

# Electricity Costs over Time



APA, 2007, Valdez

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# Fundamental Cost Equation

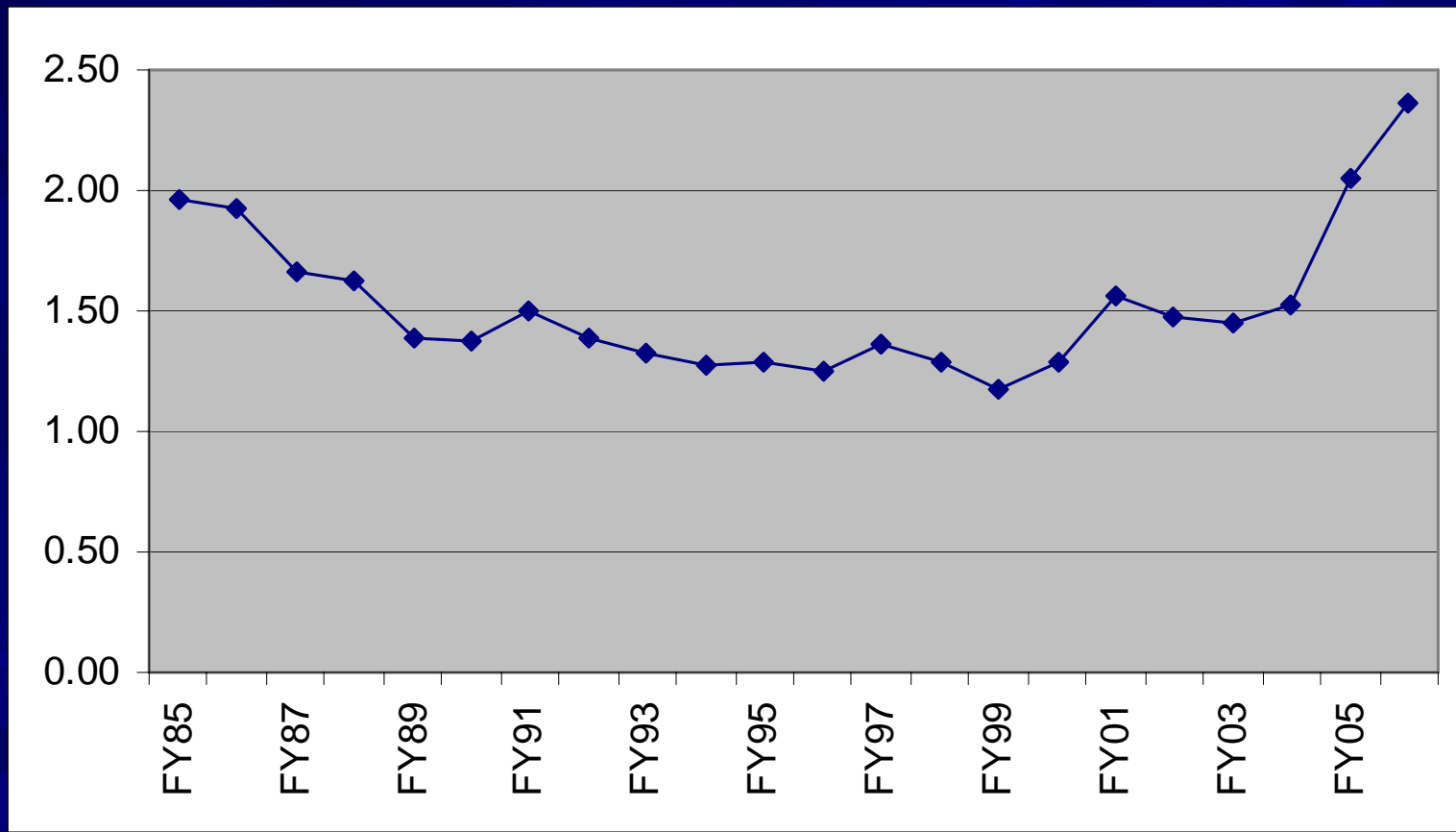
$$\begin{aligned} & \text{Fuel price (\$/gal)} \\ & \times \text{Diesel Efficiency (gal/kWhd)} \\ & = \text{Fuel cost per diesel kWh} \\ & \times \text{Diesel fraction of generation} \\ & = \text{Fuel cost per overall kWh} \\ & + \text{Nonfuel cost per kWh} \\ & = \text{Overall cost of power (\$/kWh)} \end{aligned}$$



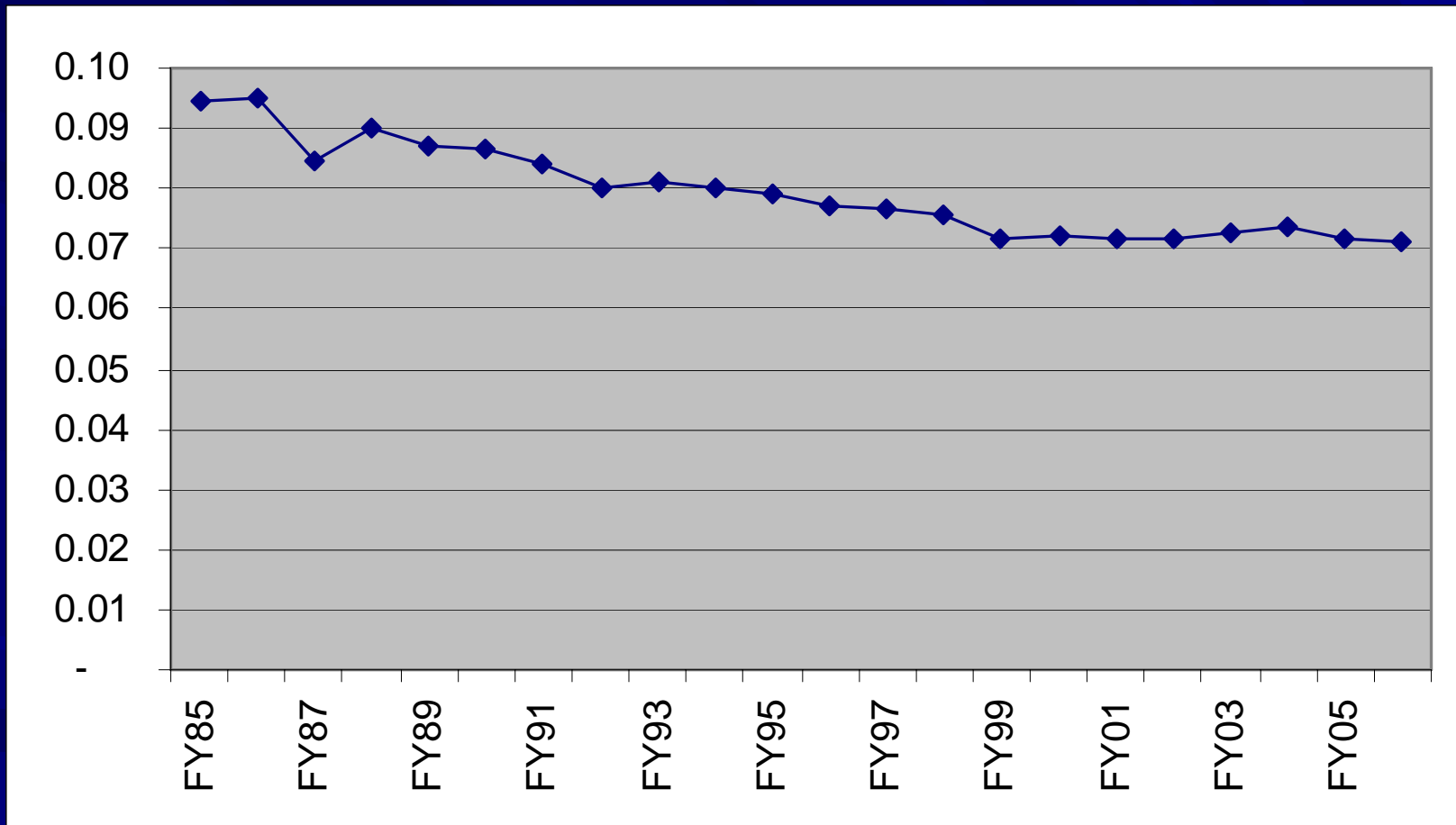
# Application: all PCE communities



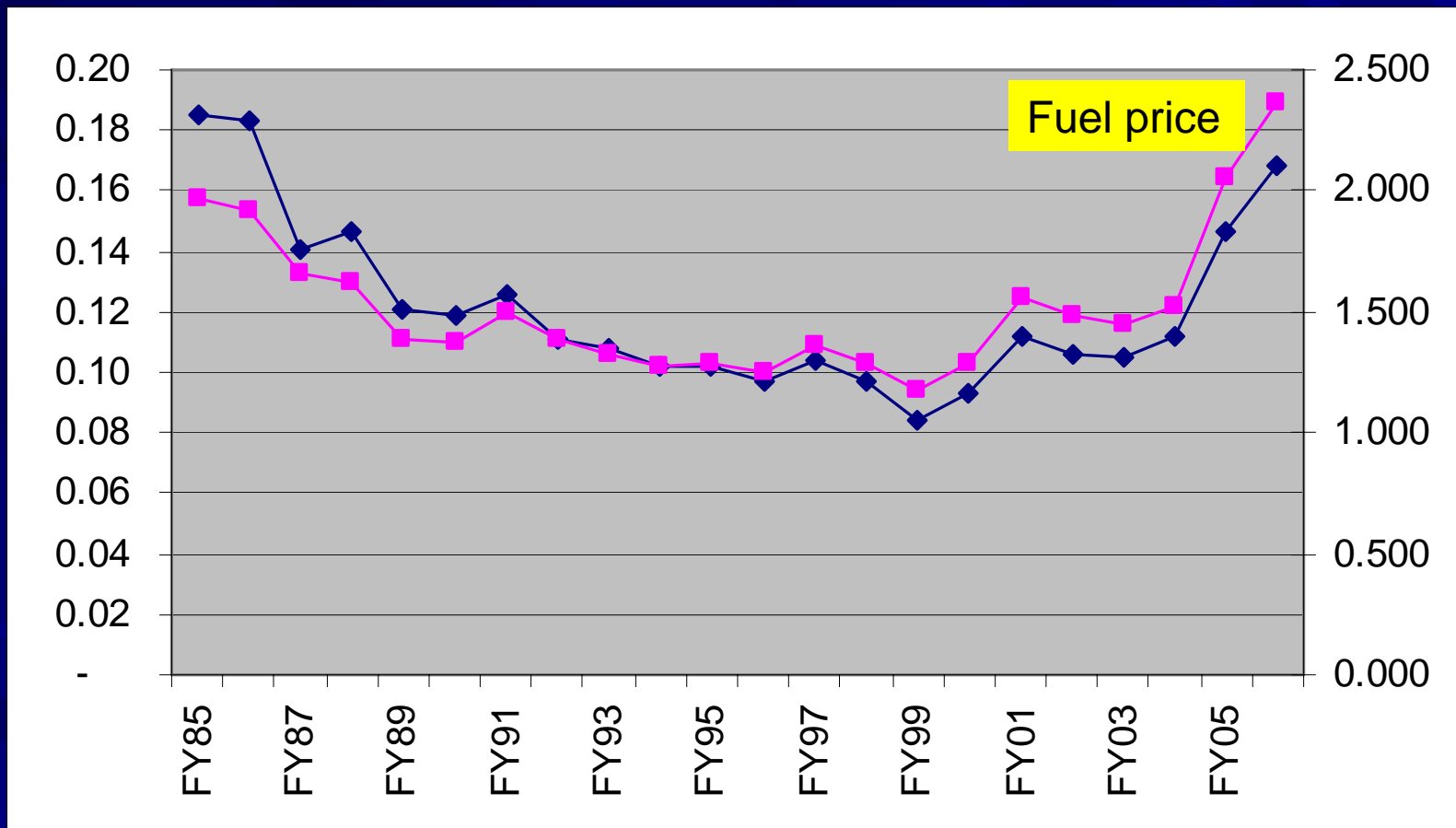
# Avg real PCE fuel price 2006\$/gal



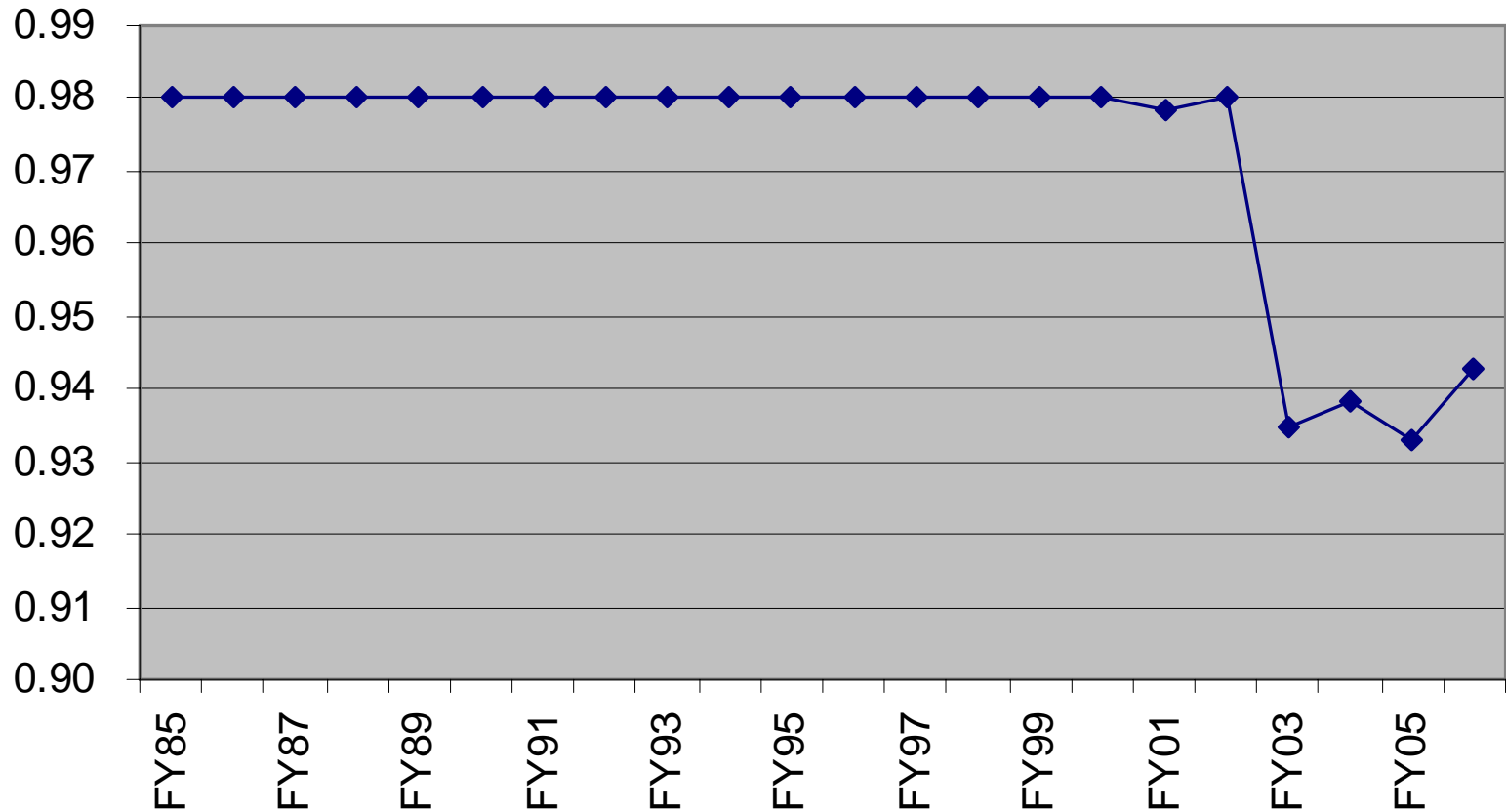
# times: Efficiency (avg gal/kWh)



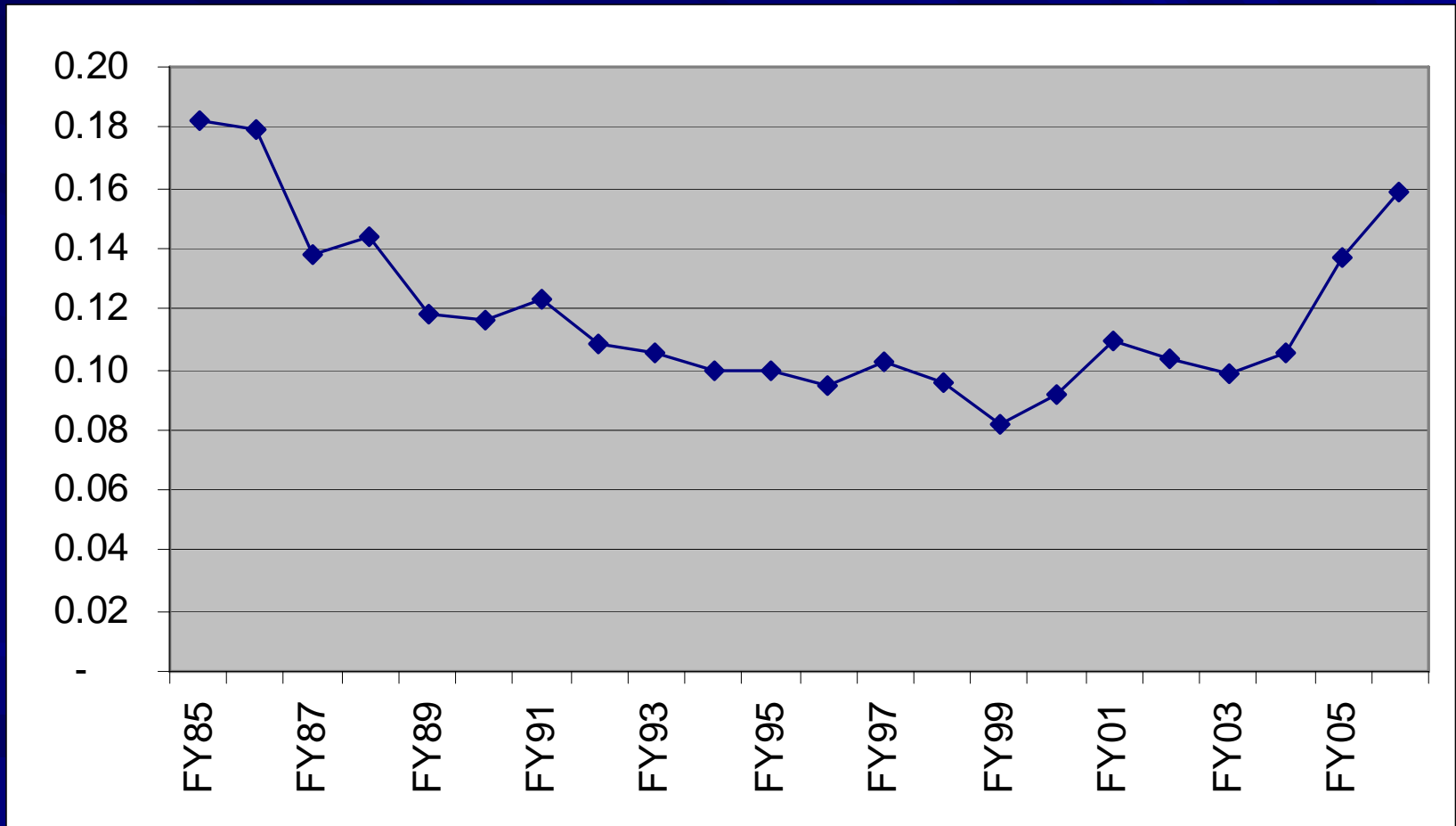
# equals: Avg fuel cost per diesel kWh 2006\$ / diesel kWh



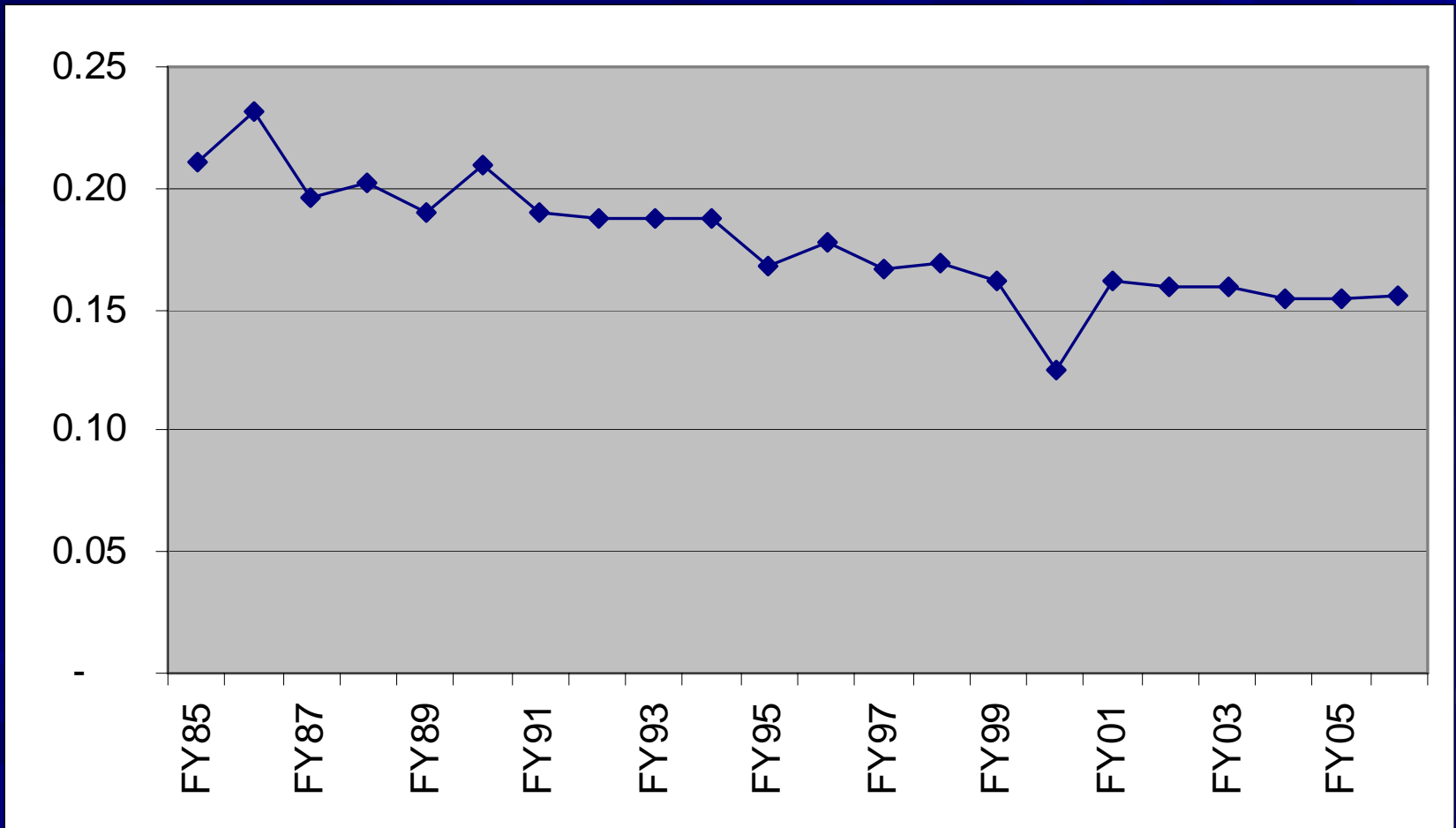
# times: diesel fraction of kWh



# equals: Fuel cost per avg kWh

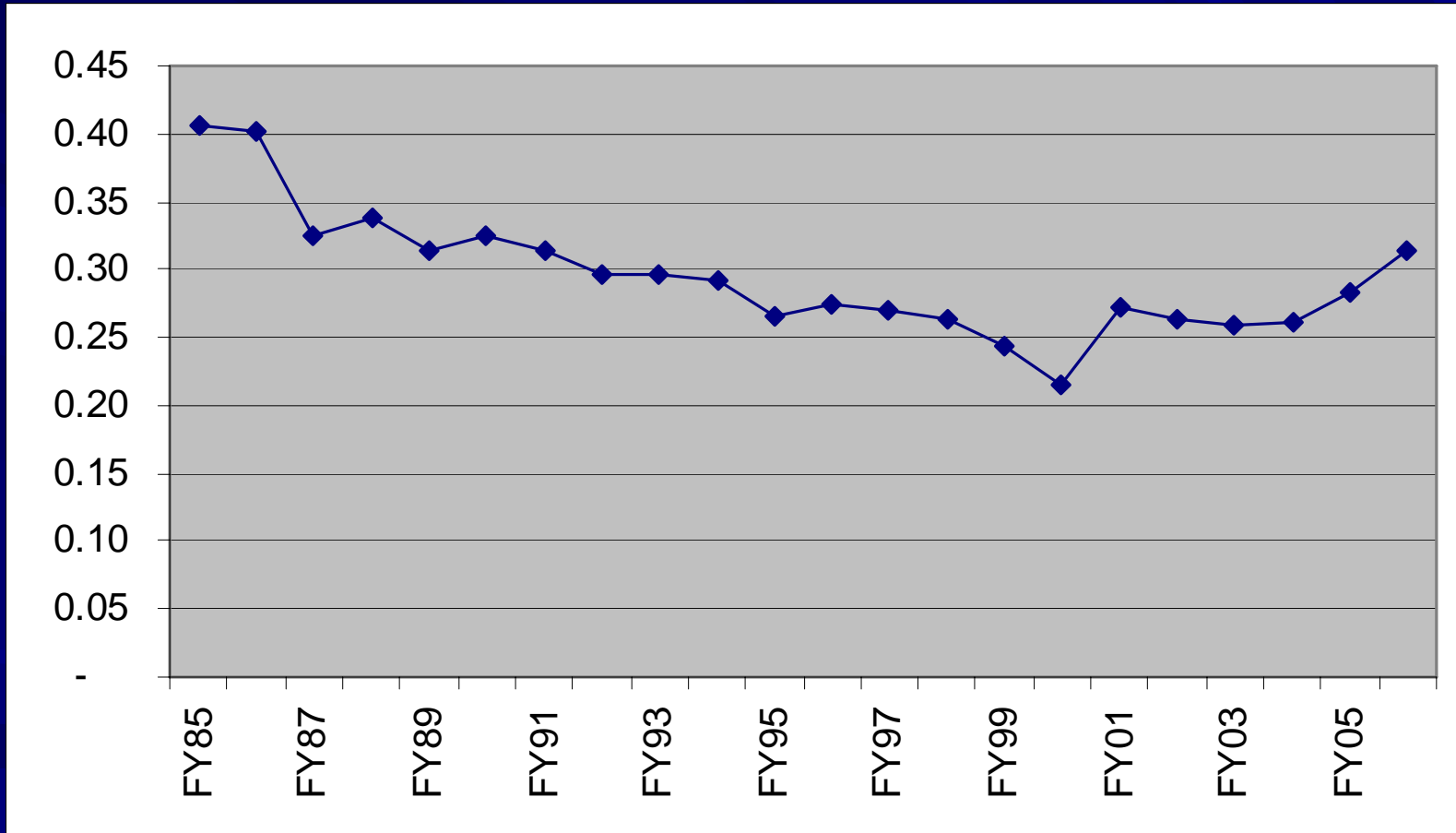


# plus: Nonfuel cost per kWh

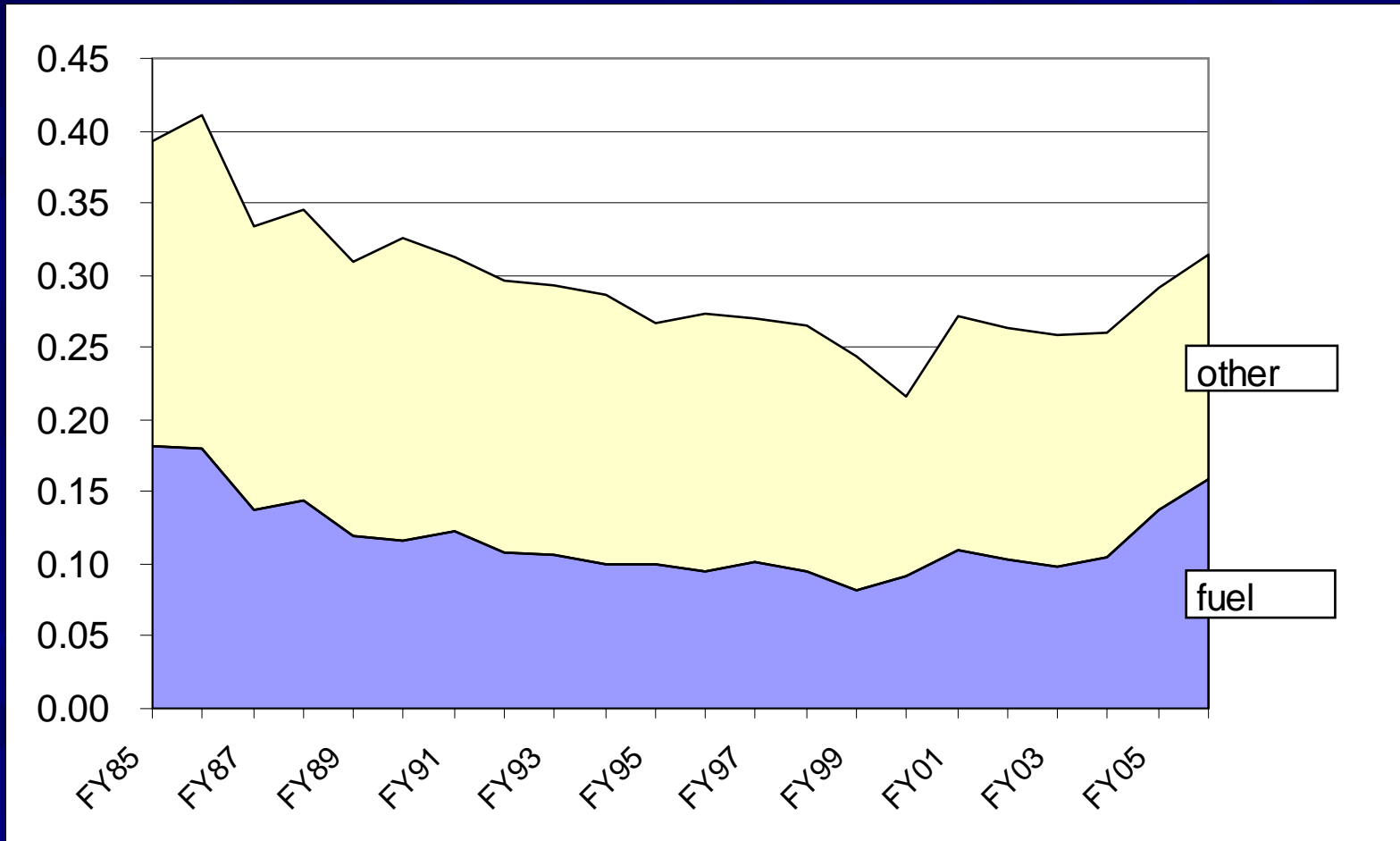


equals:

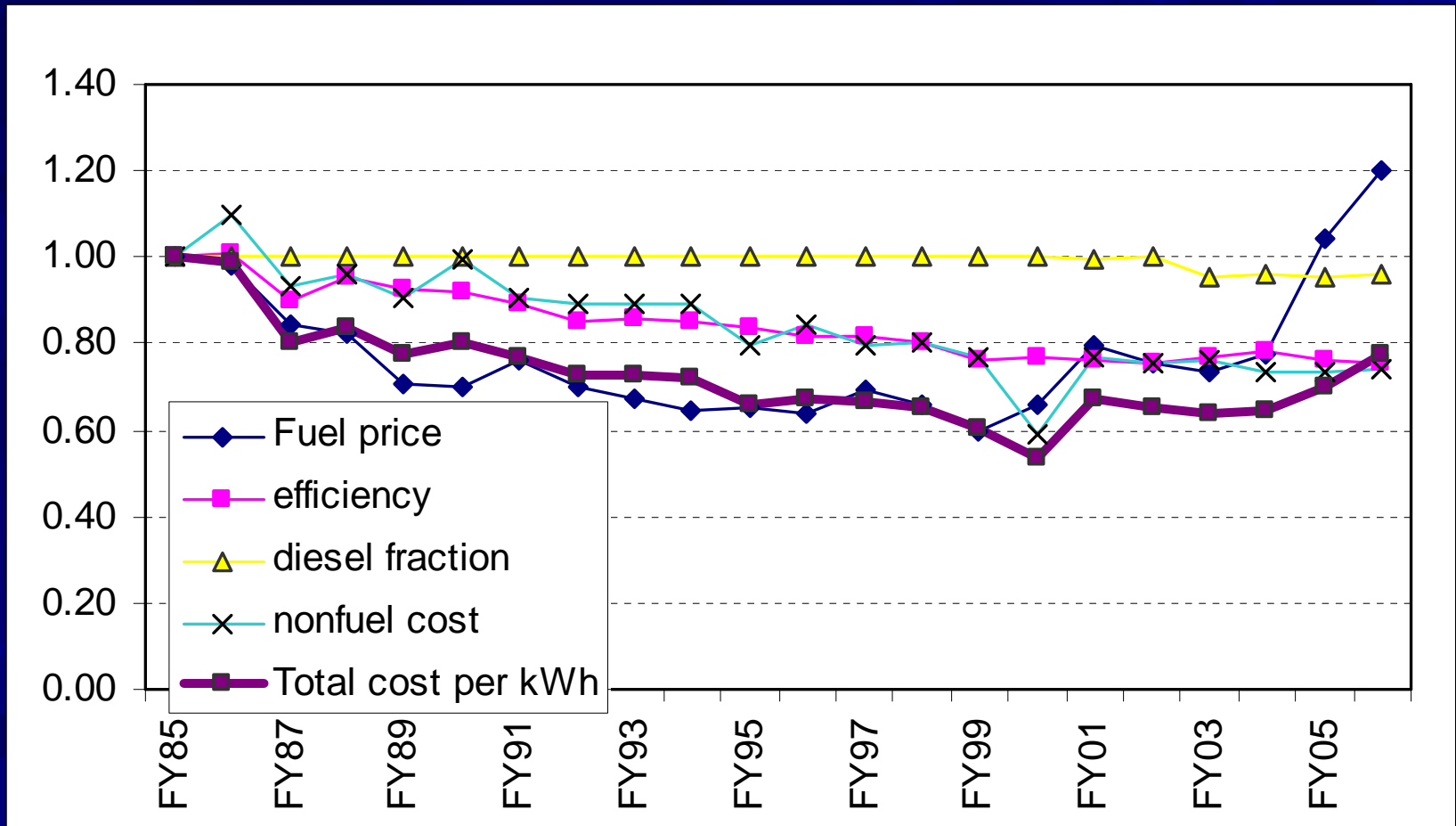
# Total cost of power (2006\$/kWh)



# Components of total cost 2006\$ per avg PCE kWh



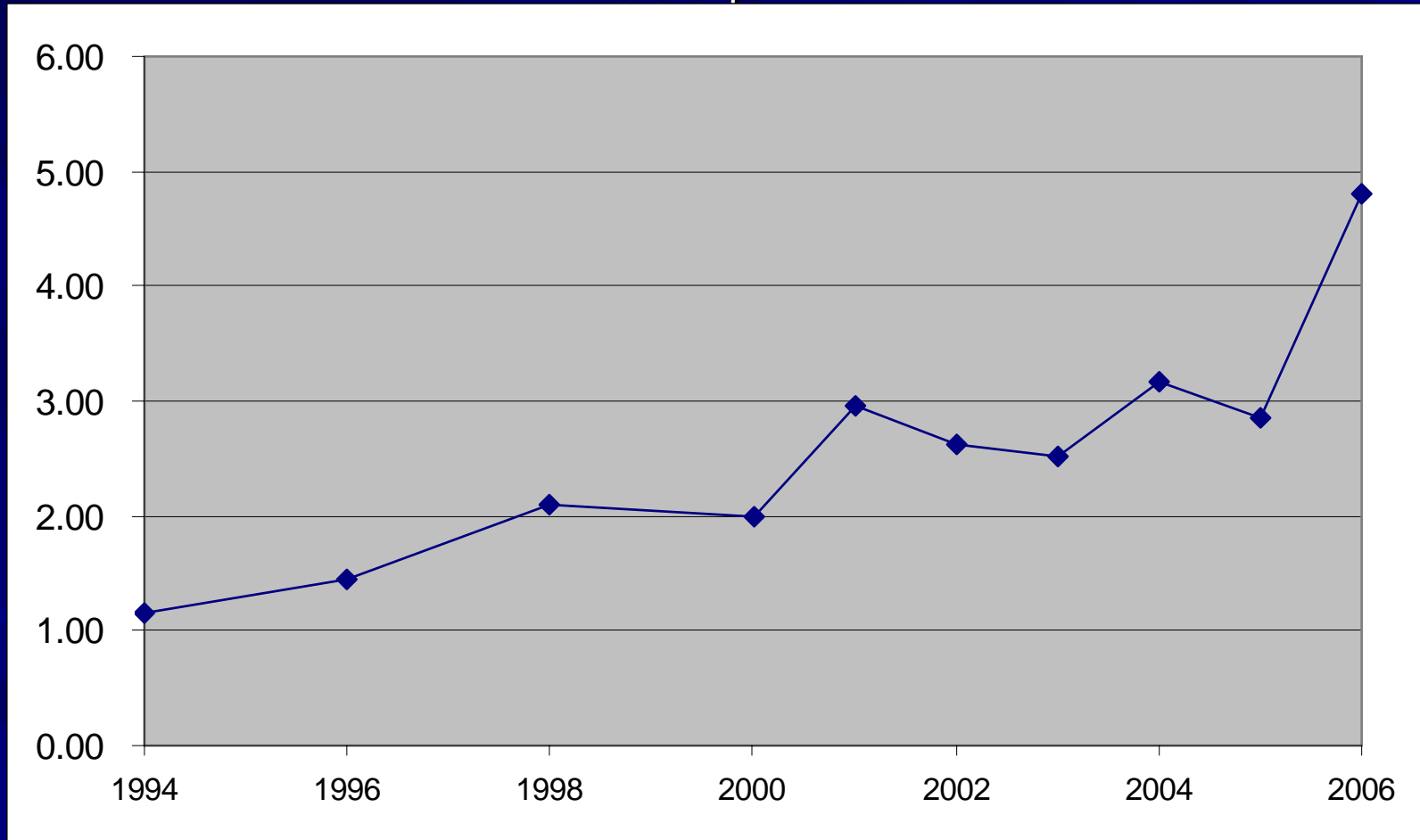
# Recap: Index values (FY85 = 1.00)



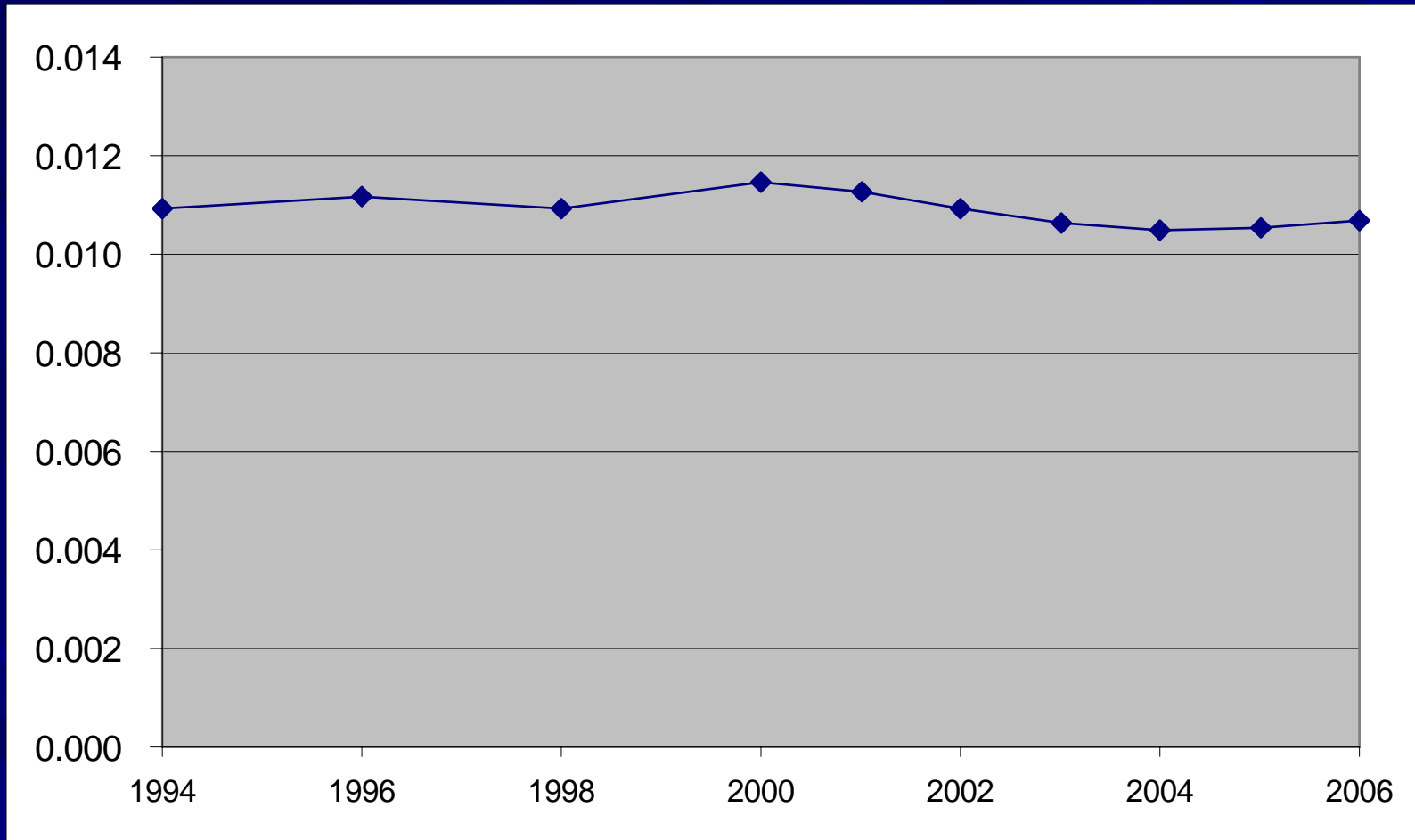
# What about the Railbelt?

# Chugach Electric natural gas avg price

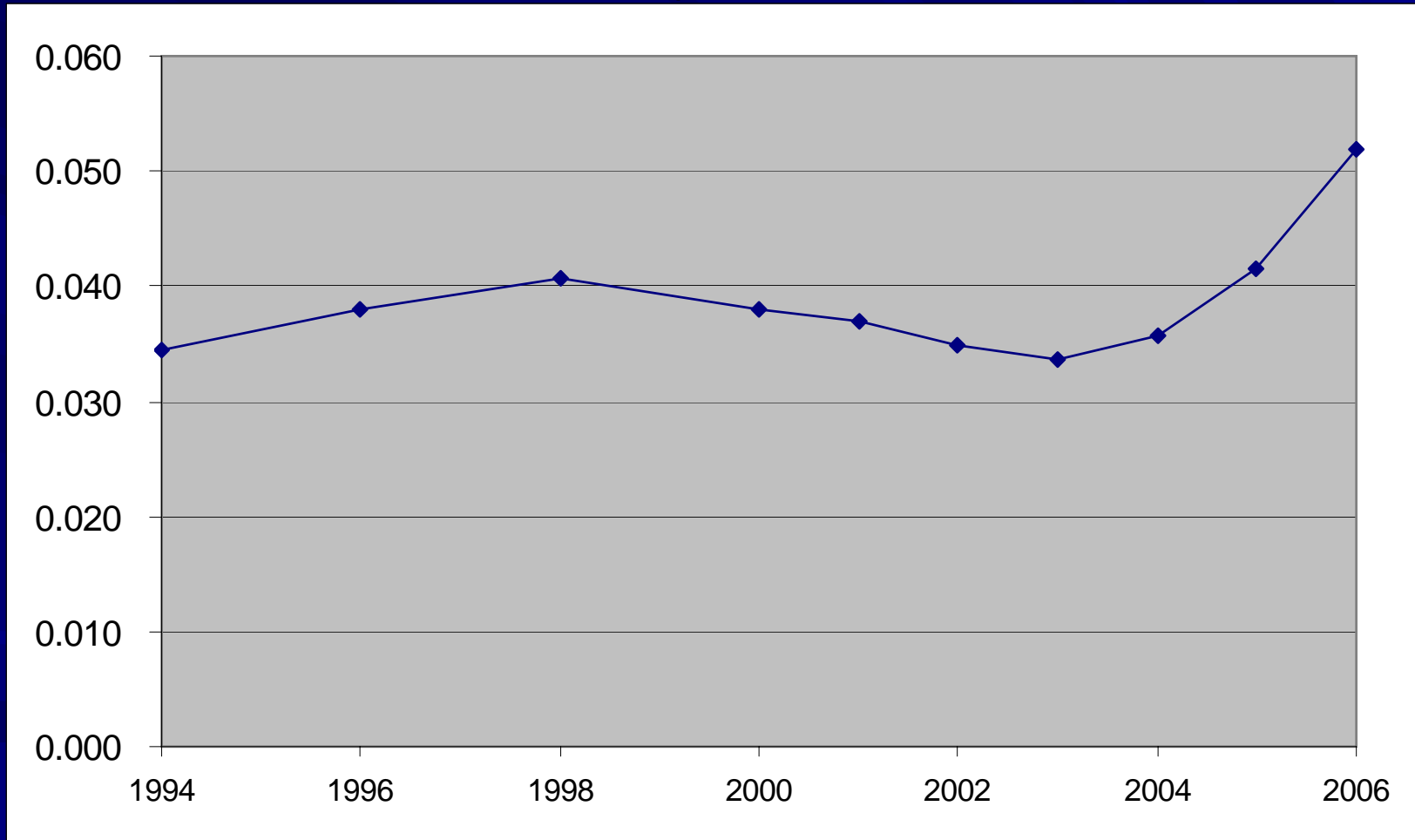
2006\$/mcf



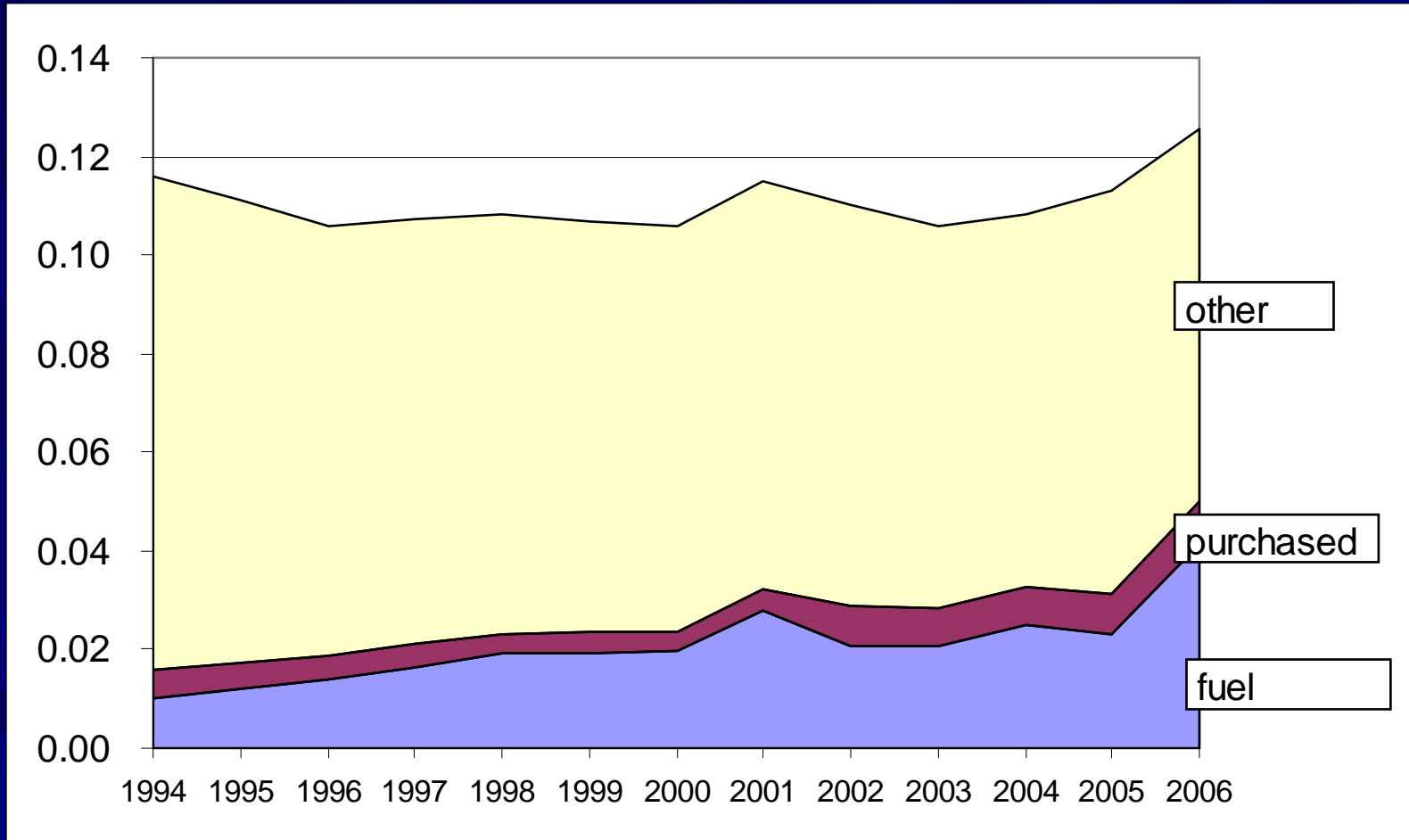
# Chugach Electric natural gas efficiency mcf/kWh



# Chugach Electric avg cost of purch power 2006\$/kWh



# Chugach Electric avg retail revenue 2006\$/kWh



# Thank You!

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