



Price Elasticity of Demand - IRP 2010 Input Parameter Data Sheet

(Demand input)

This sheet is to be used as the primary stakeholder engagement tool. This document provides the information that will allow the stakeholders to make a meaningful contribution to the IRP Input parameters

Parameter	Price Elasticity of Demand (PEoD)				
Purpose	Determine the impact on demand of increases in price. This includes the impact on EE initiatives, fuel switching and the level at which self generation becomes viable.				
Impact on the IRP	<p>The Price Elasticity of Demand (commonly known as just price elasticity) measures the rate of response of quantity of electricity demanded due to a price change.</p> <p>The formula for the PEoD is:</p> $\text{PEoD} = (\% \text{ Change in Quantity Demanded}) / (\% \text{ Change in Price})$ <ul style="list-style-type: none">• If PEoD > 1 then Demand is Price Elastic (Demand is sensitive to price changes)• If PEoD = 1 then Demand is Unit Elastic• If PEoD < 1 then Demand is Price Inelastic (Demand is not sensitive to price changes) <p>This is a crucial measure since it impacts on the Demand Forecast for electricity. Additionally elasticity will provide information on the likelihood of fuel switching by consumers of electricity once price thresholds are reached.</p>				
Assumptions included in establishing the parameter values in this sheet	Year	Expected price increase (nominal)	Cumulative price increase (nominal)	Expected demand response	Assumed Price responsiveness
	2008/09	32% (actual)	32%		
	2009/10	20-25%	58-65%	0,25%	0,01-0,0125
	2010/11	20-25%	90-106%	0,30%	0,012-0,015
	2011/12	20-25%	128-158%	0,35%	0,014-0,0175
	2012/13	20-25%	174-222%	0,40%	0,016-0,02
	2013/14	20-25%	228-303%	0,45%	0,018-0,0225
	2014/15	20-25%	294-404%	0,50%	0,02-0,025



Parameter Value	PEoD 0.002 – ie for every 100% increase in price 0.2 % decrease in demand. Based on 2007 initial forecasts.
Range of Parameter Value	The range of studies indicates the variation of elasticities to be between 0.1 and 0.002
Preconditions necessary to make possible for this parameter to be included in the IRP	<ul style="list-style-type: none">• Range of elasticities to run scenarios against to see impact of price on demand• Key variable for determining demand profile – wide range of opinion but lack of conclusive study• Determining the period over which the impact of pricing changes are reflected in demand reductions.
Parameter Owner	National Treasury