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June 27, 2007

MEMORANDUM

TO: Power Committee

FROM: Terry Morlan

SUBJECT: Proposed Revision of Council Fuel Price Forecasts

One of the action items coming out of the Biennial Monitoring Report was to update the Council's forecasts of fuel prices. Staff has developed a proposed revision of the fuel price forecasts. We will present the revised forecasts to the Power Committee and summarize for the Council. We are hoping for the Council's approval to seek public comment on the revised forecasts.

The forecasts are not available for this packet because the Natural Gas Advisory Committee (NGAC) is meeting the day before the packet is sent and may have revisions to recommend. A paper describing the forecasts will be sent to you before the Council meeting.

Forecasts by other organizations that specialize in fuel market analysis have been revised upward significantly since the Council's Fifth Power Plan. The Council has relied on such organizations to inform our range of forecasts in the past. Our proposed revisions are informed by looking at other forecasts available to the general public.

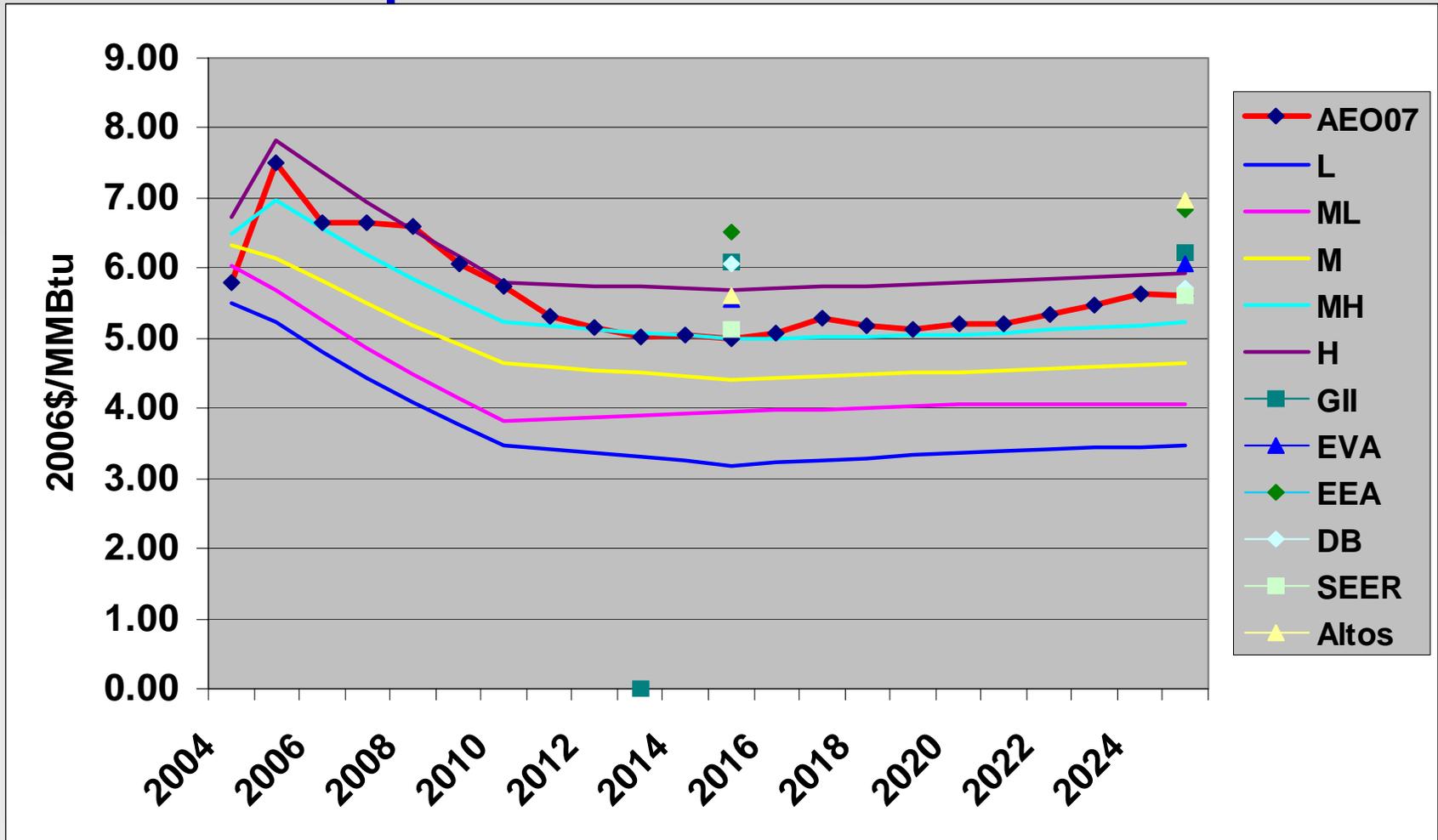
The historical prices and the models used to develop the fuel price forecasts have all been updated and enhanced as the first step in revising the fuel price forecast. The most significant forecast revision, in terms of size, is to oil prices. The revised range lies mostly above the whole range of the Fifth Power Plan. However, oil prices have relatively little direct effect on the region's electricity market. Natural gas prices have a greater effect on electricity markets and the forecast of natural gas prices has been raised, but less significantly than oil. The revised medium forecast of natural gas prices is about equal to the medium-high forecast in the Fifth Plan. The high forecast is \$2.50 per million Btu higher (about 40 percent) than the high case in the Fifth Plan. However, these proposals may change as a result of advice from the NGAC.

The revised forecasts assume that coal prices will grow modestly in the medium case, whereas in the Fifth Plan they were assumed to be constant in constant dollars. Delivered coal prices will now reflect diesel fuel costs and shipping distances.

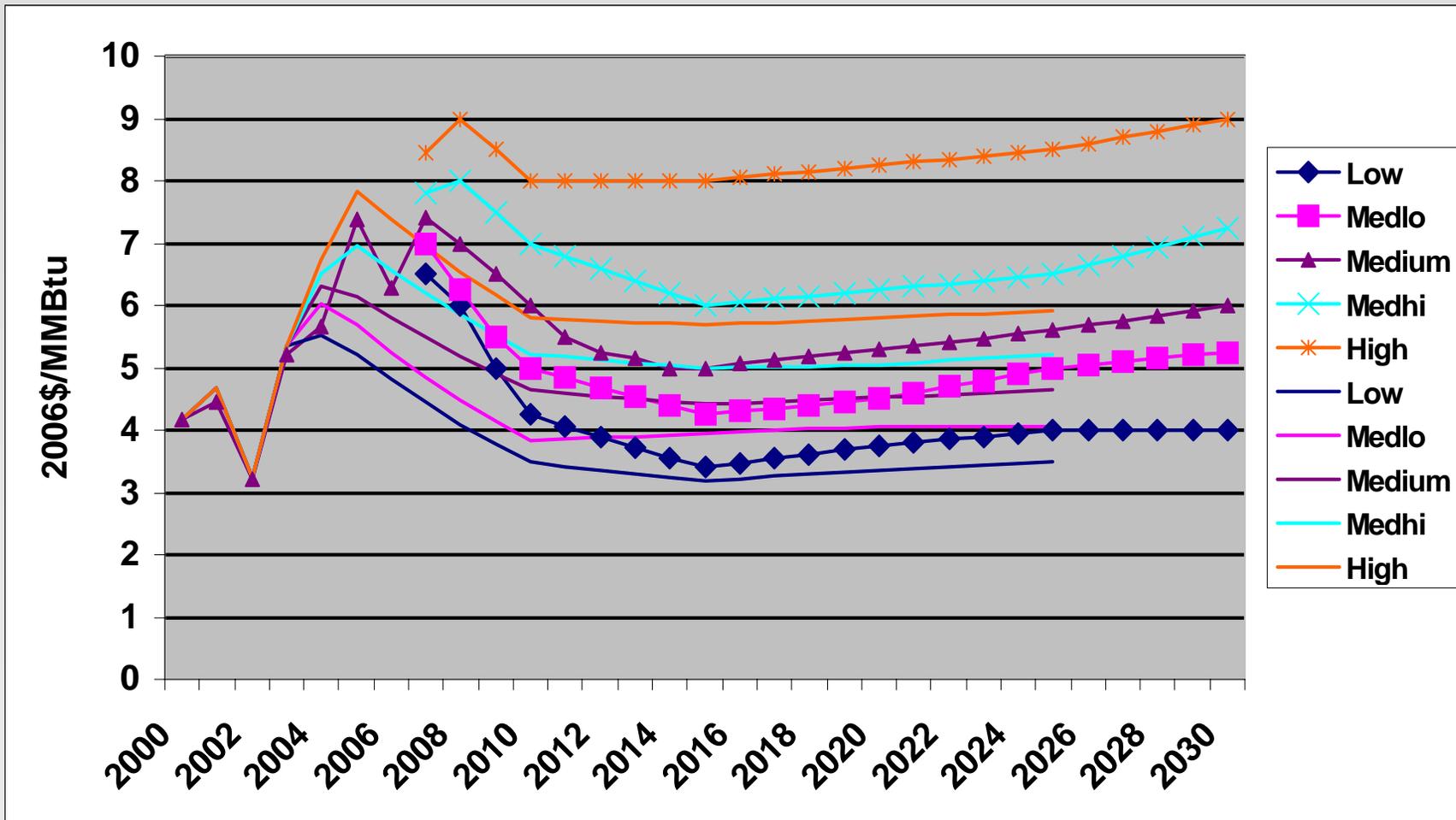
Draft Revisions to Council's Fuel Price Forecasts

Northwest Power and Conservation Council
Power Committee
July 11, 2007

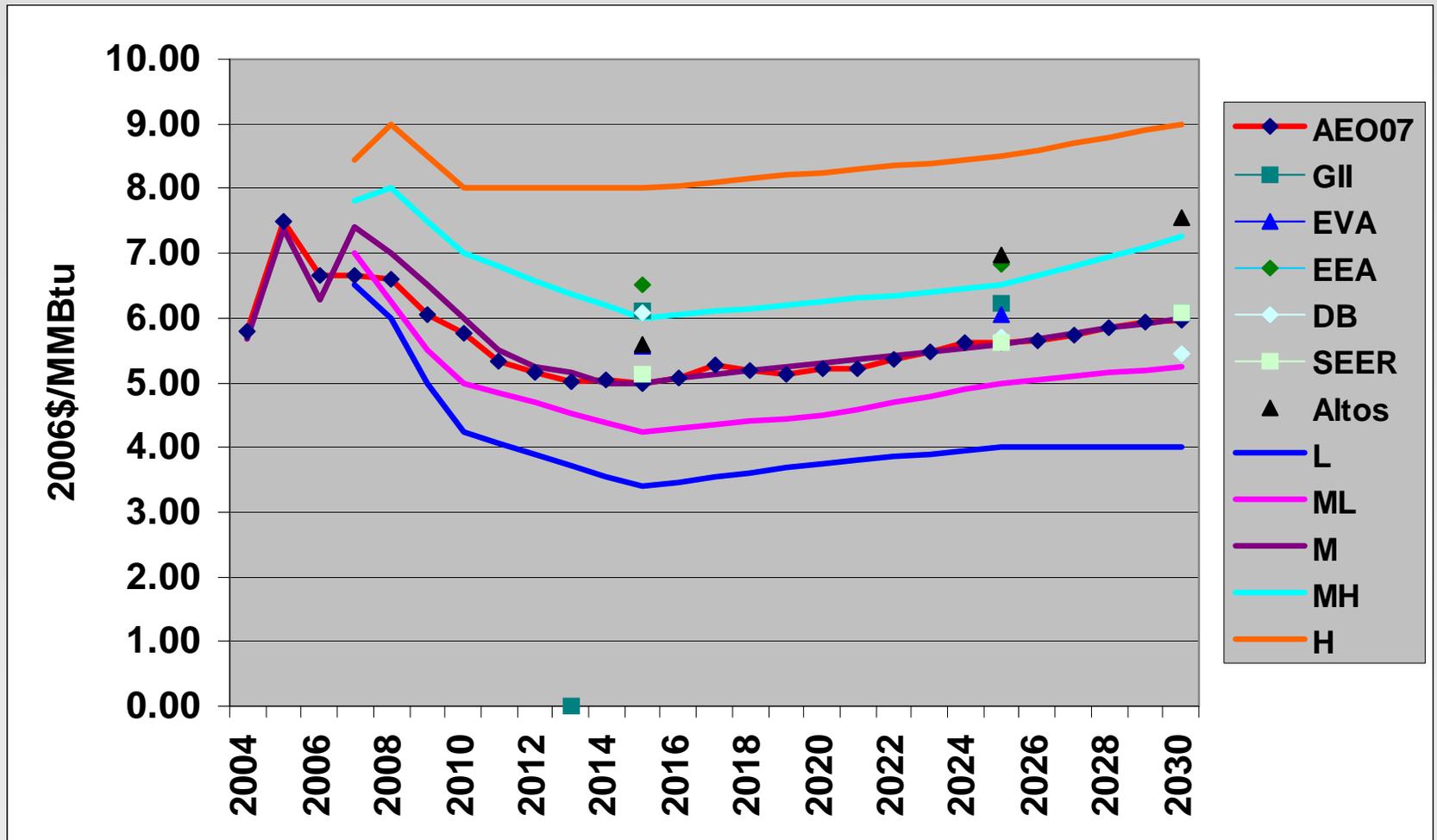
5th Plan Natural Gas Price Compared to More Recent



5th Plan Natural Gas and Draft Revision



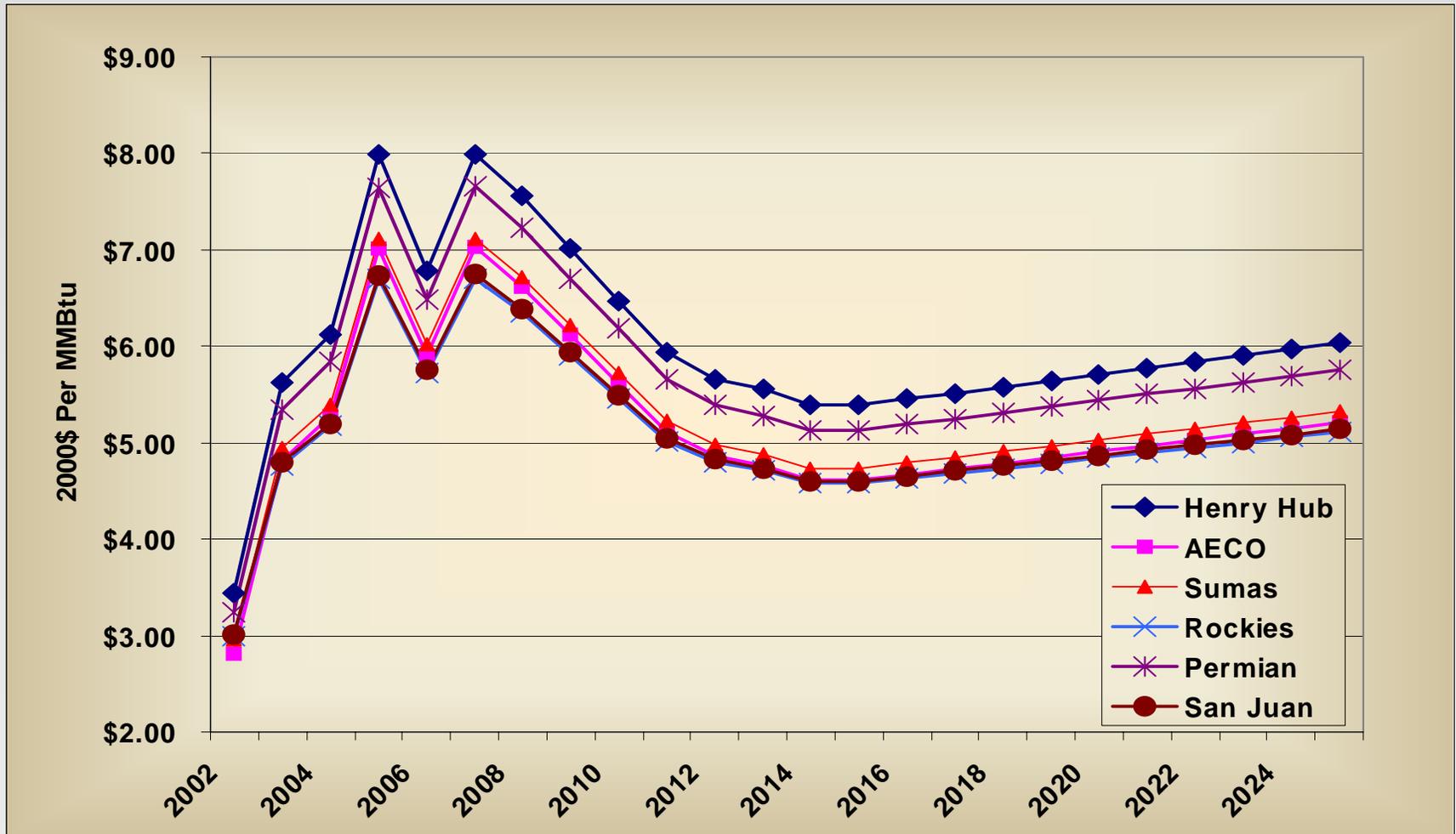
Revised Natural Gas Price Forecast Compared to Others



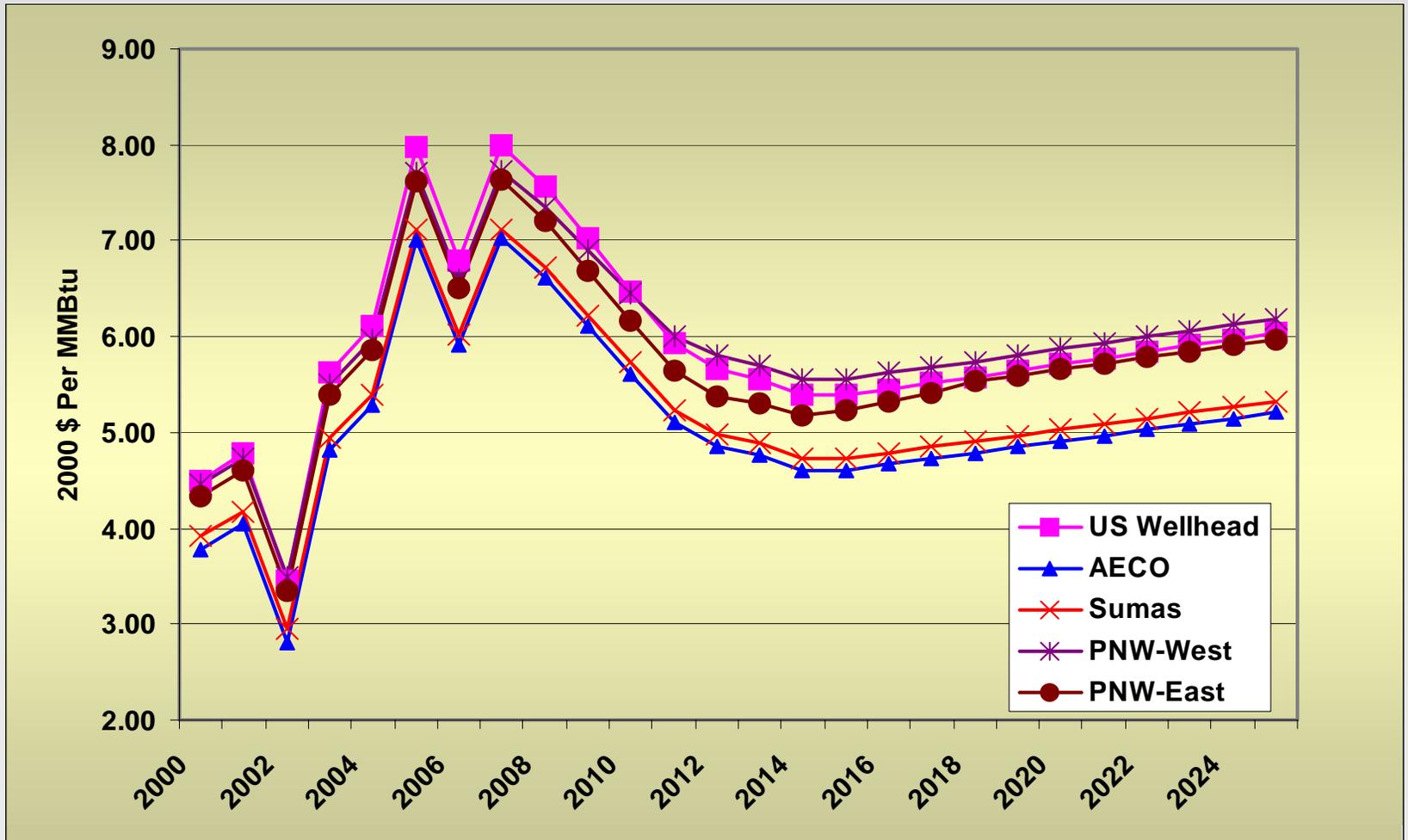
Natural Gas Price (2006\$/MMBtu)

	Low	Medium Low	Medium	Medium High	High
2006			6.29		
2010	4.25	5.00	6.00	7.00	8.00
2015	3.40	4.25	5.00	6.00	8.00
2020	3.75	4.50	5.30	6.25	8.25
2025	4.00	5.00	5.60	6.50	8.50
2030	4.00	5.25	6.00	7.25	9.00
Growth Rates					
2006 - 15	-6.61%	-4.26%	-2.52%	-0.52%	2.71%
2006 - 30	-1.87%	-0.75%	-0.20%	0.59%	1.50%

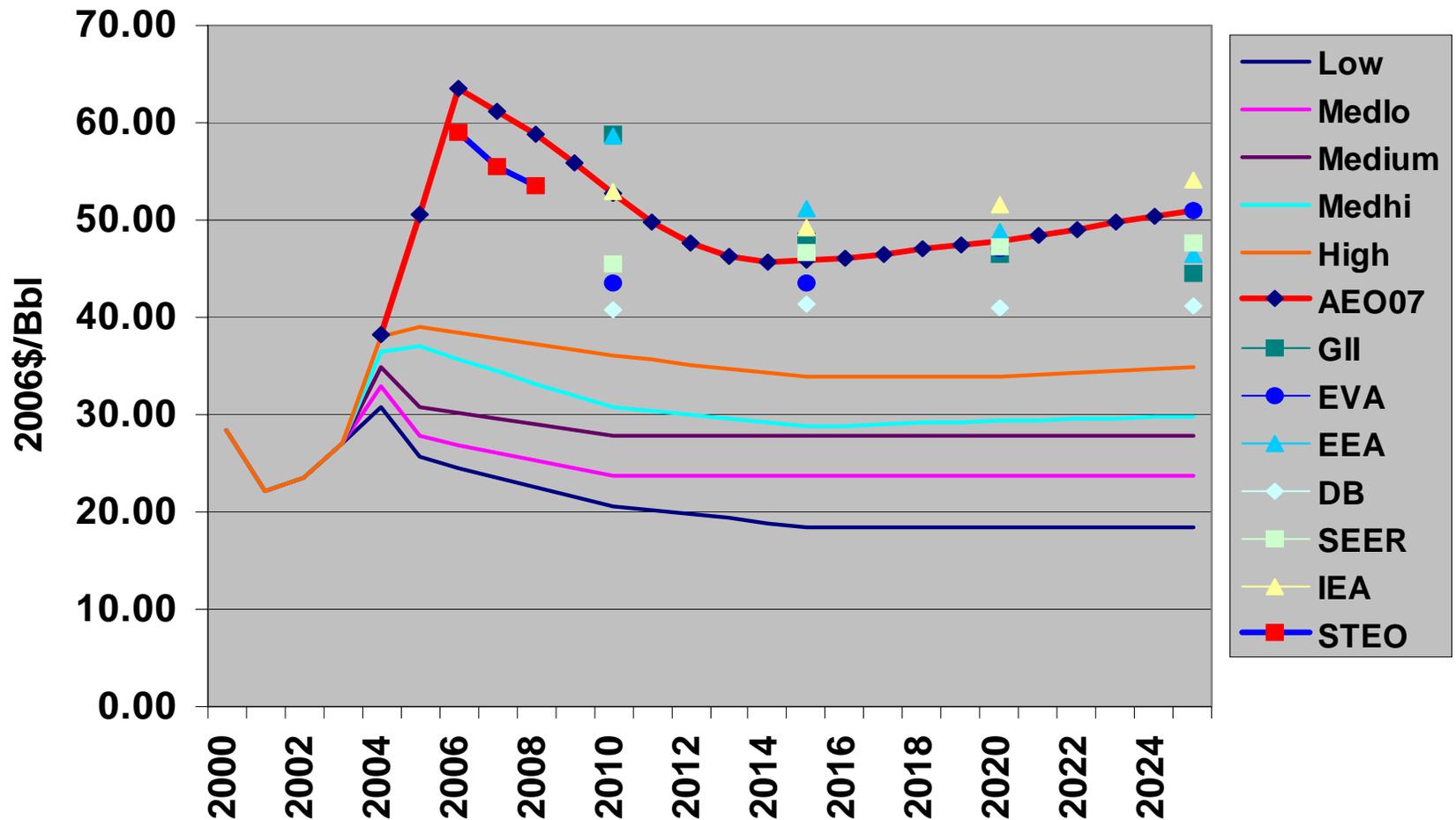
Western Natural Gas Prices



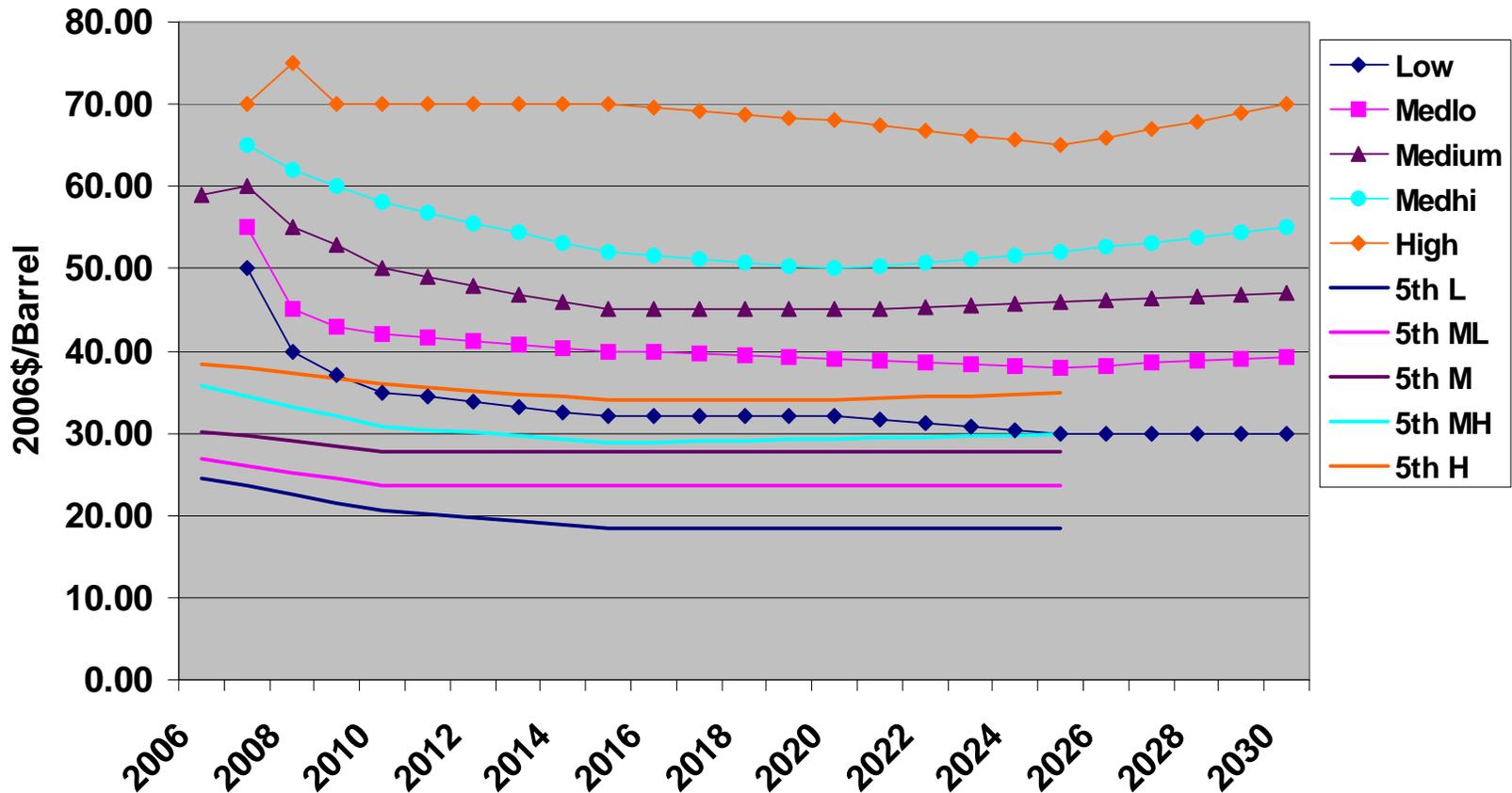
Natural Gas Prices to PNW



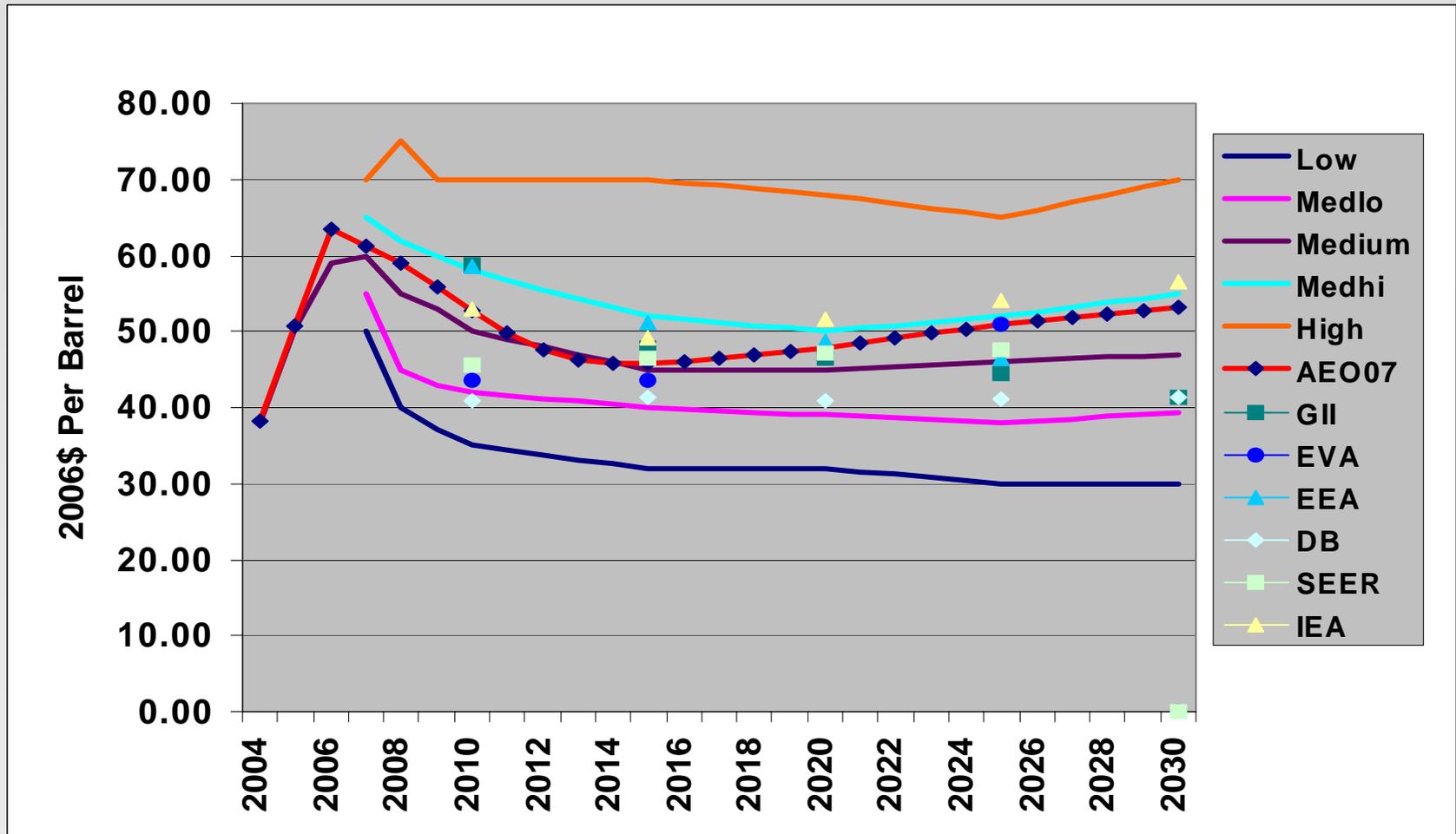
5th Plan Oil Price Range Compared to Recent Forecasts



Draft Revision of Oil Price Forecast



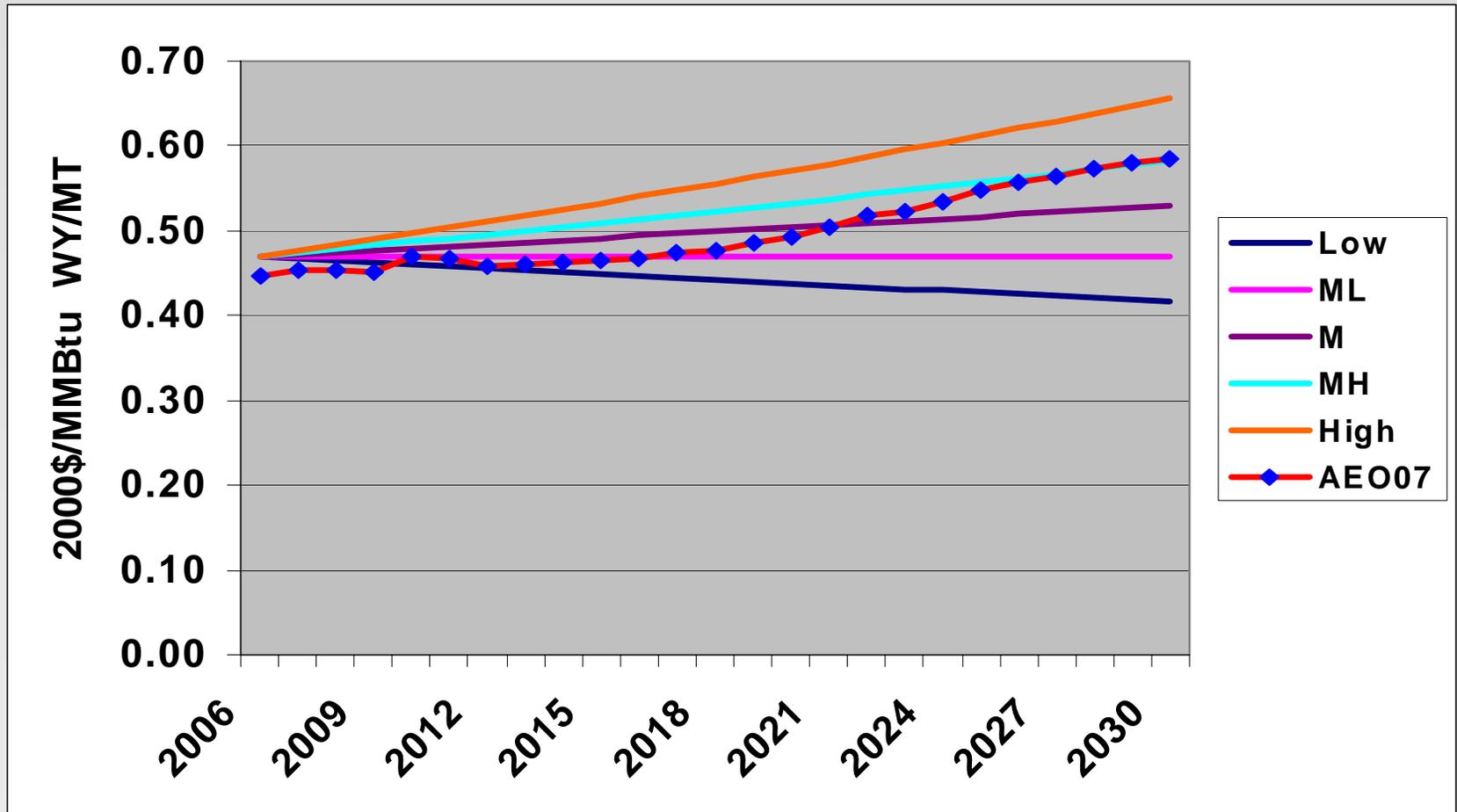
Revised Oil Price Forecast Compared to Other Recent Forecasts



World Oil Price (2006\$/Barrel)

	Low	Medium Low	Medium	Medium High	High
2006			59.01		
2010	35.00	42.00	50.00	58.00	70.00
2015	32.00	40.00	45.00	52.00	70.00
2020	32.00	39.00	45.00	50.00	68.00
2025	30.00	38.00	46.00	52.00	65.00
2030	30.00	39.30	47.00	55.00	70.00
Growth Rates					
2006 - 15	-6.57%	-4.23%	-2.97%	-1.40%	1.92%
2006 - 30	-2.78%	-1.68%	-0.94%	-0.29%	0.71%

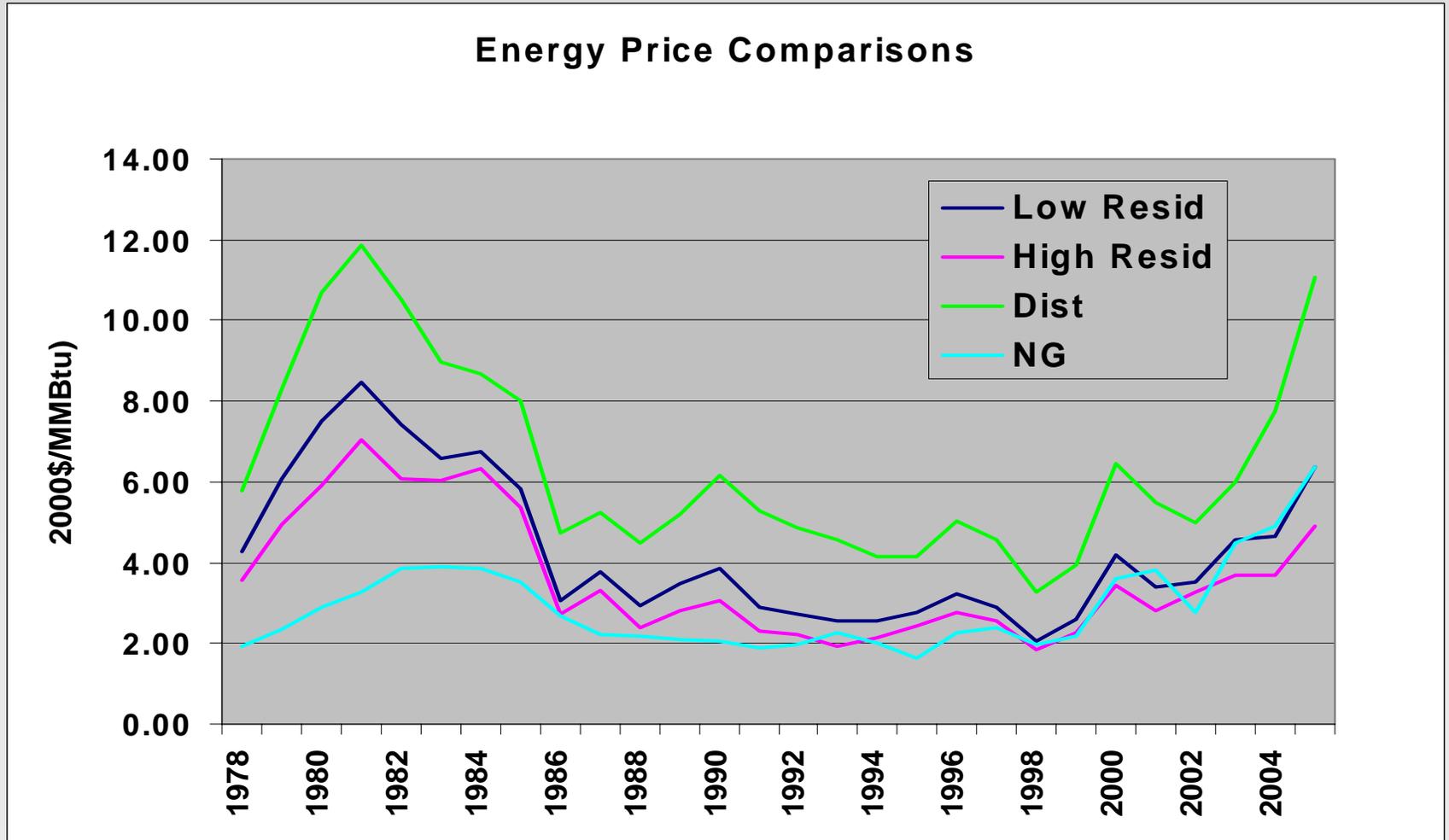
Revised Coal Price Forecast Compared to AEO 2007



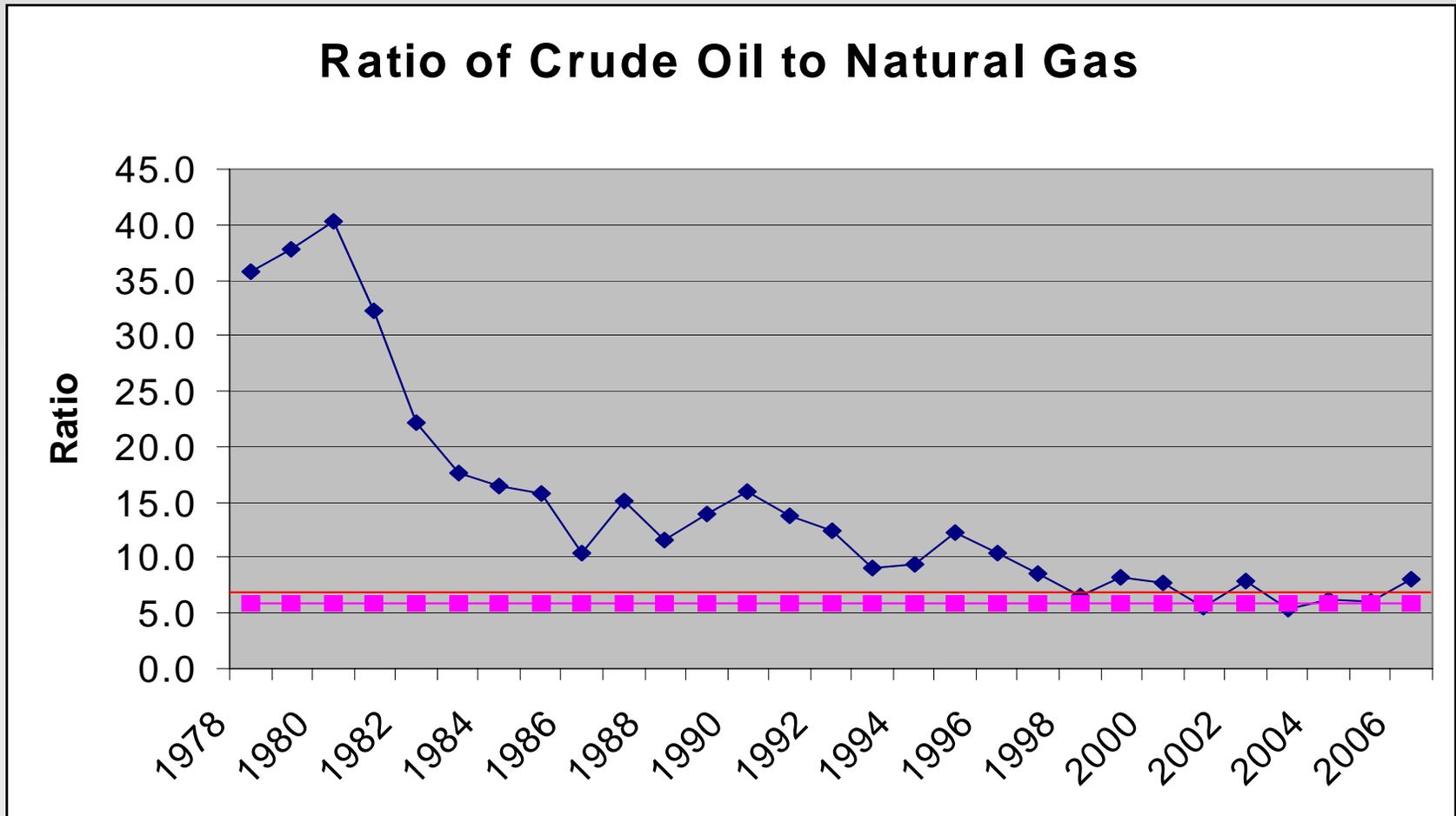
Coal Price Forecast Range and Assumed Growth Rates

	Low	MediumLow	Medium	MediumHigh	High
2006			0.47		
2010	0.46	0.47	0.48	0.49	0.50
2015	0.45	0.47	0.49	0.51	0.53
2020	0.44	0.47	0.50	0.53	0.57
2025	0.43	0.47	0.52	0.56	0.61
2030	0.42	0.47	0.53	0.58	0.66
Growth Rates					
2006 - 15	-0.50%	0.00%	0.50%	0.90%	1.40%
2006 - 30	-0.50%	0.00%	0.50%	0.90%	1.40%

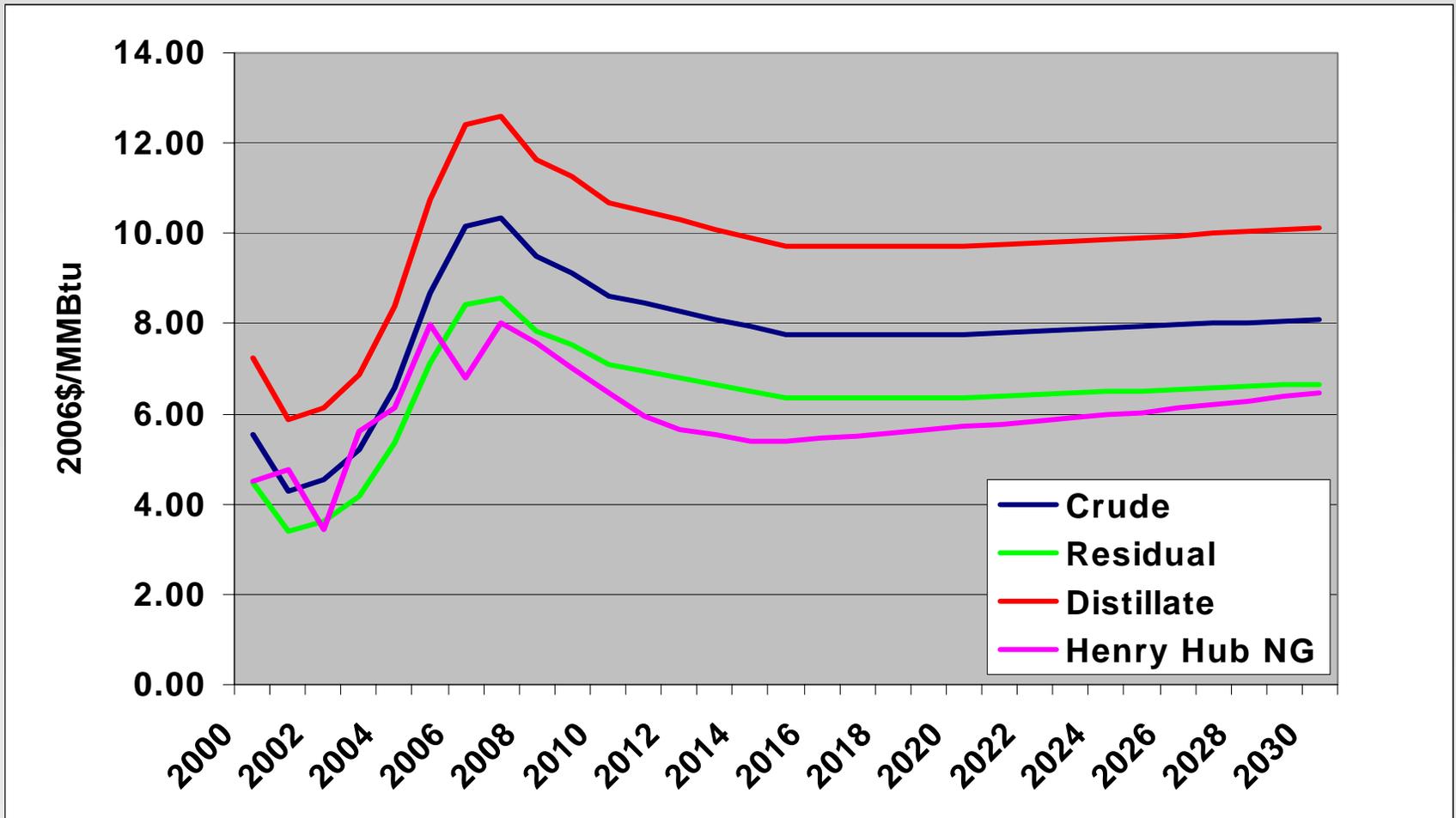
Historical Comparative Prices



Ratio of Real Crude Price Per Barrel to Wellhead NG Price Per MMBtu



Oil and Natural Gas Prices



Ratio of Oil to Natural Gas Prices

