

# The Efficient Use of Energy

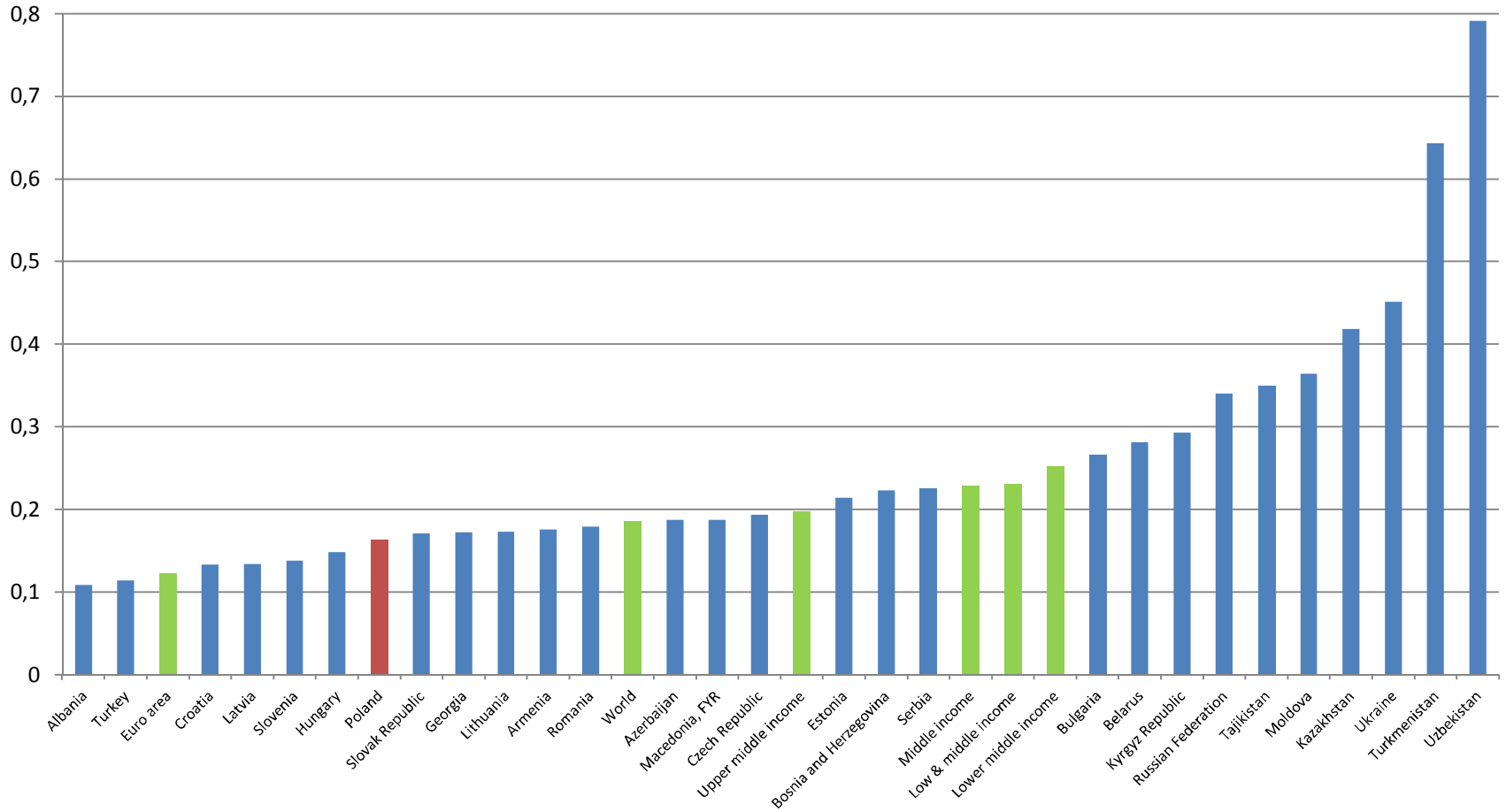
# Why is Energy Efficiency Important?

- Cheapest of way of achieving energy balance
- Low cost way of addressing trade balance
- Increases the Competitiveness of the Country
- Cheapest way of Reducing GHG Emissions
- And Reduces SO<sub>x</sub>, NO<sub>x</sub>, Particulates
- Is a High Labor, Low Capital Solution

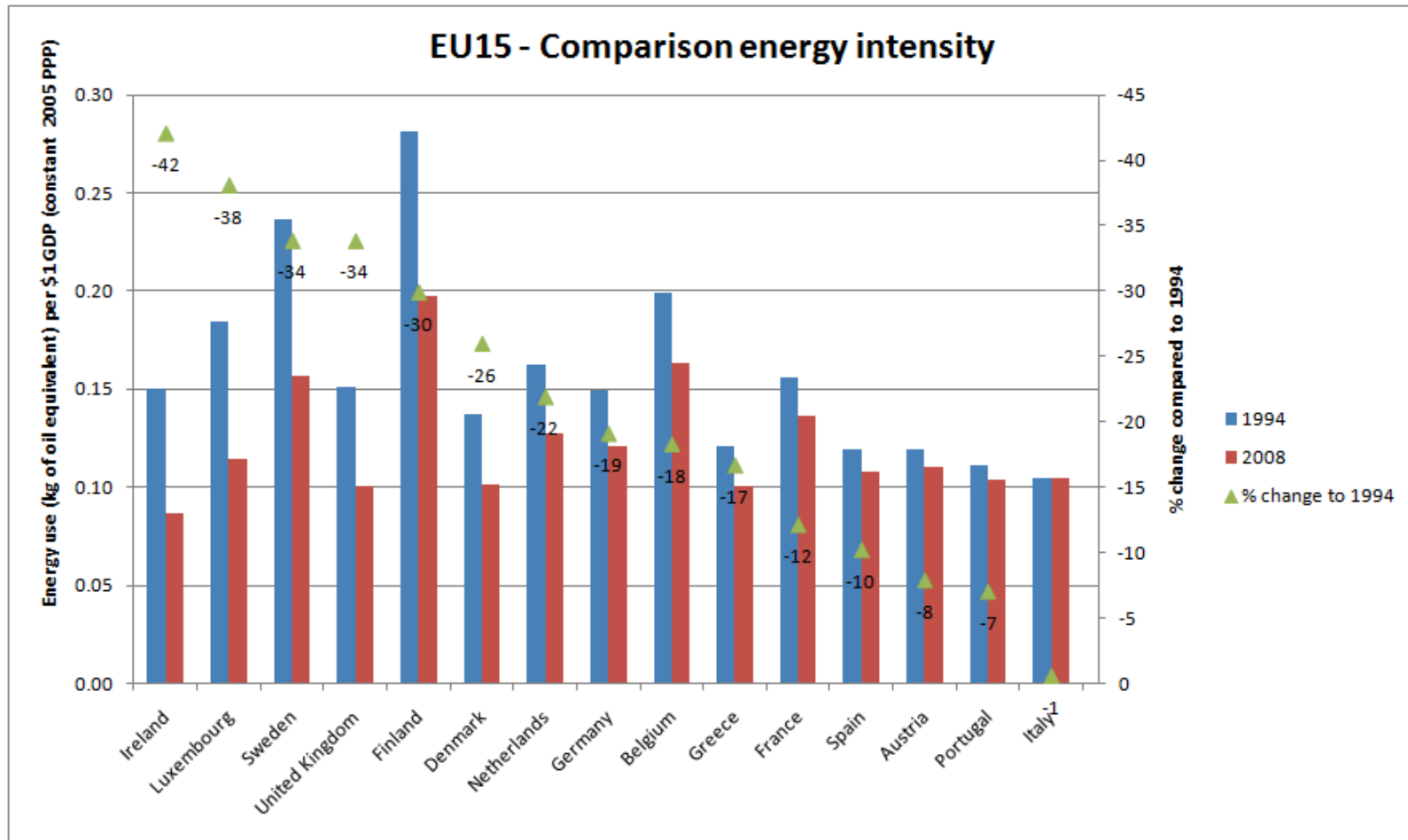
# If EE is so Good, Why Isn't it Done?

- Many hidden costs
  - In 1998 in Lt, >20 transactions to fix your house
- Public Goods not Accounted for
  - Environmental externalities not fully taxed
- Knowledge Barriers
  - Customers don't know costs/benefits
- Affordability Issues for the Poor
- Landlord/Tenant Problem

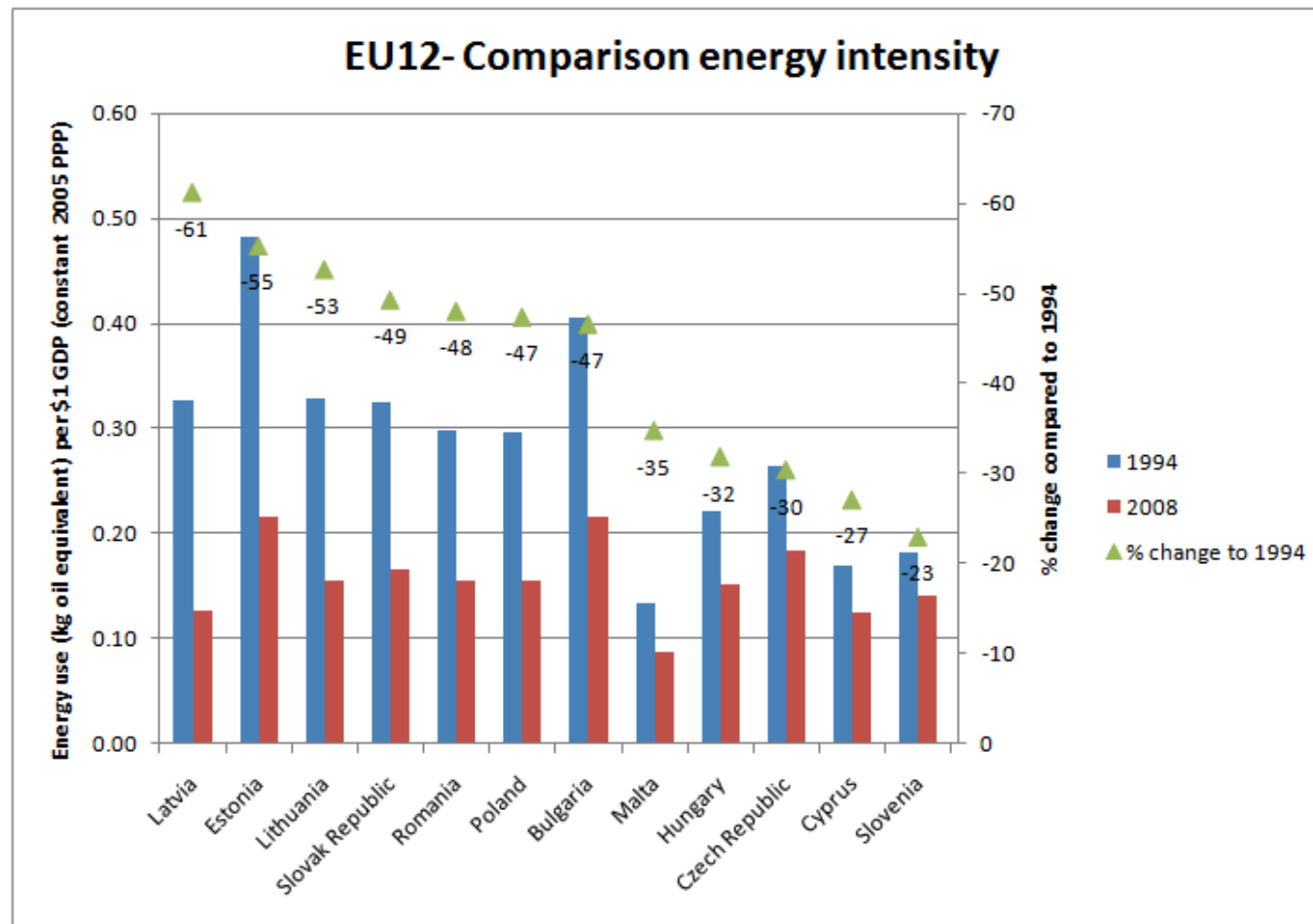
# Energy Efficiency varies Widely



# But There Have Been Successes



# And in the EU-12 Too



# World Bank Review of Best Practices

- Looked at 3 EU-15 Countries
  - Germany
  - Sweden
  - Ireland
- And 3 EU-12 Countries
  - Poland
  - Lithuania
  - Romania

# The Top Five Lessons

1. Get the Prices Right Quickly
  - Including environmental costs
2. Good Governance Matters
  - Set Targets, Establish Institutions, Funds, M&E
3. Regulations Matter
  - Building Standards, Appliance Standards
4. Grant Funding Needed for EE Investments
5. Knowledge Sharing is a Key Component



# What Did Lithuania Do Right?

1. Quickly adjusting prices to reflect the cost of supply.
2. Good Governance, establishing the Energy Agency in 1993.
3. A comprehensive program of energy audits, standards, energy agency, EE pilots, outreach, building certificates
4. “Thermal Techniques for Building Envelopes”.
5. Grant funding to households for energy efficiency
6. A large number of pilot schemes were undertaken
7. Changes to its Home Owner Association legislation in 2000
8. Quickly Implement EU Directives
9. Monitoring and evaluation of reform programs

# And Supply-Side Reforms

- Privatization of Energy Companies
- Coupled with Good Governance

# What did the Bank Expect from Dalkia?

- Better System Maintenance
- Decreased Operating Costs
  - Lower Water Losses
  - Lower Network Losses
  - Lower Heat Supply Costs
- Better Customer Related Services
- An Increased Number of DH Customers

# The Bank Didn't Expect Dalkia to

- Make Large New Investments
- Introduce Significant New Technologies
- We were Wrong on Both Counts
- But we did Expect Help Dalkia to Facilitate Energy Efficiency Measures for Households building on our GEF project
- Did we get this?

# District Heating in Vilnius

- Improved Provision of Heating Services
  - Customer Base has Grown
- Energy Network Losses Down 30%
- Water Losses Down 70%
- Commercially Viable Operation
- Biomass >10%

# What We Expect from DH

- From the Government/Regulator
  - Fair Prices
  - Fair Market Access
- From the DH Company
  - Energy/Water Loss Reduction
  - Increased Use of CHP
  - Improved Customer Service

# What We Are Doing Elsewhere

- Decrease GHG Emissions with Biomass
- Increased Use of Waste Heat
- Smart Meters aren't just for Power
- White Certificates
  - Started with UK/France/Italy
  - Obligate Energy Suppliers to Support EE
  - Tradable Certificates after 2 years

# Bank Messages to Clients

- Introduce Consumption Based Billing
- Introduce Building-Level SS with Controls
- Establish an EE Program for Households
- Grant Finance part of the EE Costs
- Implement Building Certificates Well
- Implement Passive Buildings Program
- Introduce Smart Grids for Power, Gas, Heat
- Privatize Energy Supply
  - Use Competition to Drive Markets
  - Use Incentive-Based Regulation Elsewhere