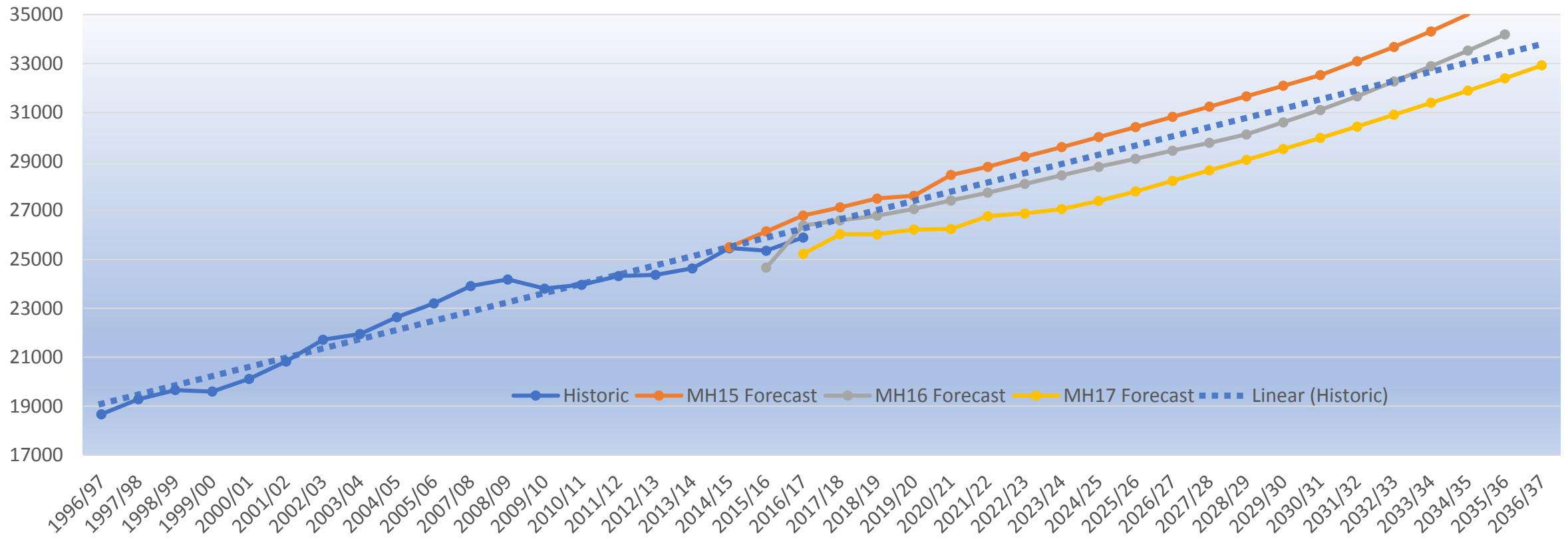


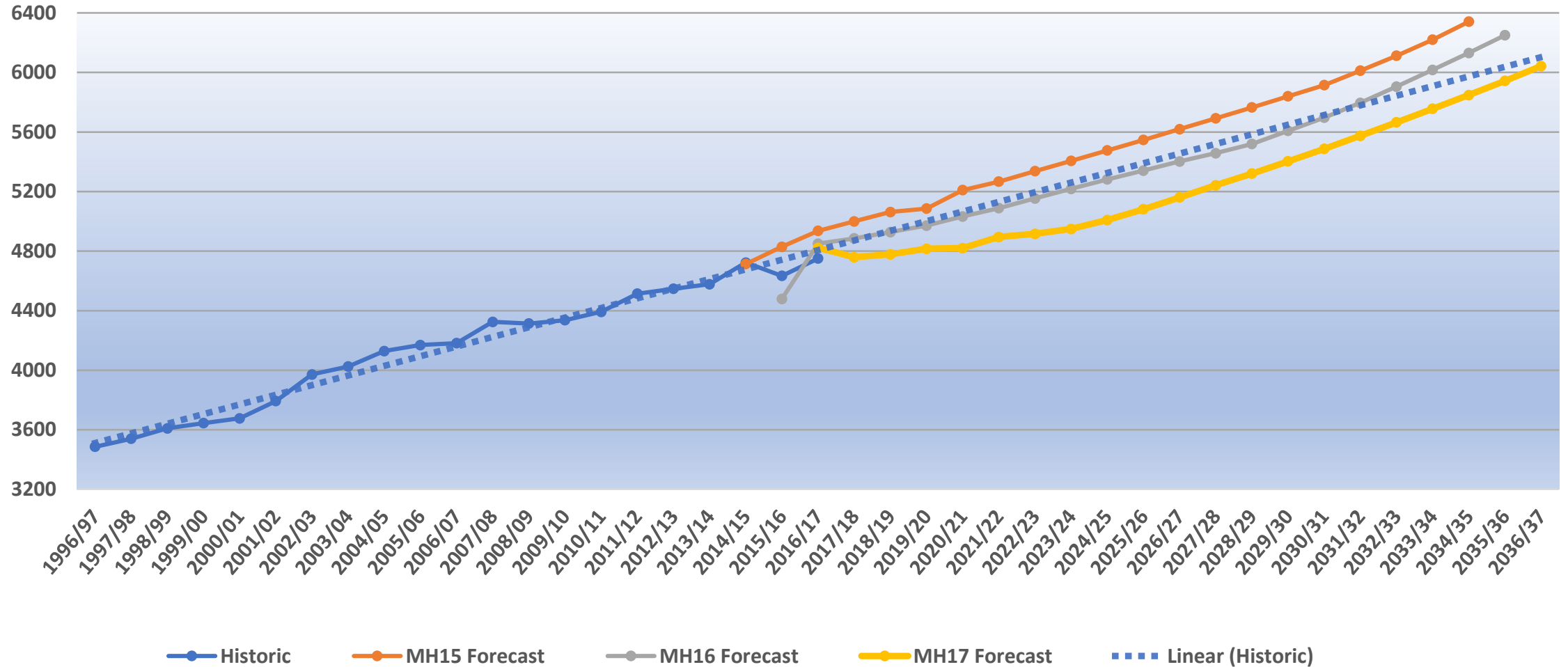
# LOAD FORECASTING AND DEMAND SIDE MANAGEMENT

**Dr. Garland Laliberte**  
**Bipole III Coalition**

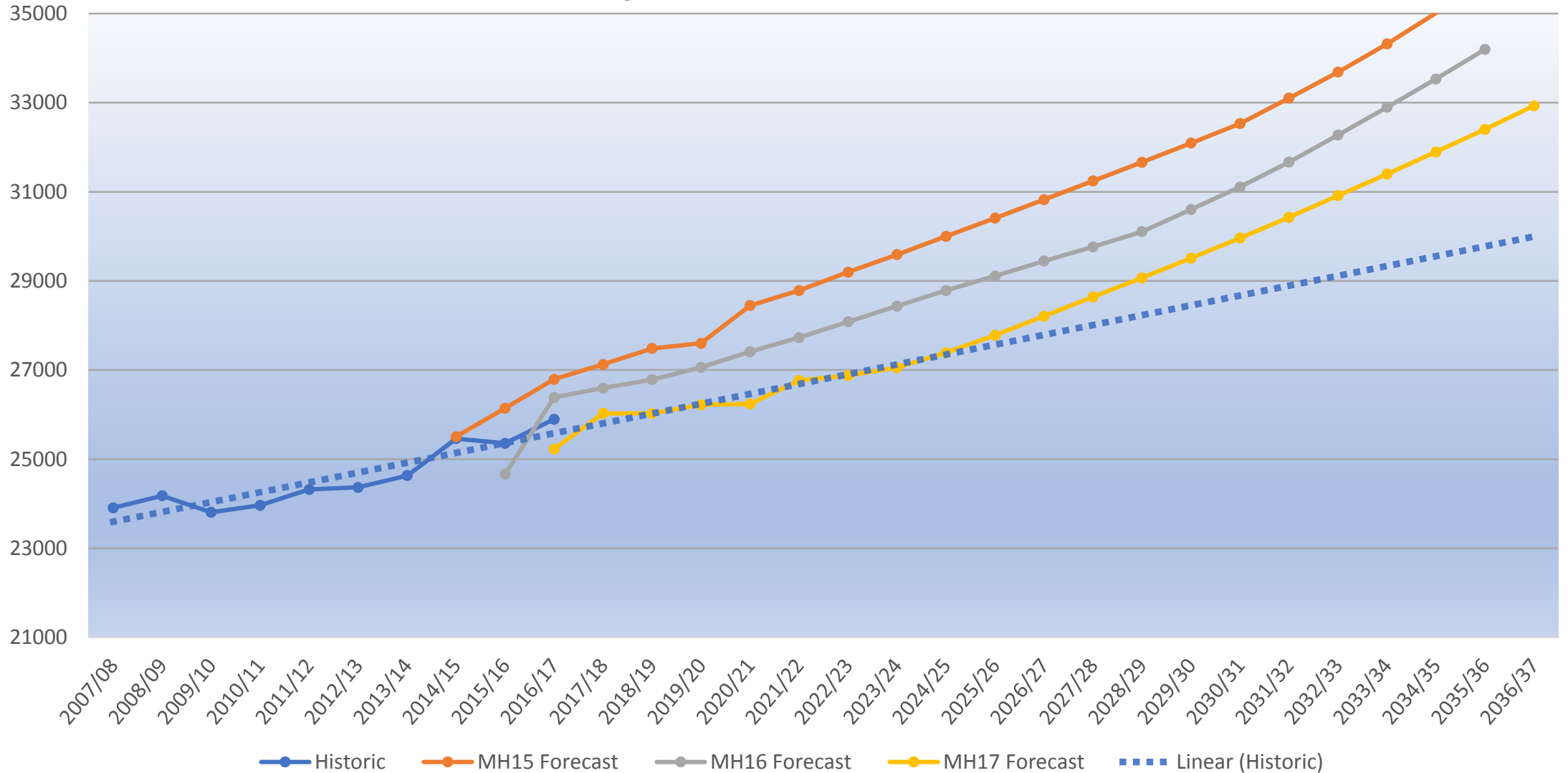
# Weather-Adjusted Historic and Forecast Gross Firm Energy before DSM, projected from 20-year historic data, GWh



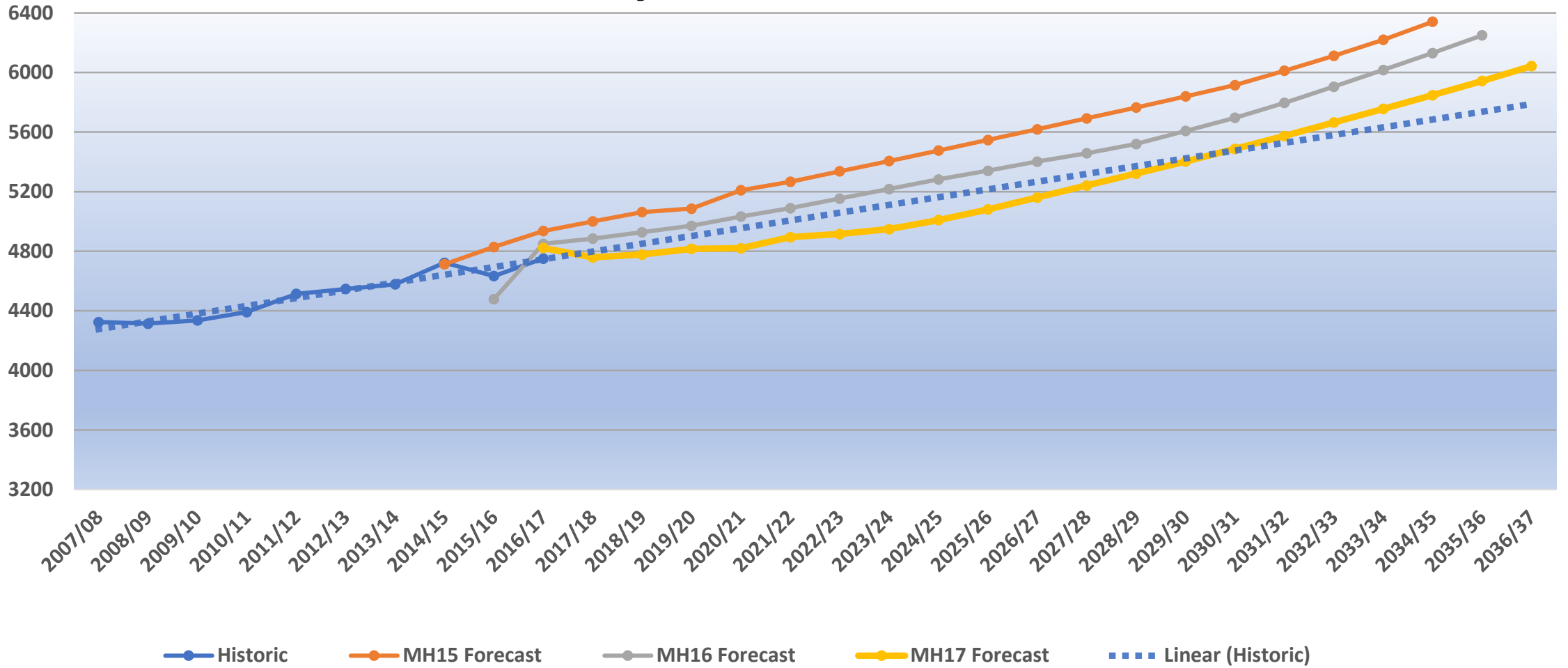
# Weather-Adjusted Historic and Forecast Gross Total Peak before DSM, projected from 20-year historic data, MW



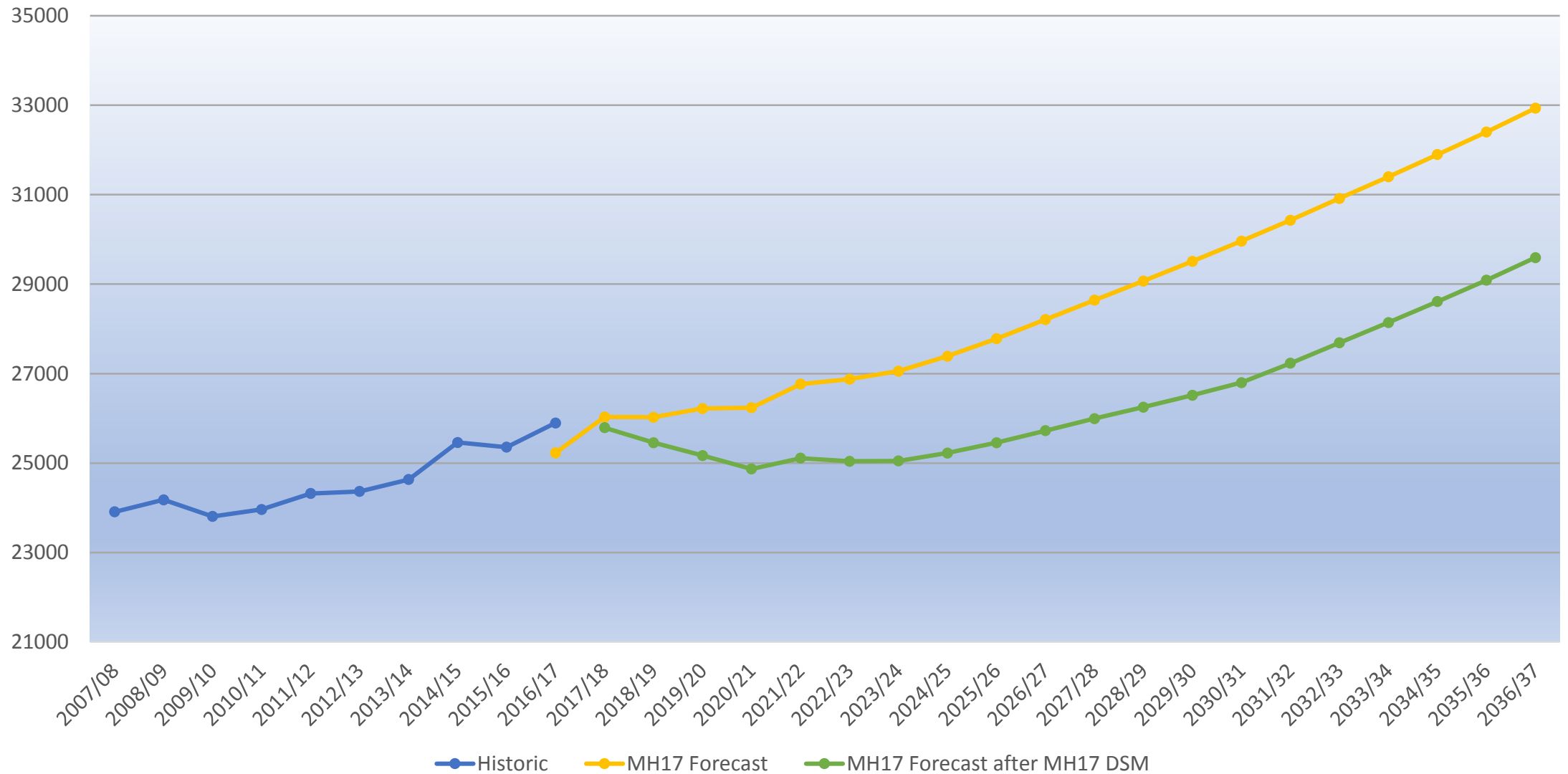
# Weather-Adjusted Historic and Forecast Gross Firm Energy before DSM, projected from 10-year historic data, GWh



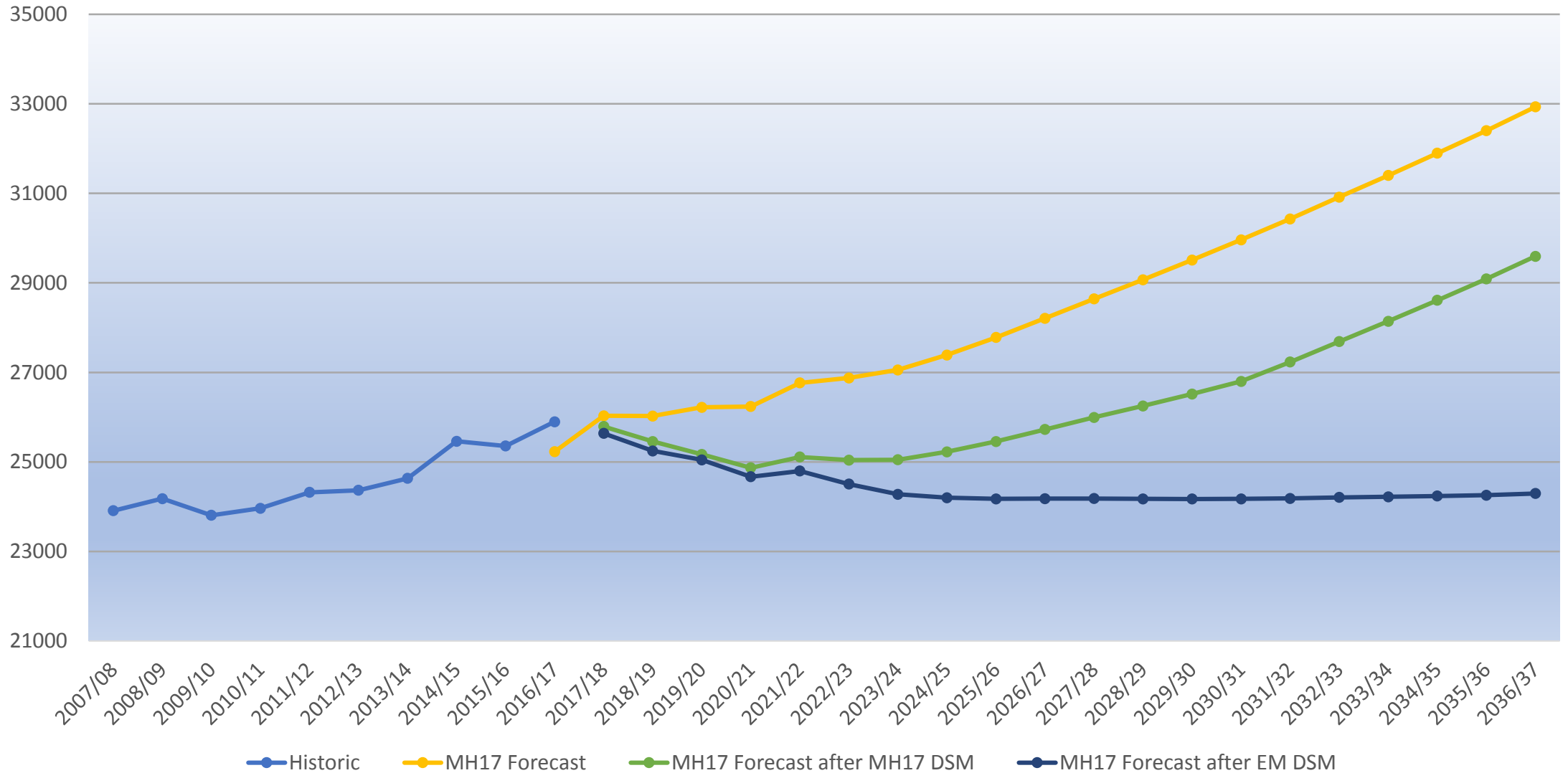
# Weather-Adjusted Historic and Forecast Gross Total Peak before DSM, projected from 10-year historic data, MW



# Weather-Adjusted Historic and Forecast Gross Firm Energy before and after DSM, GWh



# Weather-Adjusted Historic and Forecast Gross Firm Energy before and after DSM, GWh



# Twenty-year Financial Impacts on Domestic Revenue

Over-forecasting	\$2.3B
Efficiency Manitoba DSM	<u>\$5.1B</u>
Total	\$7.4B



# Weather-Adjusted Historic and Forecast Gross Total Peak before and after DSM, MW

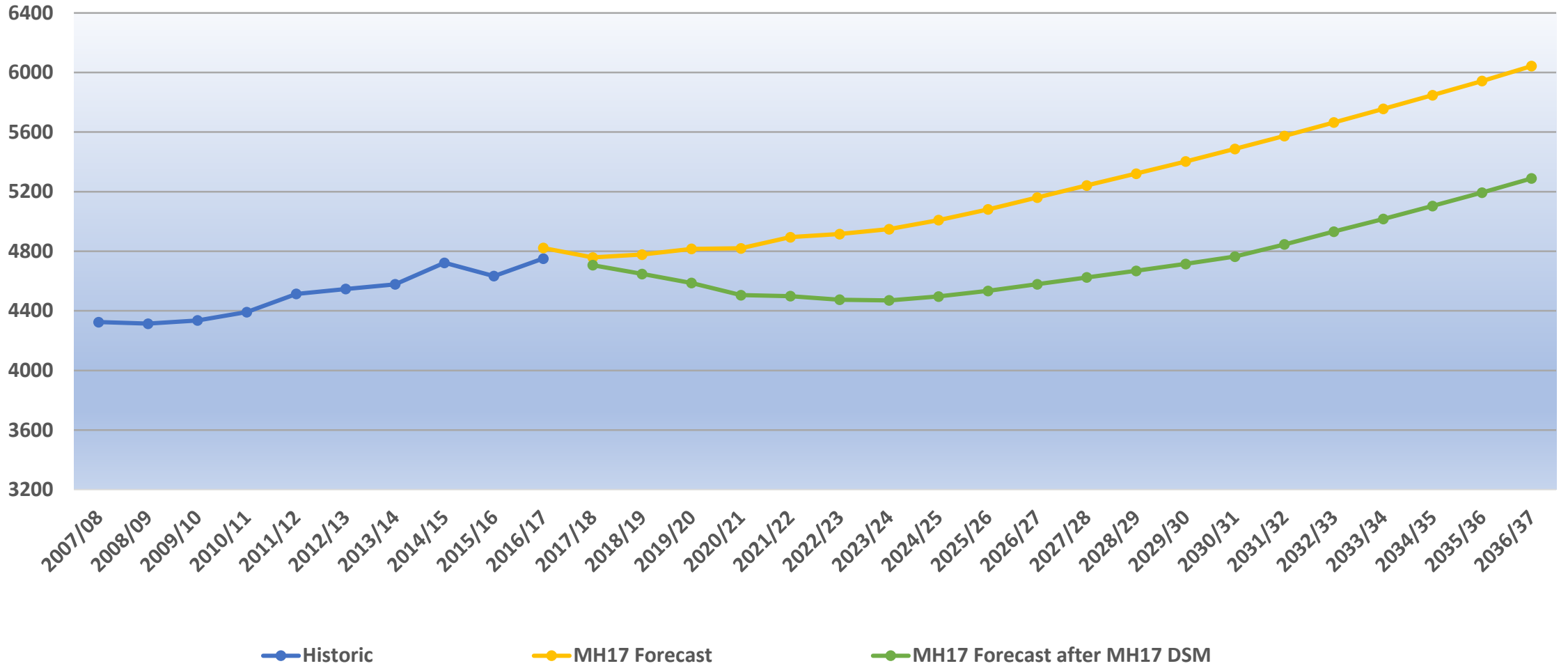


Figure 22 - Energy Accuracy

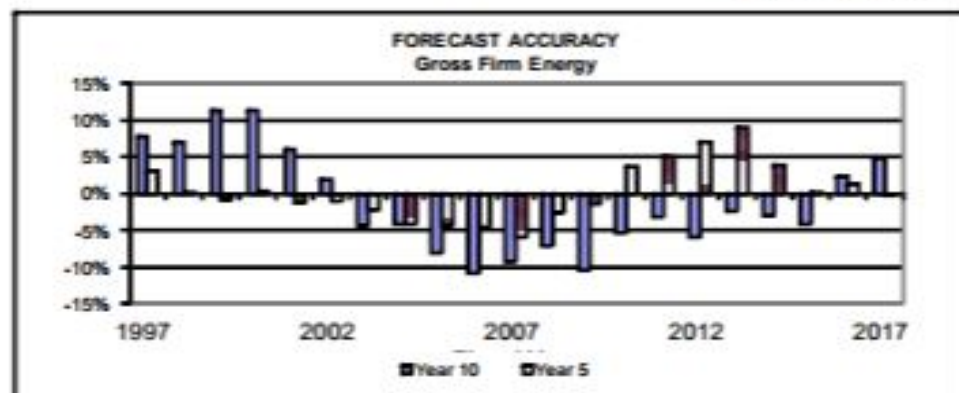
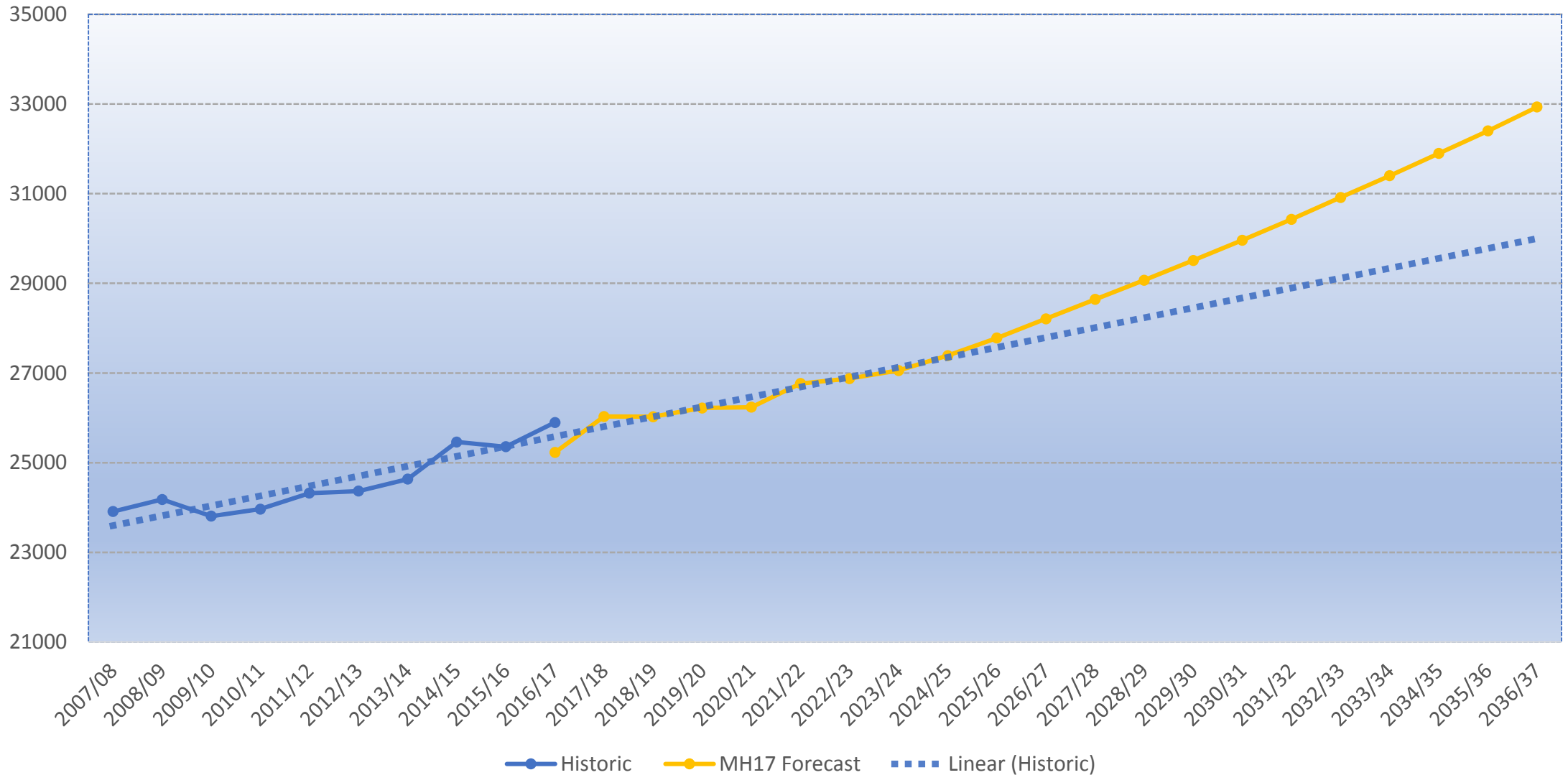


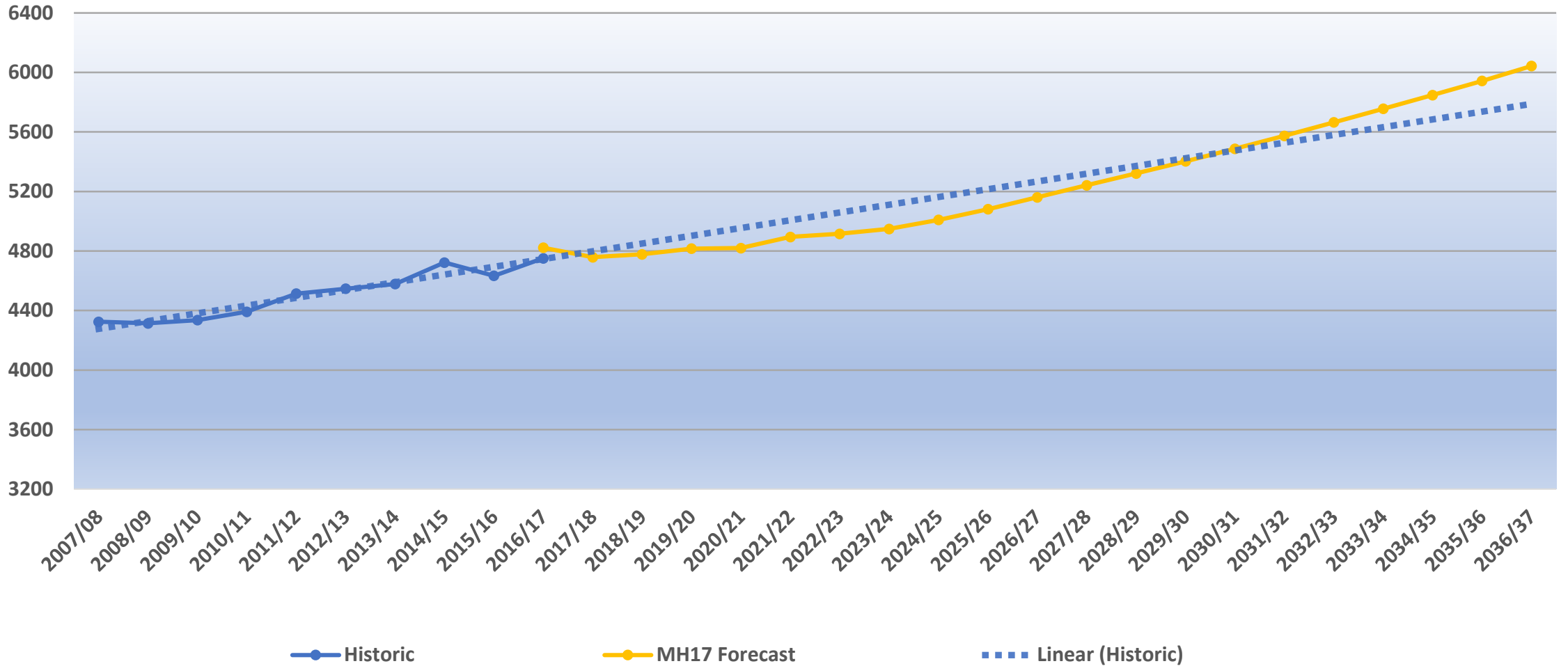
Table 35 - Energy Accuracy

Fiscal Year	Actual Gross Firm Energy	Forecast Prepared 5 Years Previous	W.A. Gross Firm Energy	5 Year Percent Accuracy	Forecast Prepared 10 Years Previous	W.A. Gross Firm Energy	10 Year Percent Accuracy
1996/97	19,321	19,395	18,810	3.1%	20,174	18,716	7.8%
1997/98	19,014	19,455	19,429	0.1%	20,661	19,320	6.9%
1998/99	19,273	19,675	19,818	-0.7%	21,919	19,708	11.2%
1999/00	18,971	19,767	19,703	0.3%	21,833	19,629	11.2%
2000/01	20,262	20,018	20,241	-1.1%	21,300	20,103	6.0%
2001/02	20,656	20,783	20,980	-0.9%	21,364	20,979	1.8%
2002/03	22,110	21,395	21,861	-2.1%	20,916	21,868	-4.4%
2003/04	22,069	21,134	22,062	-4.2%	21,191	22,107	-4.1%
2004/05	22,589	21,693	22,664	-4.3%	20,870	22,714	-8.1%
2005/06	22,757	22,216	23,277	-4.6%	20,812	23,346	-10.9%
2006/07	23,464	22,107	23,489	-5.9%	21,395	23,595	-9.3%
2007/08	24,122	23,353	23,962	-2.5%	22,328	24,034	-7.1%
2008/09	24,417	23,926	24,259	-1.4%	21,756	24,320	-10.5%
2009/10	23,412	24,734	23,850	3.7%	22,611	23,892	-5.4%
2010/11	23,892	25,239	24,020	5.1%	23,299	24,071	-3.2%
2011/12	23,605	25,909	24,202	7.1%	22,924	24,376	-6.0%
2012/13	24,750	26,464	24,270	9.0%	23,844	24,433	-2.4%
2013/14	25,625	25,510	24,538	4.0%	23,936	24,696	-3.1%
2014/15	25,505	25,491	25,469	0.1%	24,455	25,508	-4.1%
2015/16	24,665	25,707	25,366	1.3%	25,999	25,405	2.3%
2016/17	25,227	25,902	25,936	-0.1%	26,984	25,747	4.8%

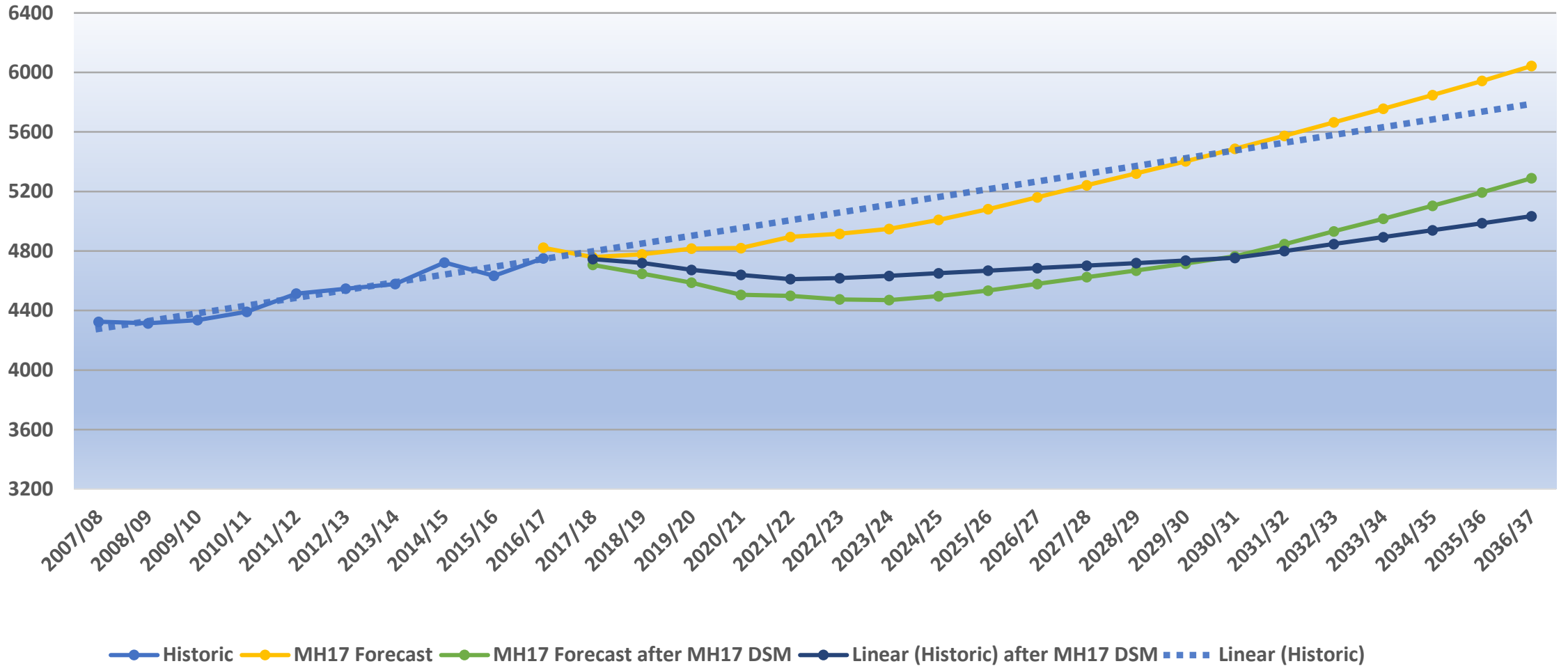
# Weather-Adjusted Historic and Forecast Gross Firm Energy before DSM, GWh



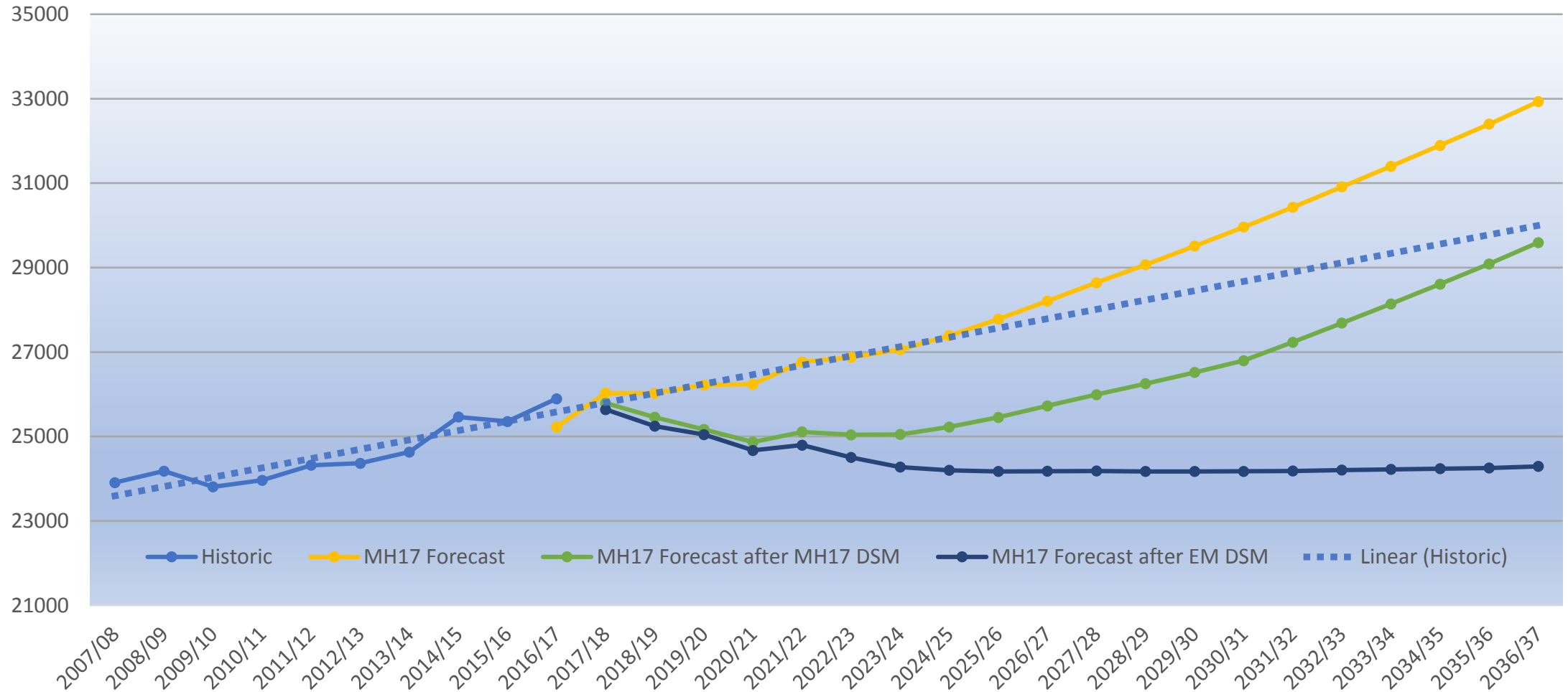
# Weather-Adjusted Historic and Forecast Gross Total Peak before DSM, MW



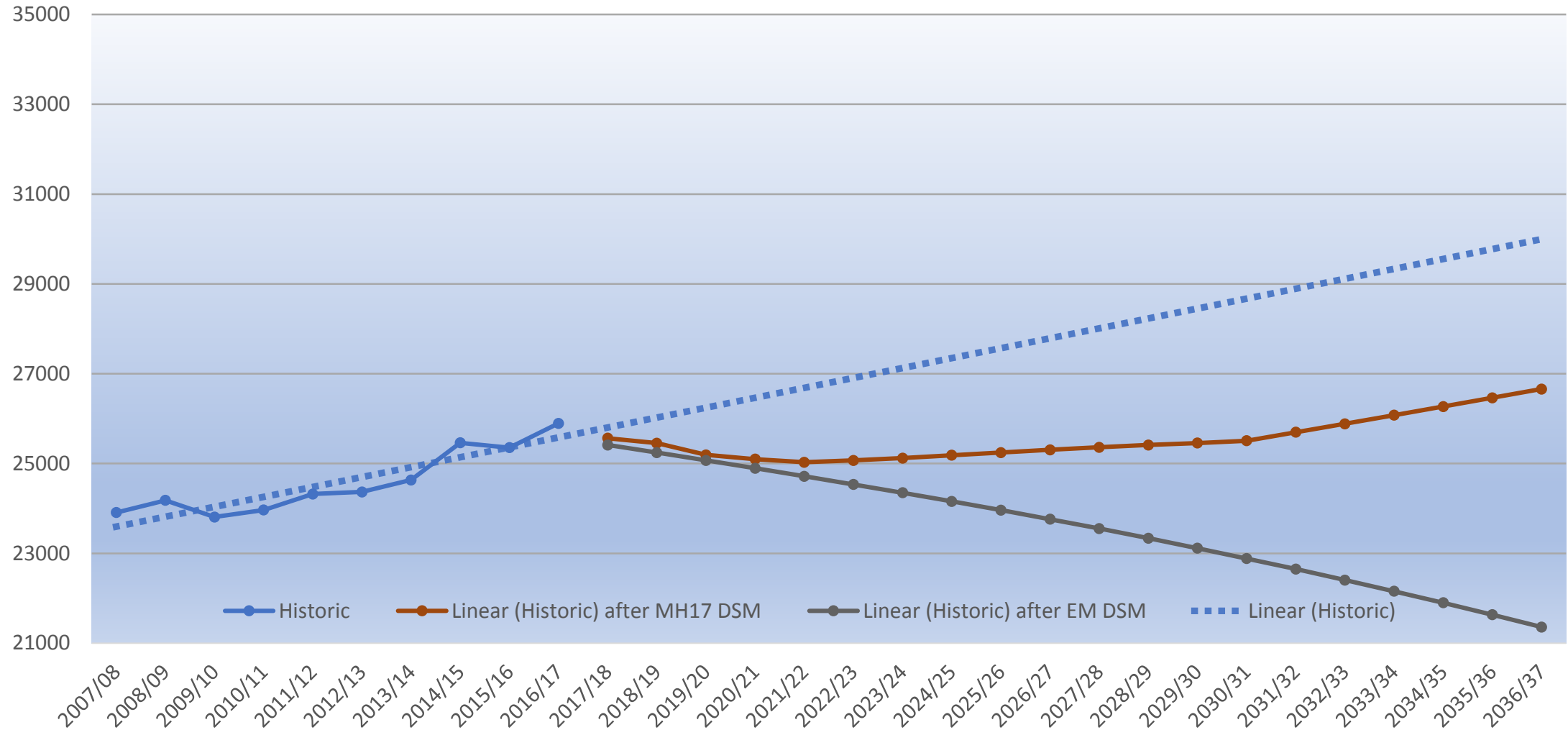
# Weather-Adjusted Historic and Forecast Gross Total Peak before and after DSM, MW



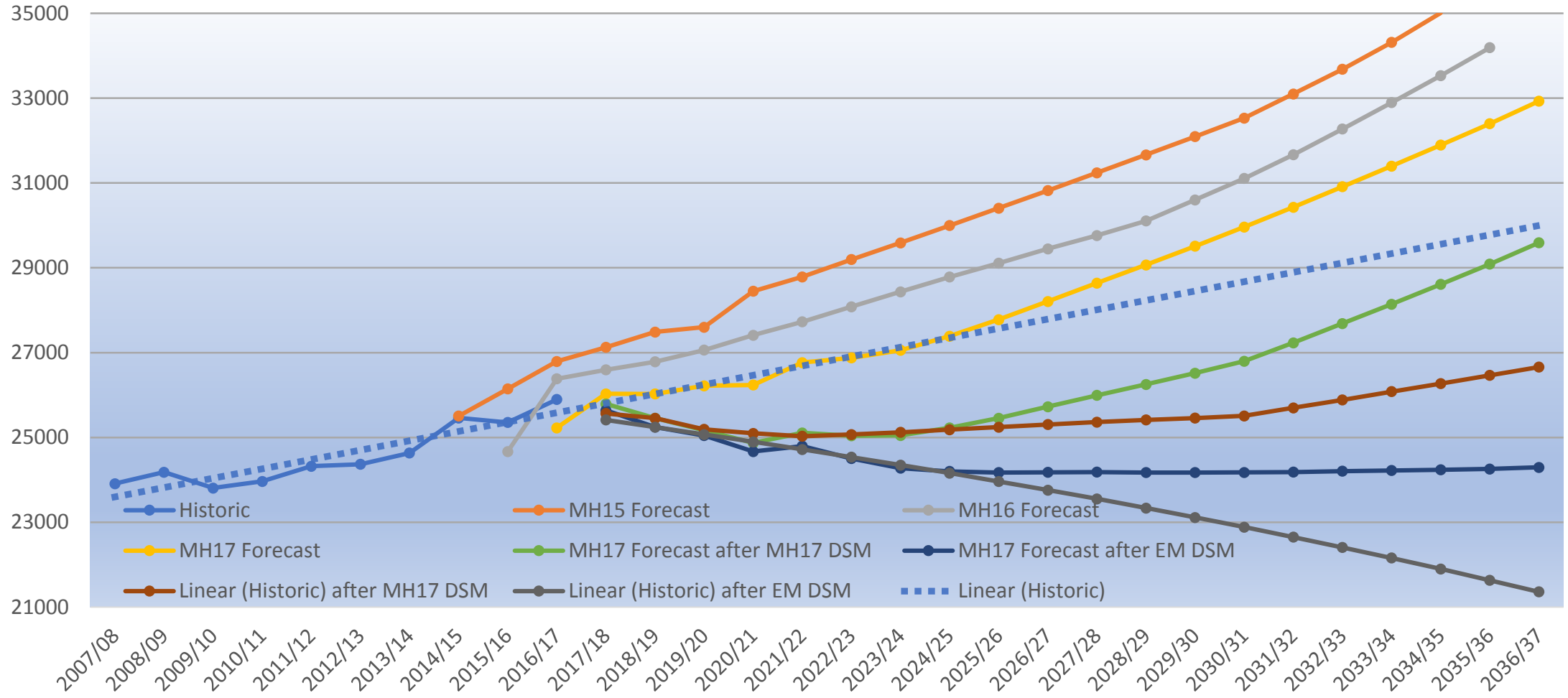
# Weather-Adjusted Historic and Forecast Gross Firm Energy before and after DSM, GWh



# Weather-Adjusted Historic and Forecast Gross Firm Energy before and after DSM, GWh

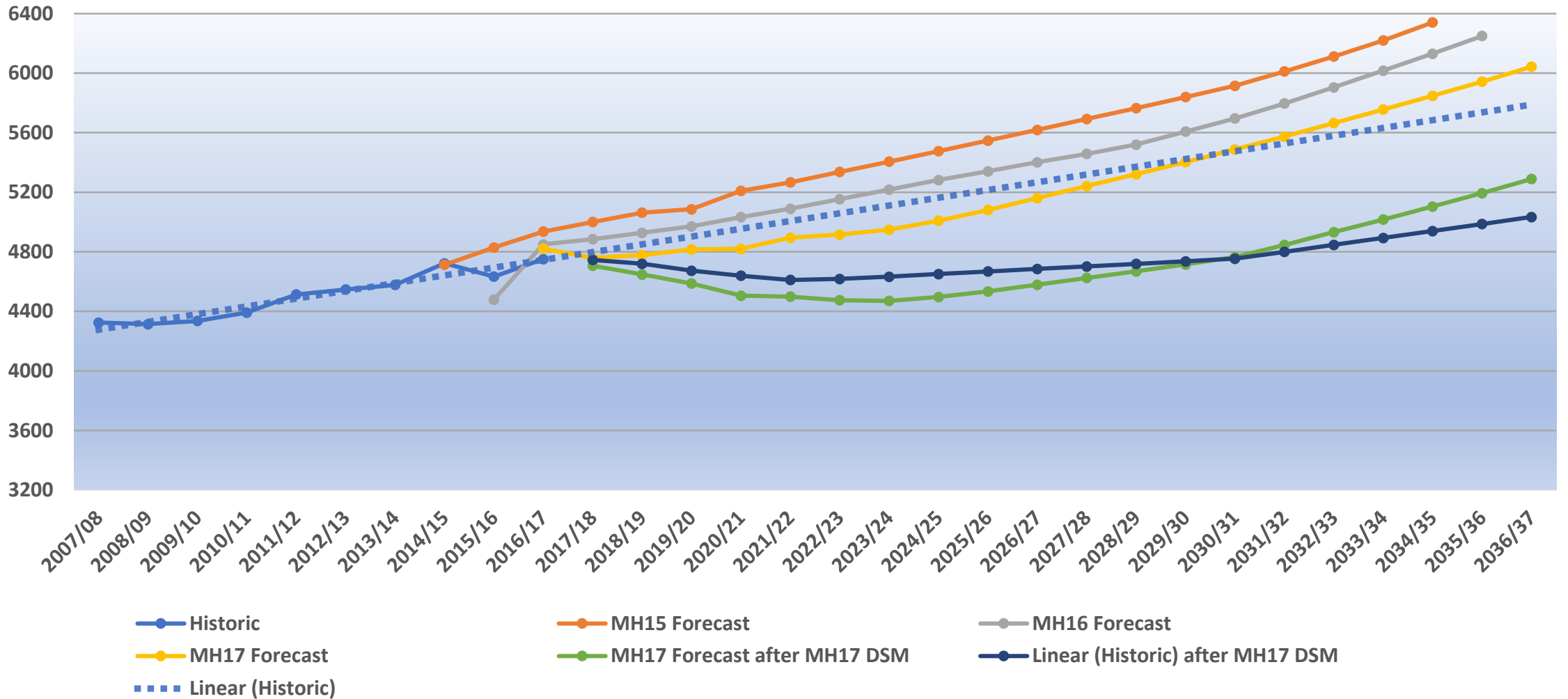


# Weather-Adjusted Historic and Forecast Gross Firm Energy before and after DSM, GWh

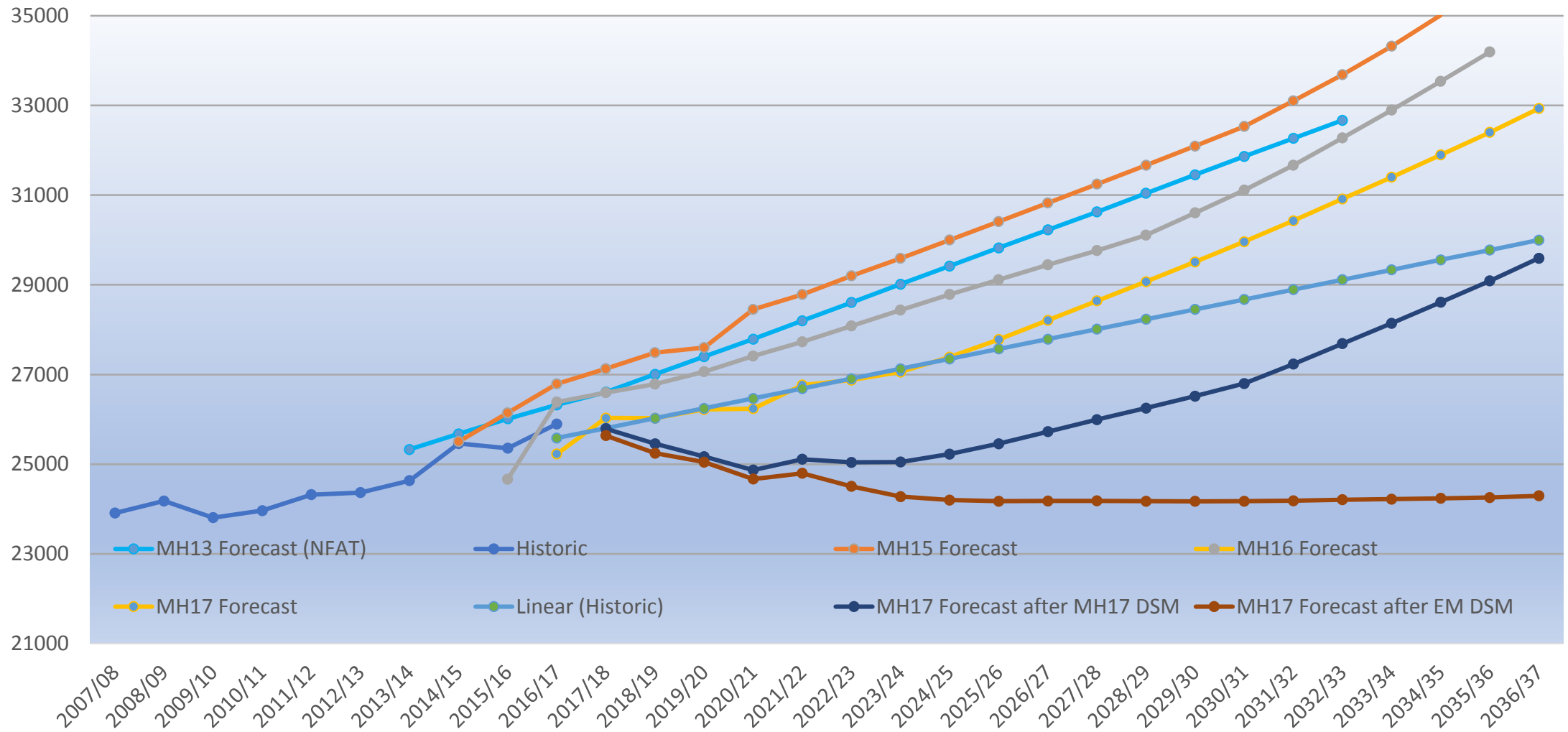




# Weather-Adjusted Historical and Forecast Gross Total Peak before and after DSM, MW



# Weather-Adjusted Historic and Forecast Gross Firm Energy before and after DSM, GWh



## **Recommendation No. 1**

**The Public Utilities Board should direct Manitoba Hydro to revise its electric load forecast downward to more adequately reflect recent historic experience, price elasticity impacts and insights into factors driving load forecasts in other North American jurisdictions for consideration in its current General Rate Application.**

## **Recommendation No. 2**

**The Public Utilities Board should direct Manitoba Hydro to conduct its own analysis of the impact on Manitoba Hydro's balance sheet of the Government's legislated plan for Demand Side Management of electric energy and to report its findings to the Public Utilities Board as part of its next General Rate Application.**