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# Energy Efficiency Obligations – a mechanism to finance energy efficiency?

## Energy Efficiency Finance Market Place

Dr Jan Rosenow  
Senior Associate

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The Regulatory Assistance Project (RAP)®

# Agenda

- 1) Global snapshot of Energy Efficiency Obligations (EEOs)
- 2) Architecture of EEOs
- 3) Investment through EEOs
- 4) ESCO opportunities through EEOs
- 5) Case studies
- 6) Conclusions



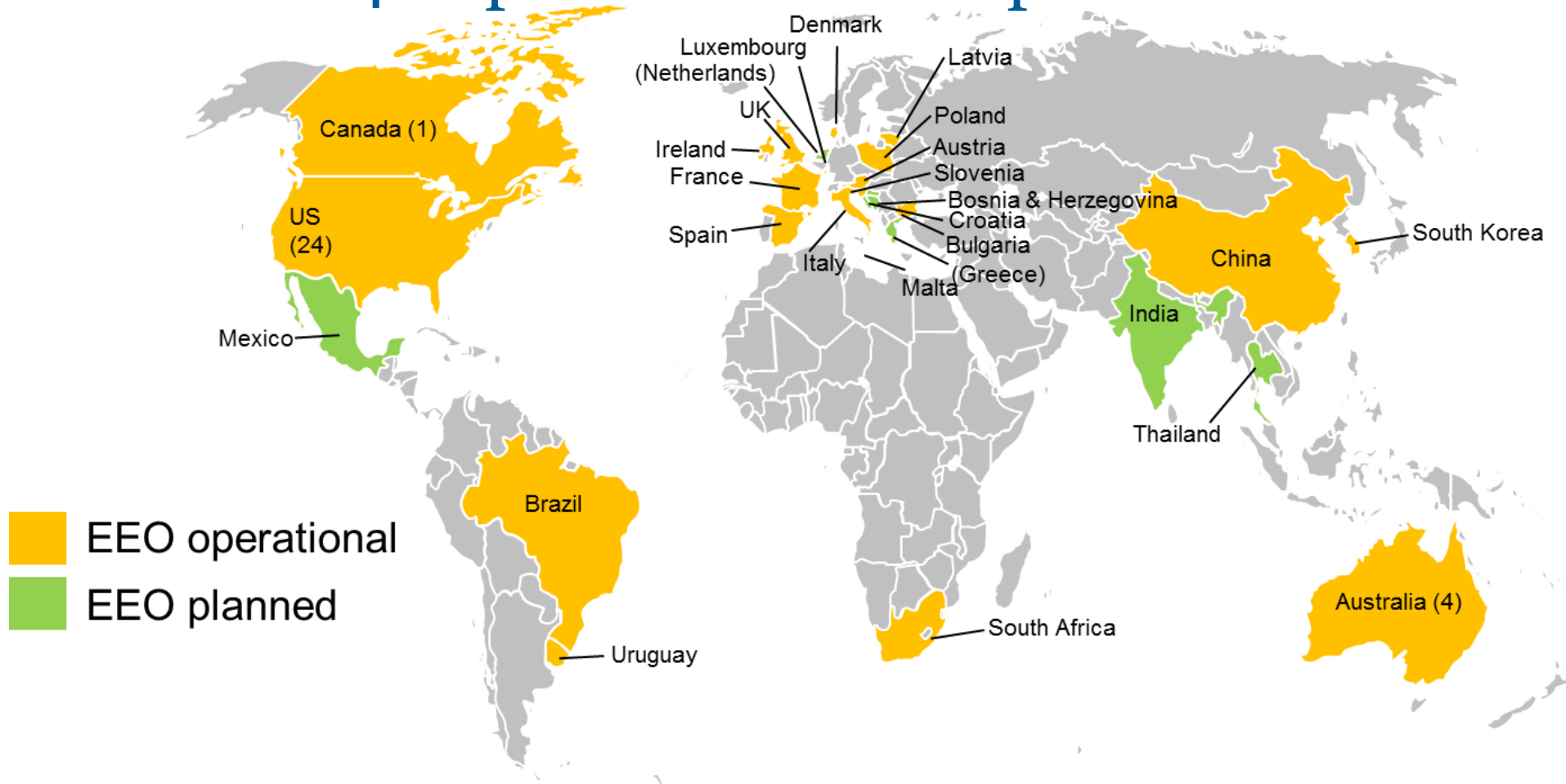
# Global snapshot of EEOs



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# Global snapshot of EEOs: 48 operational and 6 planned



Source: RAP (forthcoming)

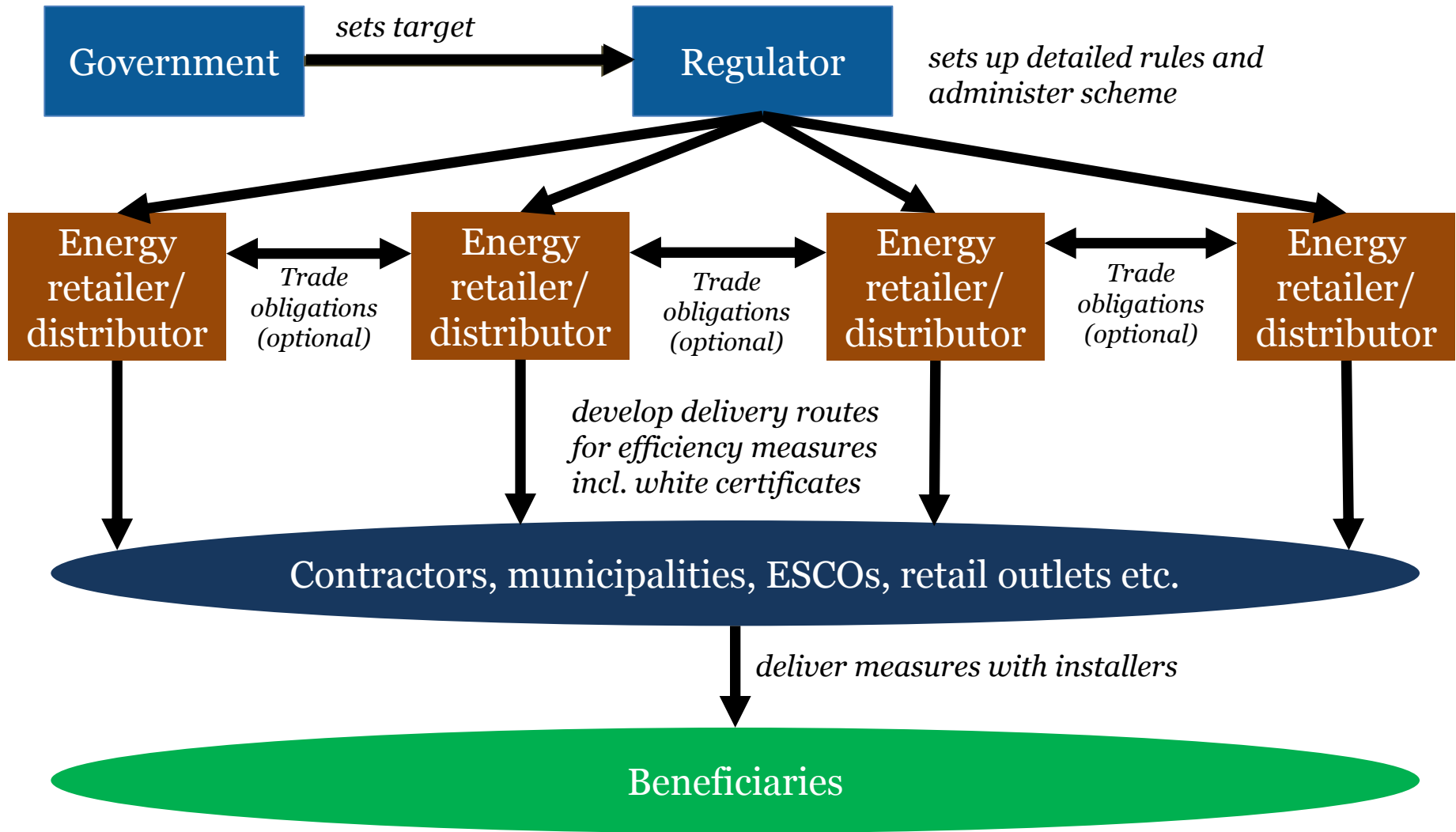
# Architecture of EEOs



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# Architecture of EEOs



# Investment and costs of EEOs

## Public investment

cost to the public  
recovered  
through energy  
bills

## Private investment

contributions  
from beneficiaries  
of the programme

## Administrative cost:

cost to public  
authorities for  
running the  
programme







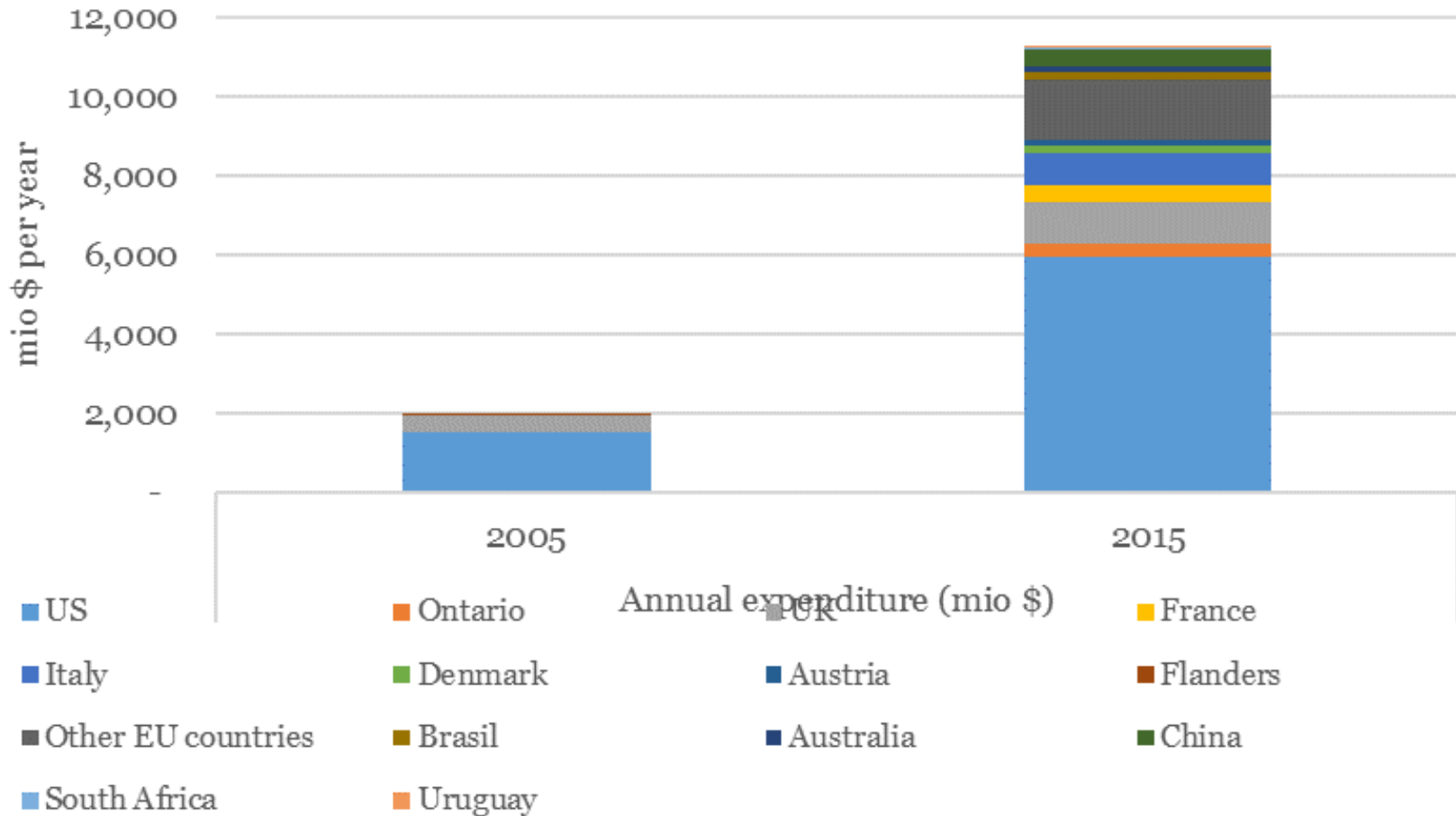
# Investment through EEOs



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# Rise of public investment through EEOs



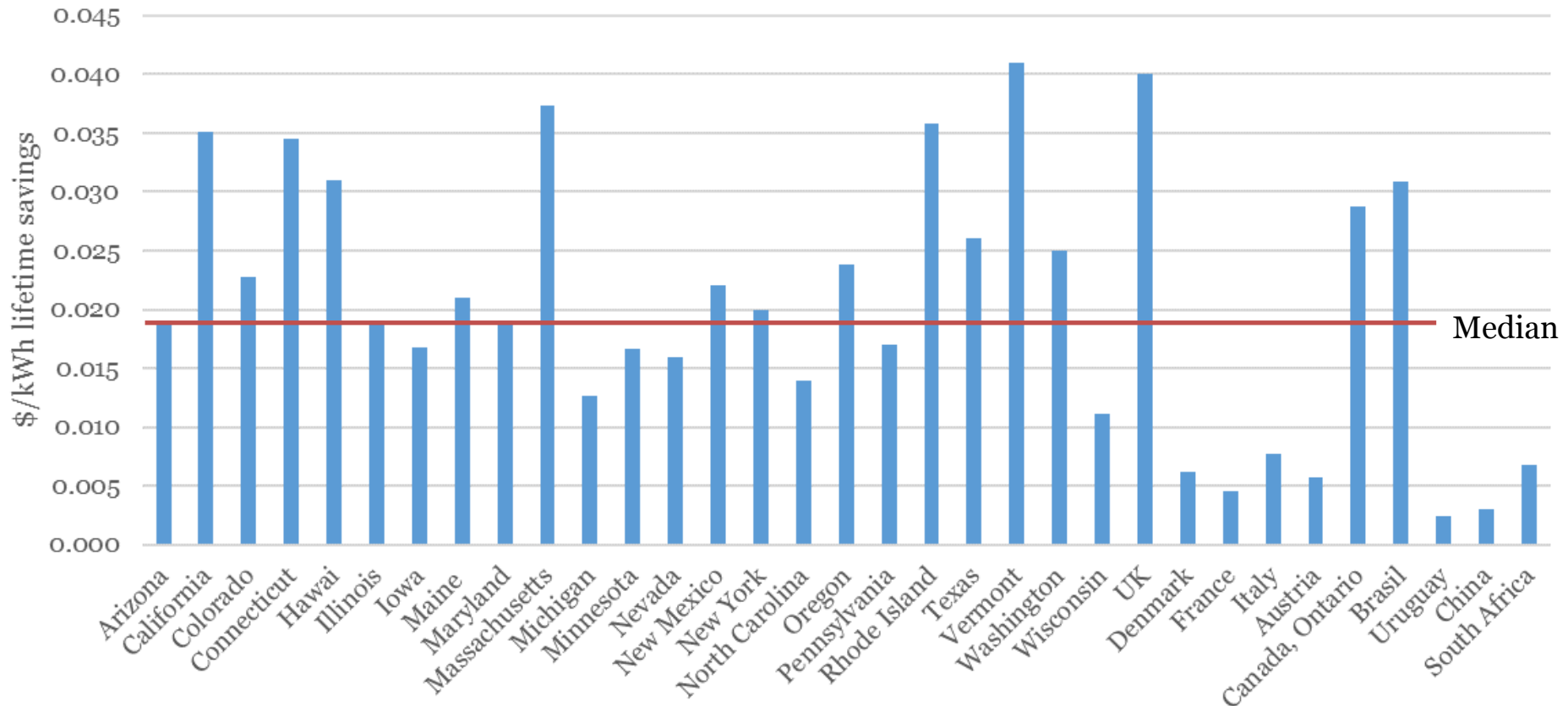
Source: RAP (forthcoming)

# Private investment: typically ~0.5-2 times public investment

- **United States:** 141% of programme costs
- **United Kingdom:** 87% of programme costs in 2002 to 2005 and 44% in 2005 to 2008 (residential sector only, ~50% low-income households)
- **France:** 37% of programme costs (EEOs operate together with tax rebates)
- **Denmark:** 200% of programme costs (industry sector only)

Source: ACEEE (2014); Rohde et al. (2014)

# Programme costs: available data indicates that EEOs are highly cost-effective



Source: RAP (forthcoming)

# ESCO activity and EEOs

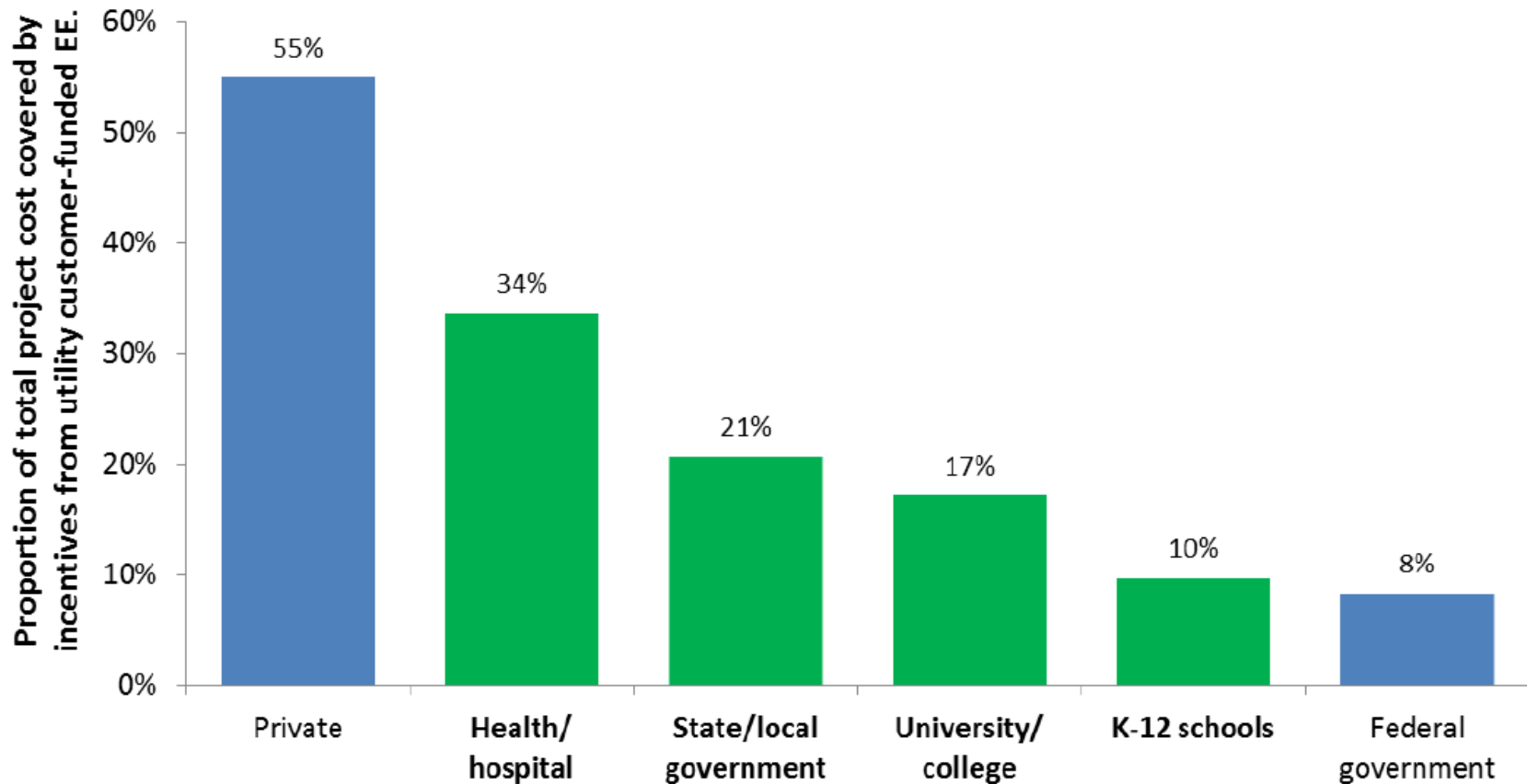


# ESCO market activity and EEOs

- best evidence from US
- 55% of energy savings from US ESCO activity in public buildings supported by EEOs (for year 2012, LBNL 2014)



# EEOs make important contribution to ESCO project costs



Source: LBNL (2014)



# Case studies of EEO intermediaries





# Case study : Effy

- Group of 10 companies founded in 2008 in France



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...

- Offices in France, Italy and Poland (UK business closed after EEOs scaled down)
- Annual turnover ~€100m for 225 employees
- Activities:
  - Energy consulting and project management assistance
  - Lead generator (+3000 affiliated installers in France)
  - General contractor (loft, floor & pipe insulation, EMS & Automation)
  - Financing (certificates) and ESCO (industry only)

Source: Effy (2016)

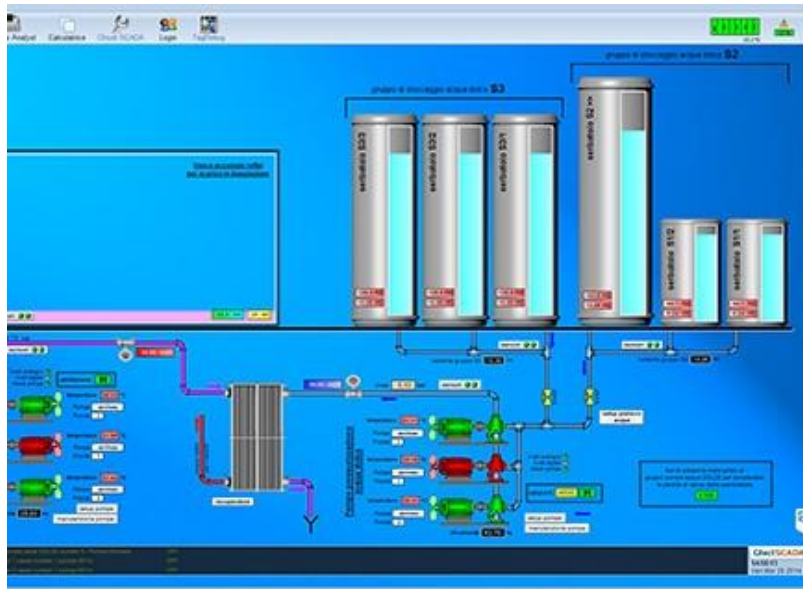


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# Case study: **ALBINI**Energia

PER UN FUTURO SOSTENIBILE



- **Project:** Albini Energia supplied heat exchanger and automation system and obtained white certificates.
- **Location:** Prato, Italy
- **Client:** Tintogroup Srl
- **Technology:** heat recovery system for batch dyeing machine's waste water via heat exchanger
- **Economic benefit** = energy saved + value of gained white certificates
- **Pay-back time:** around 3 years



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# Conclusions



# Conclusions

- 1) EEOs are in essence a financing mechanism paid for by energy consumers
- 2) Finance through EEOs now amounts to ~\$25-35 billion/year
- 3) Cost-effectiveness is high
- 4) ESCO market can benefit but depends on design of EEOs

# Further reading

[Lees, E., Bayer, E. \(2016\): Toolkit for Energy Efficiency Obligations. Regulatory Assistance Project](#)

[Rosenow, J., Bayer, E. \(2016\): Costs and benefits of Energy Efficiency Obligations - a review of European programmes. Report for the European Commission](#)

[Fawcett, T., Rosenow, J. \(2016\): The Member States' plans and achievements towards the implementation of Article 7 of the Energy Efficiency Directive. Report for the European Parliament](#)



## About RAP

The Regulatory Assistance Project (RAP) is a global, non-profit team of experts that focuses on the long-term economic and environmental sustainability of the power sector. RAP has deep expertise in regulatory and market policies that:

- Promote economic efficiency
- Protect the environment
- Ensure system reliability
- Allocate system benefits fairly among all consumers

Learn more about RAP at [www.raonline.org](http://www.raonline.org)

**Dr Jan Rosenow, email: [jrosenow@raonline.org](mailto:jrosenow@raonline.org) web: [eng.janrosenow.com](http://eng.janrosenow.com)**



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