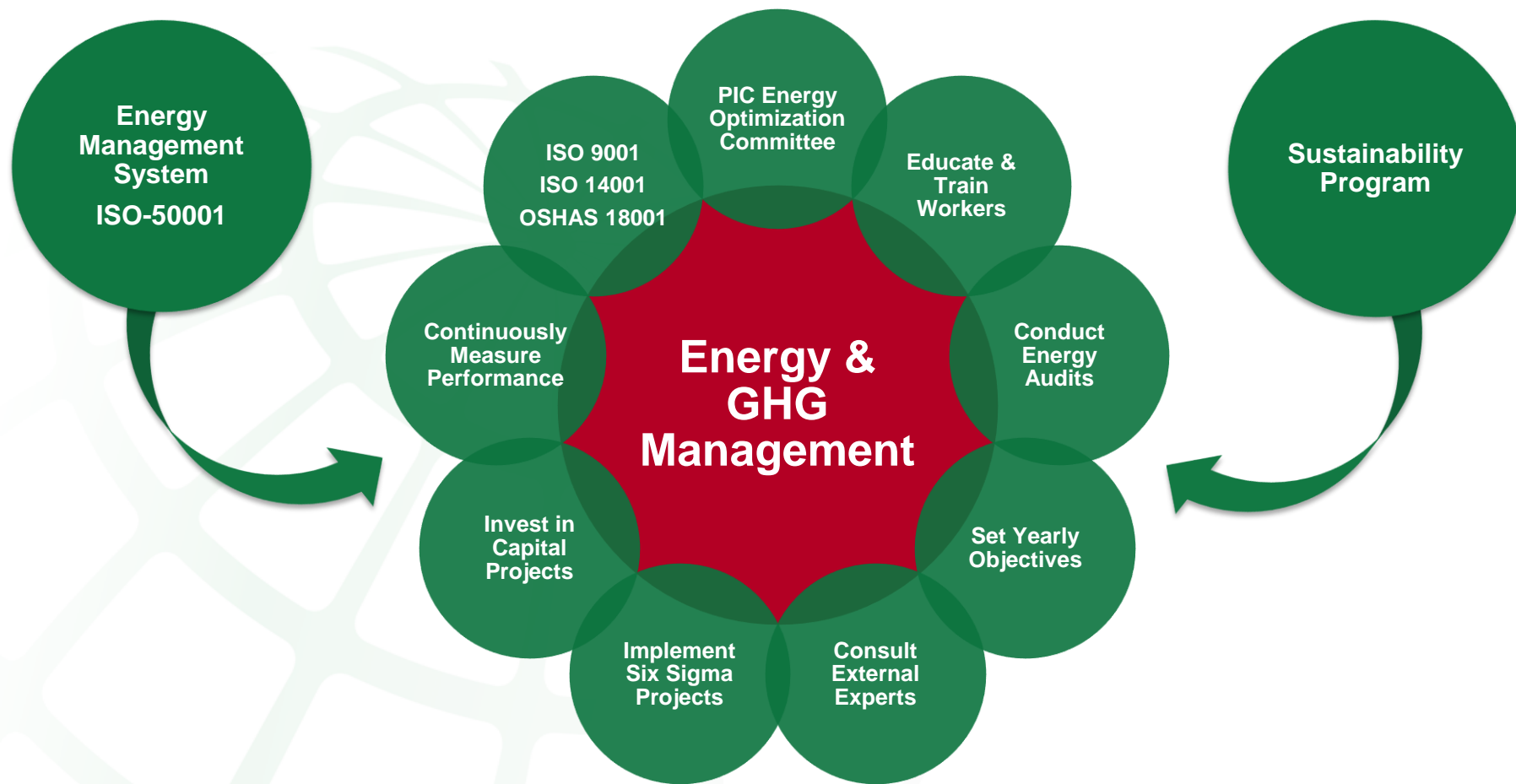






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# An Integrated View of Energy and GHG Management





# Current Energy and GHG Management

## Yearly Objectives

- Aligned to energy intensity target
- Sources of objectives:
  - Energy audits (monthly)
  - External audit (3 years)
  - Brainstorming session (technicians, operators, engineers)
- Significant opportunities are selected
- Action plan is set
- Progress is monitored
- Part of employees' yearly incentive/bonus





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# Best Practices: Companywide Energy Initiatives



Industrial  
symbiosis



Enhanced  
employee  
participation

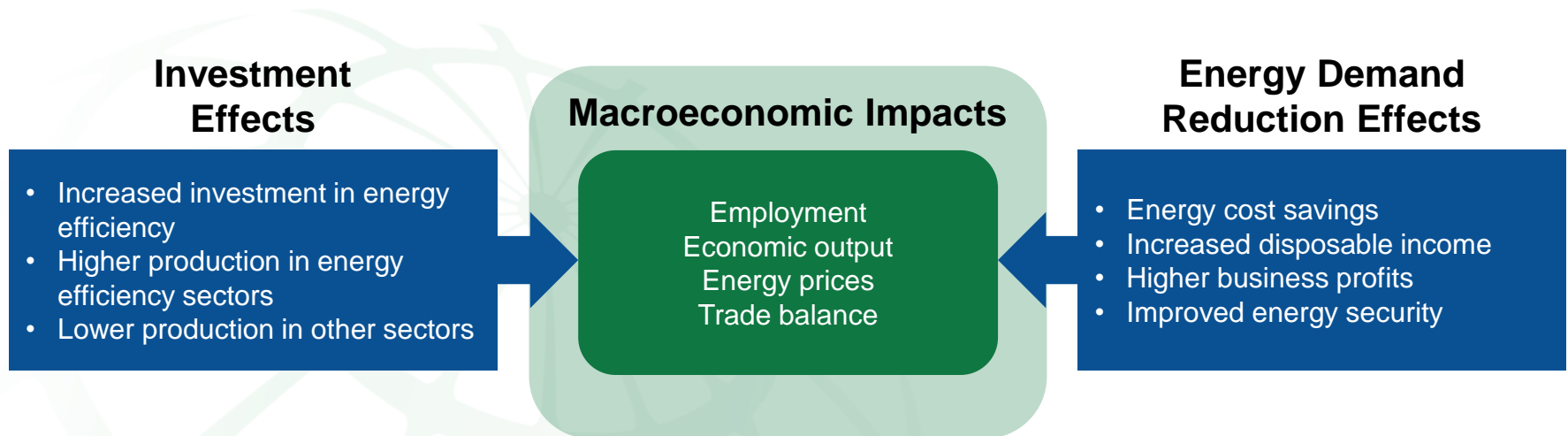


Clear, focused sustainability strategy  
with energy reduction targets in place





# Macroeconomic Impacts of Energy Efficiency





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# Collaborating for Sustainable Growth



The Kuwait Green Wall:  
A collaboration between  
the private sector and  
NGOs



# Thank you



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