Draft Agenda

10:00 – 10:30 Introduction to adequacy assessment and load forecasting (MJ/JF)

10:30 – 12:00 Council's long-term, short-term and hybrid load forecasting models (MJ)

12:00 – 12:30 Lunch

12:30 – 2:00 Incorporating EE into the load forecasts (MJ)
Validating load forecasts

2:00 – 2:30 Open period for utilities to describe their methods (PNUCC, other?)

2:30 – 3:00 Decision on how to proceed for future adequacy assessments (MJ/JF)

Goal of this meeting

Your recommendation on

- Period we should cover
  - 1928-2015
  - 1995-2015
- Using Hourly or Daily model structure
- How to treat future efficiency
  - Embedded minus target
  - Use WN Sales forecast from LTM (hybrid)
- Uncertainty range

Load Forecasting for Resource Adequacy Analysis
(Presentation to DFAC and RAAC)

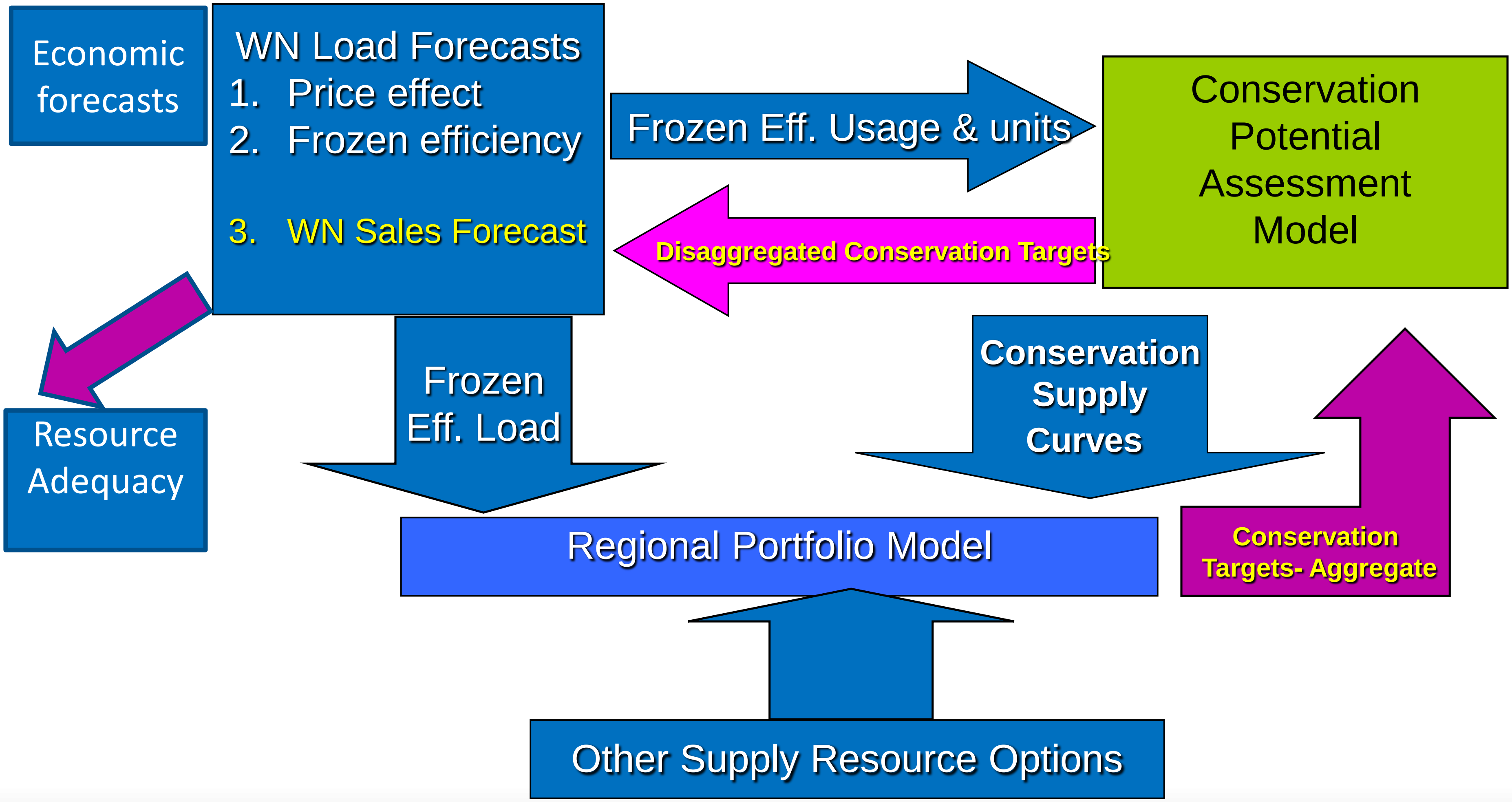
Massoud Jourabchi

November 1, 2016

What is the best way to produce Load forecast for RA?

- An overview of resource planning and load forecast modeling at Council
- Long-term model (LTM)
- Short-term model (STM)
- Test of accuracy of the models
  - What is the right metric for testing accuracy of models for RA analysis (energy/peaks)
- What is impact of weather on loads?
- What is the appropriate level of weather normalization (Annual, monthly, daily, hourly)
- Weather normalization
  - What are the implication of using an 88 year historic period or a 20 year historic period
- Treatment of Efficiency/ conservation/codes and standard for RA
  - LTM
  - STM
  - Hybrid
- What are the recommendations for creating load forecast for future RA?

Load forecast, Conservation Planning and Resource Adequacy Relationship



Scope of Long-term Model
(using simulation modeling)

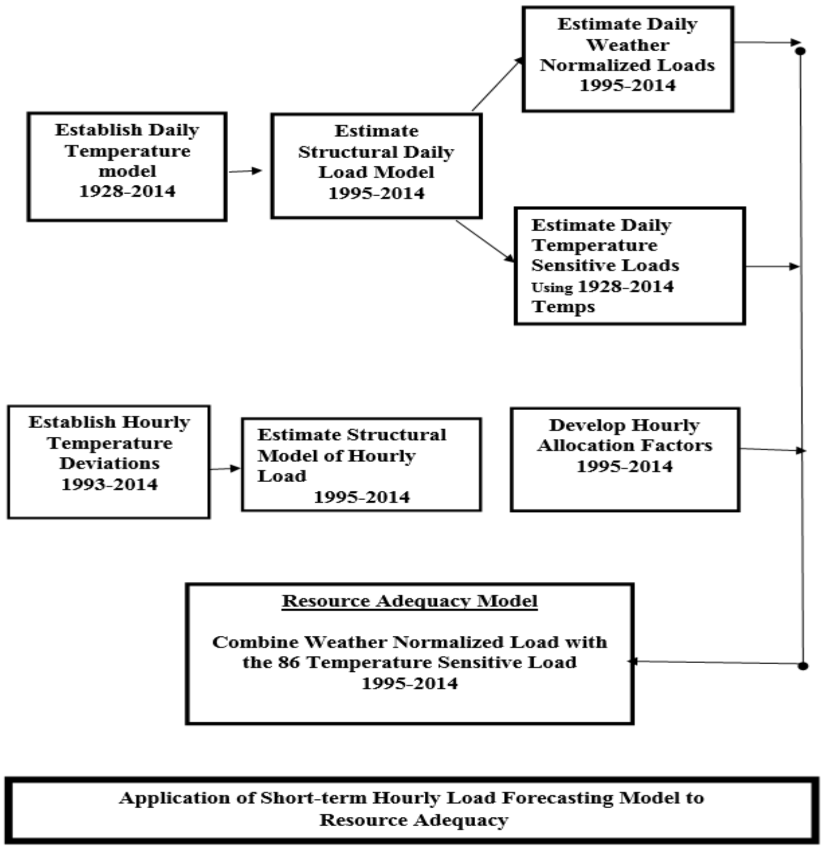
- Designed to provide a range of 20year forward looks for use in:
  - Conservation and Demand Response Assessment
  - Regional Portfolio Model (to select future resources for the region)
- Time resolution for the forecasts is monthly.
- For calibration to historic sales uses annual CDD and HDD for temperature sensitive loads (Space Conditioning, water heating)
- Forecast load assumes normal weather in the future.
- Produces three different Load forecasts (Price effect, Frozen-efficiency and Sales*)
- Quarterly Frozen-efficiency forecast is provided to RPM for resource selection.
- Sales forecast* is Frozen-efficiency loads net of energy efficiency targets
- Annual sector and enduse level conservation targets (EE) are incorporated into the Frozen-efficiency model, so that monthly shape of EE more accurately reflect shape of conservation.
- It incorporate impact of future codes and standards as well as rooftop solar.
- It can incorporate impact of future policies.

*- although labeled "sales" forecast, it is a forecast of loads (at the generator busbar)

Scope of Short-Term Model (Daily and Hourly)

- An econometric model
- Designed to produce hourly forecast of regional loads, with a 3-5 years forecast horizon.
- Incorporates impact of past temperature profiles on load on an daily and hourly basis.
- It does not make a forecast of future weather profiles but instead uses past daily and hourly regional temperatures in creating future hourly loads.
- It creates weather normalized daily load forecast based on observed weather patterns of 1929-2015.
- Uses hourly allocation factors, created from hourly model to estimate hourly load.

Overview of Analytical Steps in STM



Starting with daily temperatures we estimate the normal or average temperature for the day and the deviations from these temperatures for each day since 1928.

Temperature deviations along with daily regional load and a number of other explanatory variables are used to estimate the structural relationship between daily load and daily temperature.

The structural relationship is then parsed into two parts.

1) Weather normalized daily load
2) Temperature variables that capture the relationship between load and daily temperature deviations from normal

88 Daily load forecast under the past 88 years daily temperature is created.

To create an hourly load forecast for each day, an hourly model is created.
Econometric relationships between hourly temperature deviations and hourly loads is established.
A 365 by 24 matrix of hourly allocation factors reflecting the relationship between each hour's load to the days' load is created.

The daily load forecast and the hourly allocation factors are combined to create an hourly load forecast under 88 different past weather regimes.

Differences between LTM and STM

	LTM	STM
Intended Applications	20year horizon, Conservation supply assessment, tracking enduse efficiency. A policy and load forecast model	3-5 year forward look, Resource Adequacy
Methodology differences	Enduse Simulation modeling. Produces different forecasts, Explicitly knows about future codes and standards, other trends.	Econometric modeling, Embedded Energy Efficiency, no explicit knowledge of future policies, codes/standards.
Impact of weather	In historic calibration period uses annual CDD and HDD. For the forecast period uses Normal weather. Forecasted loads are weather normalized	Explicit account of past daily and hourly temperature conditions
Focus	Forecast of monthly Energy, Peak, minimum Loads	Forecast of Hourly Energy and Peak under past temperature conditions
Data update	Every 5 years, by sector, enduse, technology, by state	Annual, region-wide

Test of accuracy of Daily and Hourly models

- Re-ran the structural analysis for 1995-2012
- Using actual temperatures and employment for 2013-2015, forecasted daily and hourly loads for 2013-2015

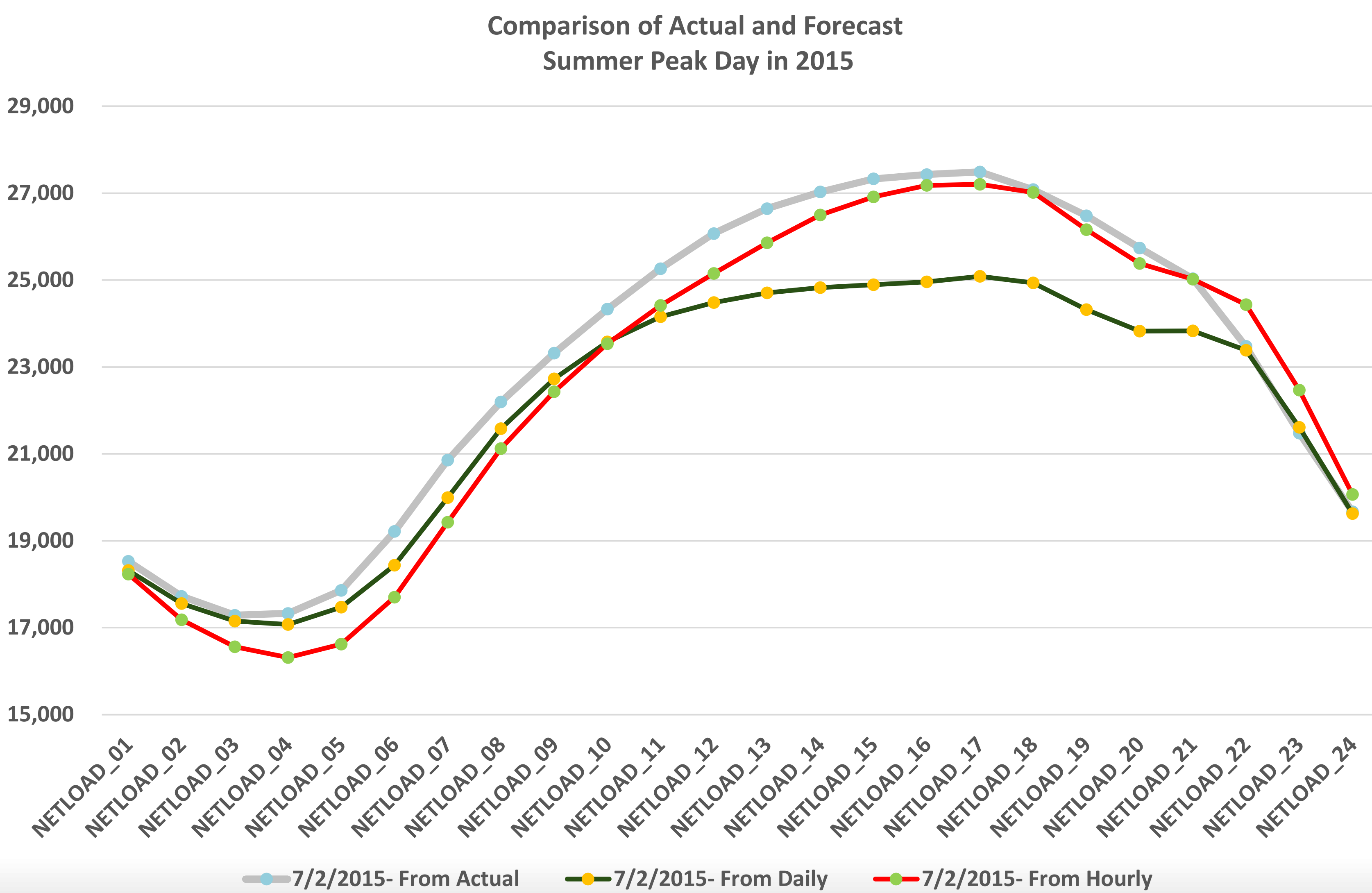
- Compared 2013-2015 actual loads and forecast
- Calculated Mean Absolute Percent Error (MAPE) for each day.
- MAPE increases overtime as expected.
- By 2015 the MAPE is between 5 and 6% depending on model.
- Tested Summer and Winter Peak day(magnitude and hour of peak).

Test of Accuracy of Models

MAPE	Daily model	Hourly model
2013-2015	3.36%	4.2%
2013	2.4%	3.4%
2014	2.7%	3.6%
2015	5.0%	5.6%

2015 Summer Peak

- Summer peak load of 27487 MW occurred on July 2, 2015 at 5 PM.
- Daily model under-estimated peak load by about 8.7%.
- Hourly model under-estimated peak load by about 1%.
- For hour 18, which is typically used as a system peak hour, the hourly model under-estimated by 0.02%.



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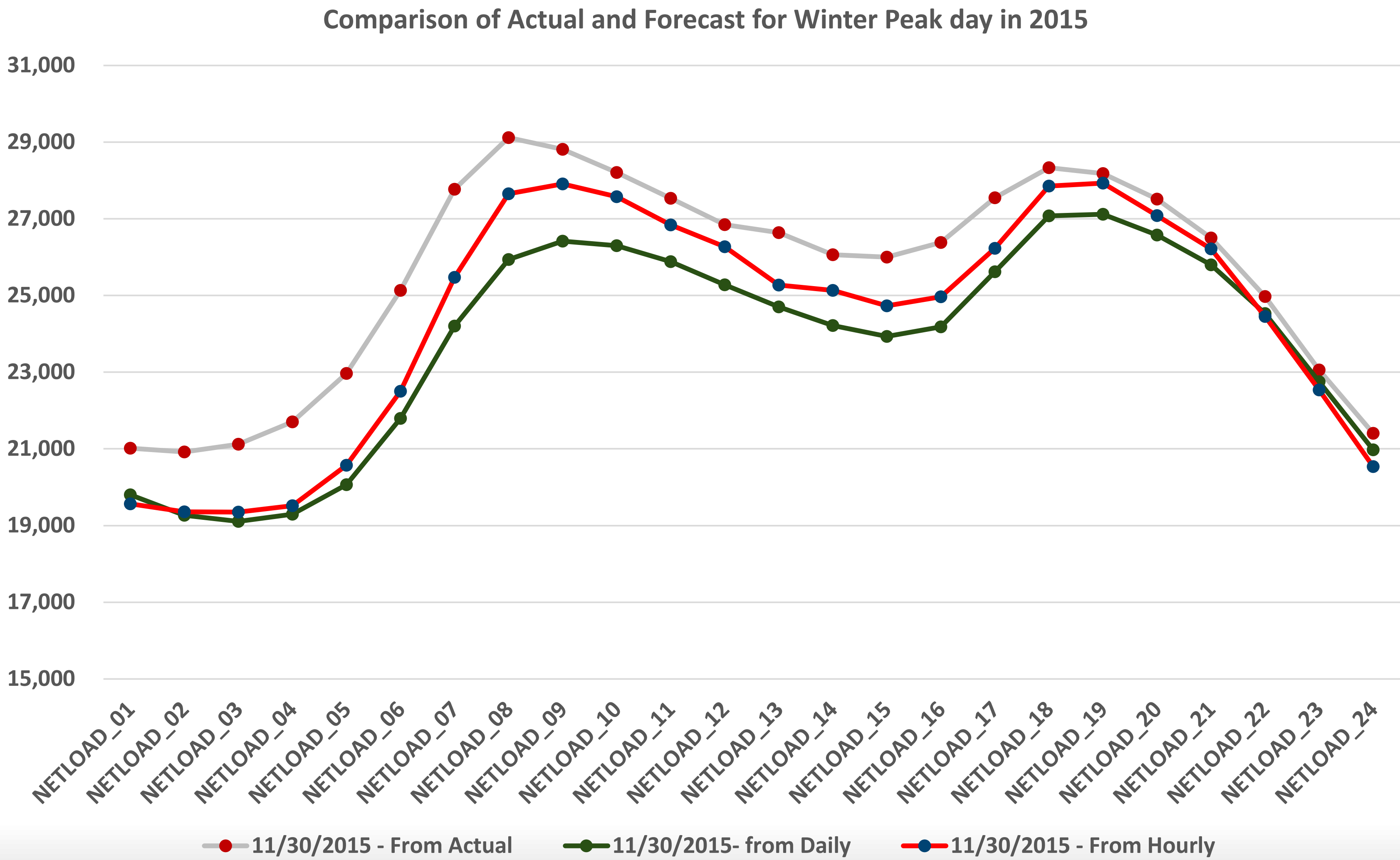
2015 Winter Peak

- Winter peak load of 29120 MW occurred in November 30th 2015. The winter peak had the typical double hump.

- Morning peak load occurred at 8 AM and afternoon peak at 6 PM.

- Daily model under-estimated morning winter peak by about 11% and the afternoon peak by about 4.5%.

- Hourly model forecast also under-estimated morning peak by 5% and afternoon peak by 1.7%.


Comparison of Actual and Forecast for Winter Peak day in 2015
31,000
29,000
27,000
25,000
23,000
21,000
19,000
17,000
15,000
NETLOAD_01
NETLOAD_02
NETLOAD_03
NETLOAD_04
NETLOAD_05
NETLOAD_06
NETLOAD_07
NETLOAD_08
NETLOAD_09
NETLOAD_10
NETLOAD_11
NETLOAD_12
NETLOAD_13
NETLOAD_14
NETLOAD_15
NETLOAD_16
NETLOAD_17
NETLOAD_18
NETLOAD_19
NETLOAD_20
NETLOAD_21
NETLOAD_22
NETLOAD_23
NETLOAD_24
11/30/2015 - From Actual
11/30/2015- from Daily
11/30/2015 - From Hourly

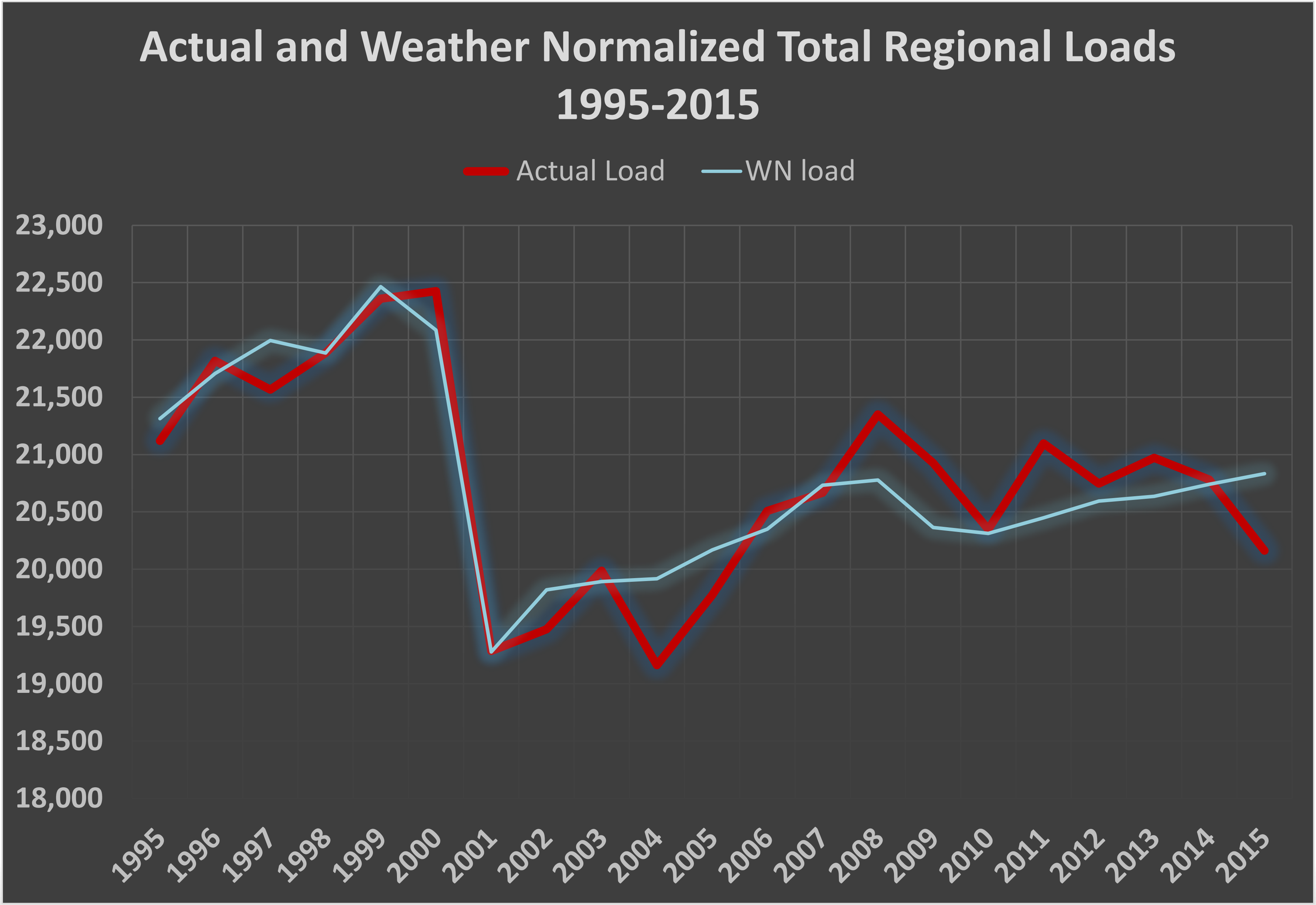
- It seems the hourly model does a better job of forecasting summer and winter peaks.

What is impact of temperature on loads?

- To forecast the loads under various temperature profiles, we need to parse the relationship between load and temperature into:
  1. Normal weather
  2. Temperature sensitive

Relationship between Loads and temperature

1995-2015 temperatures and loads (background)



Actual and Weather Normalized Total Regional Loads
1995-2015
Actual Load
WN load
23,000
22,500
22,000
21,500
21,000
20,500
20,000
19,500
19,000
18,500
18,000
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015

Impact of weather on Loads is not static and can be significant

	Actual Load	WN load*	Impact of weather	as Percent of Actual Load
1995	21,120	21,314	194	0.9%
1996	21,817	21,706	-111	-0.5%
1997	21,566	21,995	429	2.0%
1998	21,886	21,885	-1	0.0%
1999	22,360	22,464	104	0.5%
2000	22,426	22,086	-340	-1.5%
2001	19,286	19,278	-8	0.0%
2002	19,475	19,819	344	1.8%
2003	19,986	19,892	-94	-0.5%
2004	19,162	19,916	754	3.9%
2005	19,774	20,168	394	2.0%
2006	20,507	20,349	-158	-0.8%
2007	20,666	20,733	67	0.3%
2008	21,350	20,777	-573	-2.7%
2009	20,925	20,363	-562	-2.7%
2010	20,348	20,313	-35	-0.2%
2011	21,096	20,449	-647	-3.1%
2012	20,747	20,595	-152	-0.7%
2013	20,971	20,635	-336	-1.6%
2014	20,782	20,740	-42	-0.2%
2015	**20,161**	**20,833**	**672**	**3.3%**
1995-2015	-0.23%	-0.11%		
2005-2015	0.19%	0.32%		
2010-2015	-0.18%	0.51%		

* Estimation of WN Load varies year by year, as definition of WN load changes over time.

What is the appropriate level of weather normalization for RA analysis?

- What does “Normal” in Normalization mean?
  - It is not static.
  - Historical deviations from Normal will change as the period for which Normal is defined changes. Every year the normal changes.

- What metrics to use to “normalize” depends on application?
  - Annual and Monthly Cooling or Heating Degree Days used in LTM hide daily and hourly temperature fluctuations.

  - Daily definition for Normal
    - depiction of impact of temperature on loads is better suited for RA analysis but it can still lead to over or underestimations.

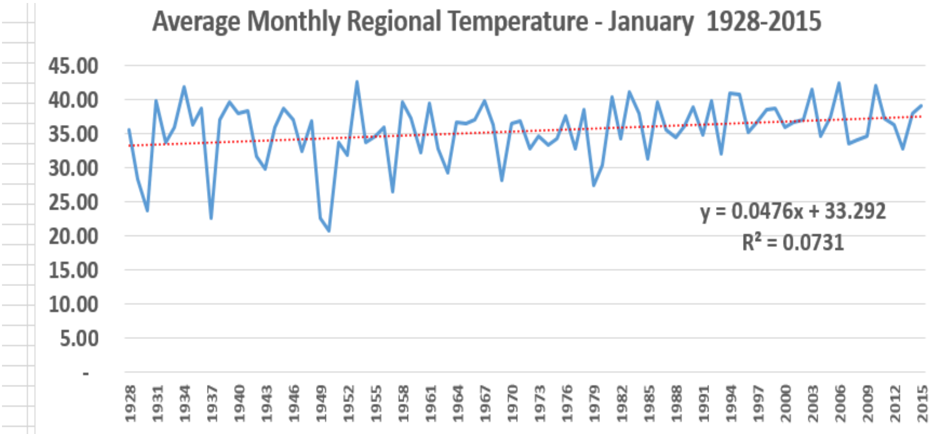
  - Hourly definition for Normal
    - Hourly definition of Normal is better for RA application, given that it can accommodated hourly interrelationship between load and temperature.

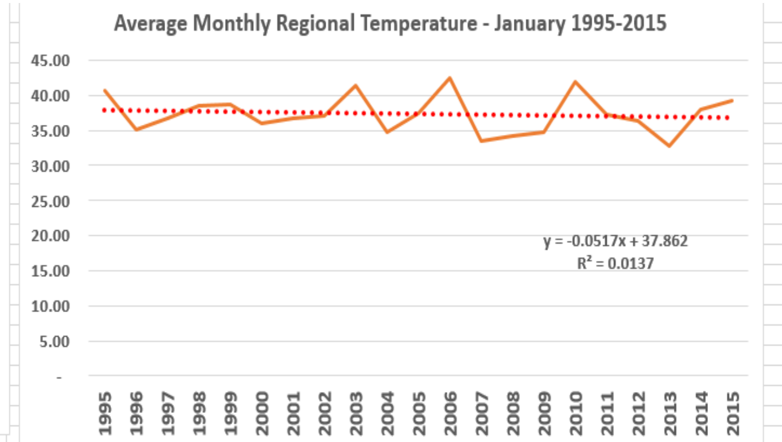
- It seems that parsing load into WN and temperature sensitive load using hourly temperatures is better.

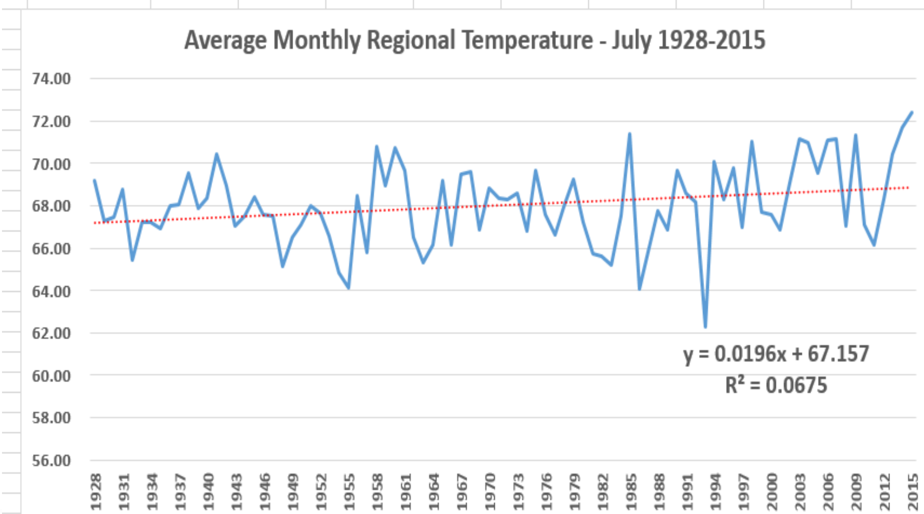
Choice on Time Period

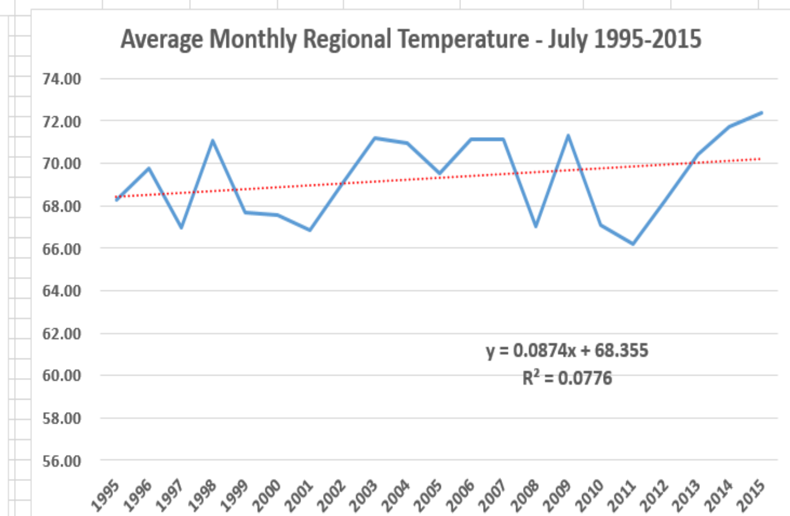
- We can use daily temperature data going back to 1928 or,
- We can use hourly temperature data going back to 1995.
- Which period would capture future weather patterns better?
- Are there trends in temperature profiles?

Are there trends in monthly regional temperature profiles?







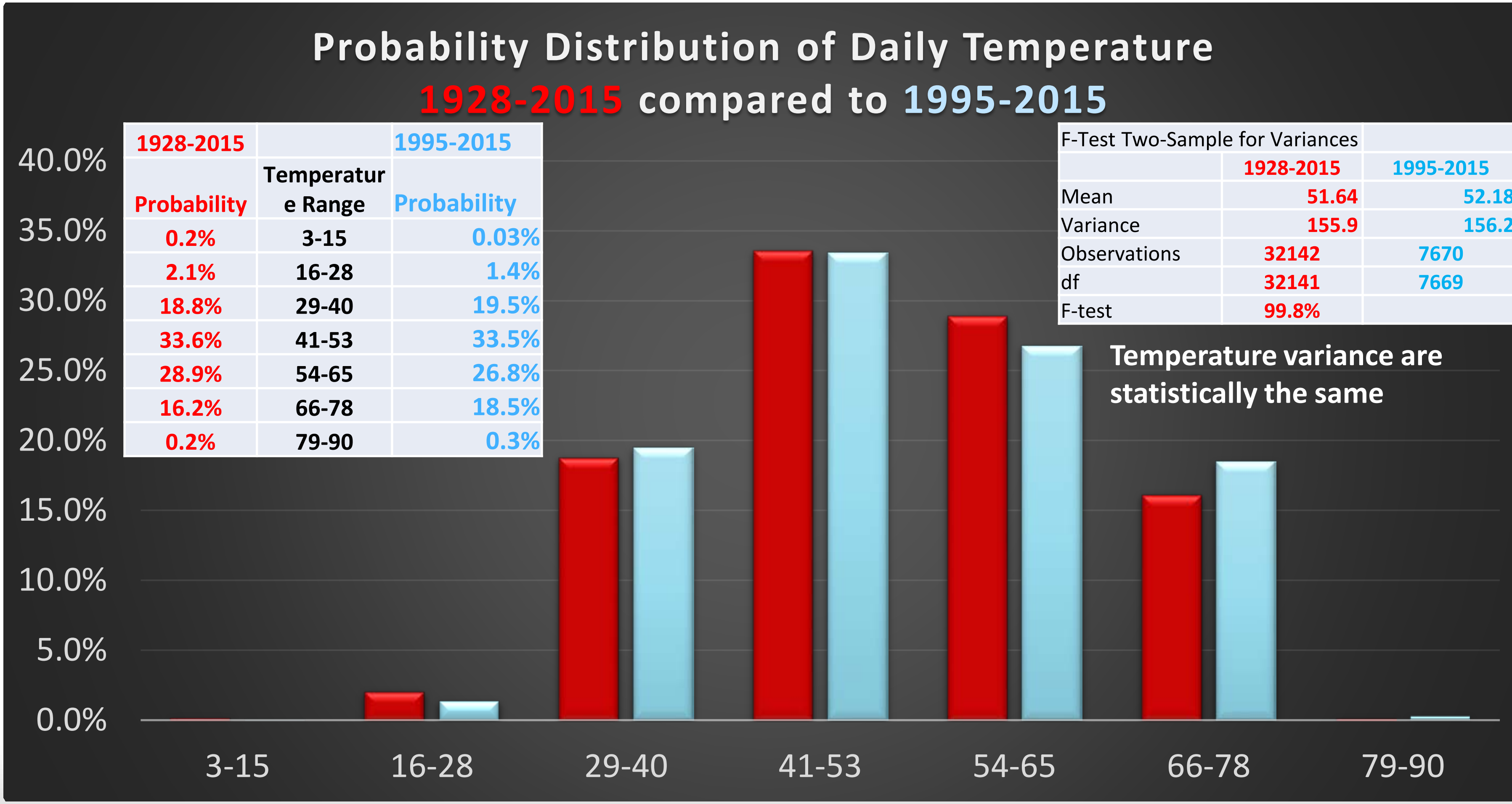


Statistics on monthly average temperatures shows tightening of variance

1928-2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Temperature	35	39	43	49	57	62	68	68	62	53	45	37
Variance	20	12	7	5	5	4	4	3	4	6	5	5
Std. Deviation	4.50	3.40	2.60	2.26	2.13	2.02	1.92	1.87	2.01	2.38	2.32	2.24
1995-2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Temperature	37	40	44	49	57	63	69	69	63	52	46	37
Variance	8	5	6	4	4	5	4	2	2	15	4	3
Std. Deviation	2.78	1.97	2.18	2.10	2.06	1.68	1.86	1.44	1.59	3.79	2.12	1.81
Percent change	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Temperature	5%	1%	1%	0%	0%	1%	2%	2%	1%	-1%	1%	-1%
Variance	-63%	-54%	-16%	-18%	-3%	24%	3%	-38%	-38%	160%	-18%	-36%
Std. Deviation	-38%	-42%	-16%	-7%	-3%	-17%	-3%	-23%	-21%	59%	-9%	-19%

- Can we say that because of increase in summer temperatures we will not experience a cool summer?
- Can we say that because of increase in winter temperatures we will not experience a cold winter?
- Could we use the past 20 years data instead of past 88 years?

How different are the past 20 years temperature profiles compared to the last 88 years?



1928-2015 Probability	Temperature Range	1995-2015 Probability
0.2%	3-15	0.03%
2.1%	16-28	1.4%
18.8%	29-40	19.5%
33.6%	41-53	33.5%
28.9%	54-65	26.8%
16.2%	66-78	18.5%
0.2%	79-90	0.3%

F-Test Two-Sample for Variances		
	1928-2015	1995-2015
Mean	51.64	52.18
Variance	155.9	156.2
Observations	32142	7670
df	32141	7669
F-test	99.8%	

Daily temperature

How does temperature conditions effect peak winter and summer loads?

- Impact of temperature of peak load is not static.

- Impact on peak load depends on hourly and daily temperature, day of the week and persistence of weather events.

- For example, temperature profile for 1995 would produce different peak load impact in 2021 compared to 2022.

Let’s take example for forecast of peak loads for 2022.

- Using the daily model, we can produce 88 different winter and summer peaks.

- Investigating which year’s temperature profile result in highest peak loads, we see different rank ordering.

- More recent summers (1995-2015) do not necessarily produce highest summer peak loads.

- More distance winters (1928-2015) do not necessarily produce highest winter peak loads.

Top 20 ranking for summer and winter peak loads for 2022

(from Daily model)

Year	Summer peak	Year	Winter Peak
2009	1	1950	1
2006	2	1998	2
1998	3	1968	3
1994	4	1983	4
1958	5	1935	5
1935	6	1990	6
1939	7	1964	7
2003	8	2013	8
1941	9	2008	9
1996	10	2009	10
1971	11	1989	11
1961	12	1937	12
1959	13	1943	13
1988	14	1963	14
2004	15	1972	15
1928	16	2004	16
1956	17	1959	17
1978	18	1982	18
2002	19	1957	19
1981	20	1979	20

Years with top ranking peak loads cover the entire 88 years.

Ranking of the peak loads show a mix of years. No clear pattern emerges.

Rank ordering is not stationary, if we do the same for 2021 or for 2023 there would be different rank ordering created.

Response of load to temperature depends on the timing and persistence of the weather patterns.

Which time horizon to choose for weather normalization?

- Advantage of choosing 1928-2015 period is that it better reflect changes in winter conditions
- Disadvantage is that daily model that uses 1928-2015 temperature data has larger error band for peak load forecast 3-5 years out.
- Advantage 0f choosing hourly model which uses hourly 1995-2015 period temperature data is that it provides a more accurate forecast of peak loads 3-5 years into the future.

Lunch Break

Treatment of efficiency

- Why do we care about how efficiency is treated in the RA analysis.
  - Efficiency is playing a larger role in meeting load.
  - We need to reflect efficiency as a future resource in RA.
  - We should not double-count efficiency.
  - <u>Peak load</u> impact of efficiency needs to be incorporated in forecast for RA.
  - Efficiency as in all other resources and loads is subject to <u>uncertainty</u>.

Approaches to Treatment of Conservation for RA

1. Econometrically developed annual Embedded conservation is combined with annual conservation targets and applied to WN load forecast in the STM, either hourly or daily models. Conservation is shapes as the load.

2. LTM monthly Sales forecast of energy (frozen efficiency forecast net of plan's target conservation) is allocated using daily then hourly factors to create a WN hourly or daily load. Shaping of conservation is at enduse level in LTM so it better reflect potential shape of conservation resource.

How Embedded Efficiency is estimated and incorporated into the modeling?

How we had incorporated Past efficiency (embedded efficiency) in the RA

- Estimated past (1978 – 2011) efficiency achievements
  - (codes and standards + utility programs + market transformation initiatives).
- Regressed historic values of the past efficiency against a number of explanatory variable.
- Employment was found to provide best fit.
- Used the structural equation to forecast embedded efficiency into the future.

Components of historic efficiency (aMW)- used in structural equation

Year	BPA and Utility Programs	NEEA Programs	State Codes	Federal Standards	Total Cumulative	Total Incremental
1978	1	-	-	-	1	1
1979	11	-	-	-	11	11
1980	42	-	-	-	42	31
1981	79	-	-	-	79	37
1982	144	-	-	-	144	64
1983	237	-	-	-	237	93
1984	272	-	-	-	272	35
1985	301	-	-	-	301	30
1986	334	-	-	-	334	33
1987	349	-	13	-	362	28
1988	337	-	26	-	362	1
1989	345	-	40	-	385	22
1990	358	-	54	13	426	41
1991	392	-	67	25	484	57
1992	464	-	87	39	590	107
1993	583	-	110	58	751	160
1994	684	-	135	89	909	158
1995	816	-	169	122	1,107	198
1996	909	-	207	157	1,273	166
1997	966	4	249	196	1,415	143
1998	1,020	13	295	239	1,567	151
1999	1,054	37	346	284	1,720	154
2000	1,097	59	393	330	1,880	159
2001	1,208	89	435	381	2,114	234
2002	1,316	125	473	442	2,356	242
2003	1,413	158	516	481	2,568	212
2004	1,496	197	560	535	2,788	221
2005	1,601	234	604	594	3,032	244
2006	1,706	280	648	653	3,286	254
2007	1,834	358	692	719	3,603	317
2008	1,980	446	736	786	3,949	346
2009	2,145	513	781	854	4,293	344
2010	2,352	561	825	922	4,660	367
2011	2,579	611	870	990	5,049	389

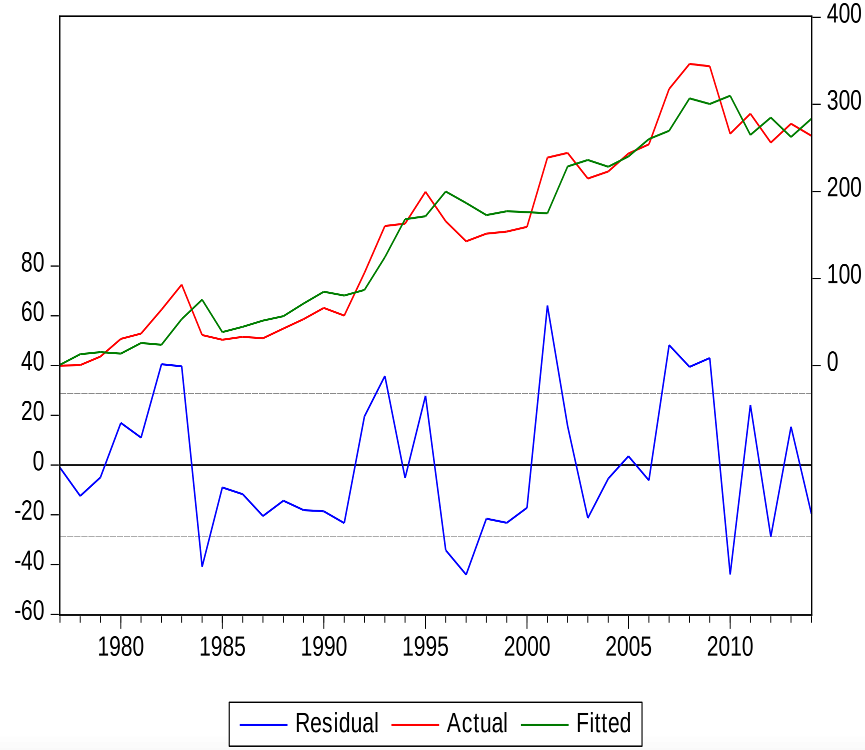
Structural equation for embedded efficiency

Dependent Variable: CONSERVATION_ACTUAL_INC
Method: Least Squares
Date: 10/04/16 Time: 16:13
Sample (adjusted): 1977 2014
Included observations: 38 after adjustments
Convergence achieved after 7 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EMPLOYMENT	0.102850	0.013997	7.348050	0.0000
C	-371.4370	74.19447	-5.006262	0.0000
AR(1)	0.640702	0.126581	5.061584	0.0000

R-squared	0.931348	Mean dependent var	151.7842
Adjusted R-squared	0.927425	S.D. dependent var	106.8177
S.E. of regression	28.77647	Akaike info criterion	9.632650
Sum squared resid	28982.99	Schwarz criterion	9.761933
Log likelihood	-180.0203	Hannan-Quinn criter.	9.678648
F-statistic	237.4076	Durbin-Watson stat	1.744170
Prob(F-statistic)	0.000000		

Inverted AR Roots	.64



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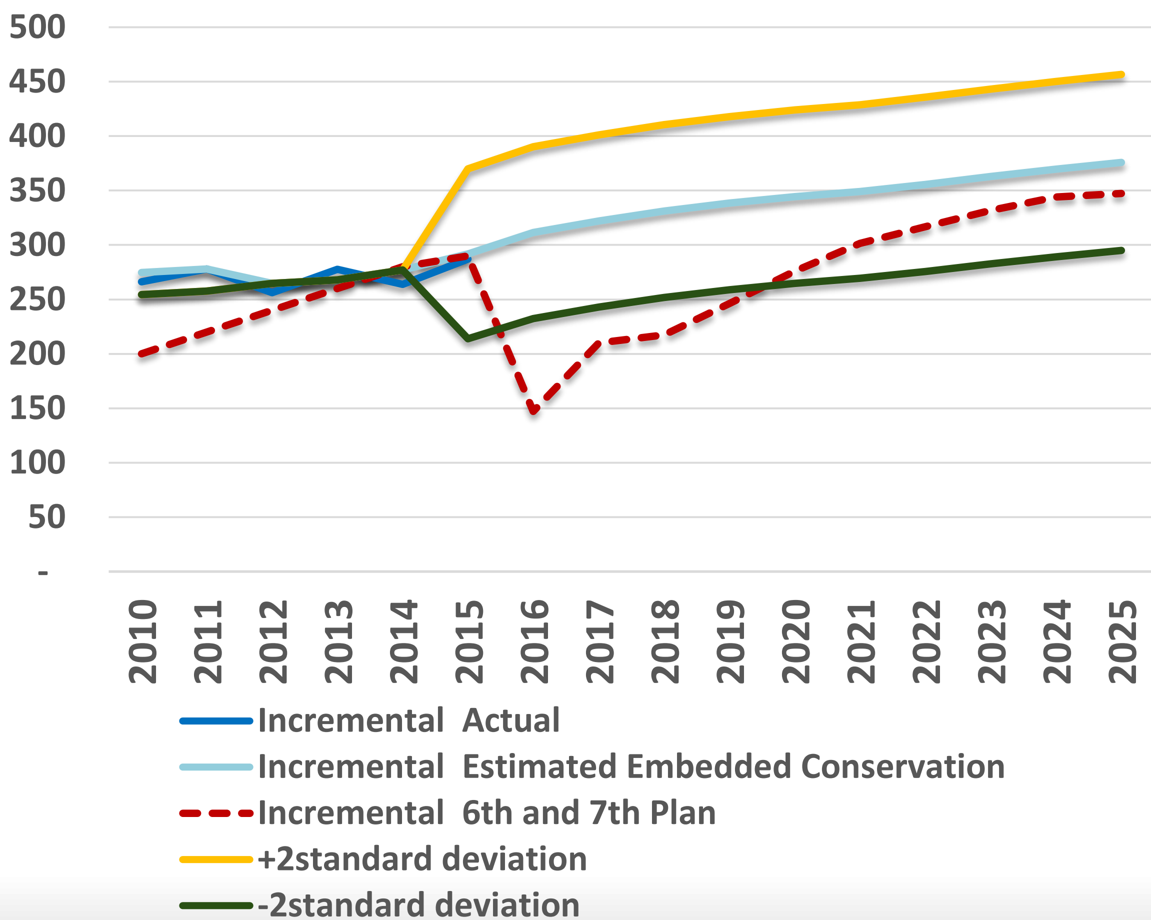
Comparison of Forecast of Conservation Resources 2010-2025 compared to Conservation Targets (aMW)



- Embedded and targets were close in the 6th plan era (2010-2015)
- 2016-2025 are close in the long-term but we see a drop in short-term.
- Drop in 2016-2025 is due to change in the power plan's baseline conservation.
- To avoid double counting impact of conservation, we needed to estimate embedded conservation, add it to the WN loads then subtract the target conservation

Comparison of actual, embedded and target incremental efficiency (aMW)

	Incremental	Incremental to add	Incremental to subtract
	Estimated Actual	Embedded from forecast	6th and 7th Plan targets
2010	266	275	200
2011	278	278	220
2012	256	265	240
2013	278	268	260
2014	264	277	280
2015	287	292	290
2016		311	147*
2017		322	210
2018		331	217
2019		338	246
2020		344	276
2021		349	301
2022		356	317
2023		363	332
2024		370	344
2025		376	347

Note the drop in conservation targets in 2016. this is an effect of change in baseline. More efficient baselines from the 6th to 7th plan

Adjustment to Load forecast

	Incremental	Incremental		Cumulative
	Estimated Embedded Conservation	7th Plan Cons. Targets	WN Load net of DSI load	conservation
2016	311	147	20,691	164
2017	322	210	20,841	276
2018	331	217	20,958	390
2019	338	246	21,047	482
2020	344	276	21,122	550
2021	349	301	21,153	598
2022	356	317	21,204	637
2023	363	332	21,252	668
2024	370	344	21,304	694
2025	376	347	21,333	722

	Embedded Estimated Conservation Cumulative (+)	Power Plan Target Cumulative (-)	Cumulative change in Load	used in hourly load adj. Cumulative percent of WN load
2016-2016	311	147	164	0.79%
2016-2017	633	357	276	1.33%
2016-2018	965	575	390	1.86%
2016-2019	1,303	821	482	2.29%
2016-2020	1,647	1,097	550	2.61%
2016-2021	1,996	1,398	598	2.83%
2016-2022	2,352	1,715	637	3.00%
2016-2023	2,715	2,047	668	3.14%
2016-2024	3,085	2,391	694	3.26%
2016-2025	3,460	2,738	722	3.39%

How we incorporated embedded conservation in STM ?

- Ratio of the difference in cumulative embedded conservation and target conservation is calculated and used to adjust weather normalized daily or hourly load forecast.
- Ratio =(Embedded-Target)/WN load
- Conservation is shaped as the load.
- Impact of conservation during extreme weather events is captured by using a multiplier rather than an adder.

Hybrid Approach to Incorporating Conservation Resources in RA Analysis

- Used Long-term model's simulation of impact of future standards and targeted conservation resources.

- Replaced WN load forecast in the daily or hourly models, with the long-term model Sales forecast which already captures impact of future standards and already nets out plan's target conservation.

Hybrid Approach

This approach replaces the WN loads from STM with the WN loads from monthly LTM Sales forecast.
Example for 2022 forecast

1) WN Monthly LTM F.E.* Load net of EE (LTM Sales)

- Daily and Hourly WN load allocation factors are applied to WN monthly LTM load
- Creates hourly WN loads for the target year (2022)

→

2) Add in 88 different hourly profiles to the WN base**

- Creates hourly Temperature Sensitive Loads

→

3) 2022 load forecast for RA

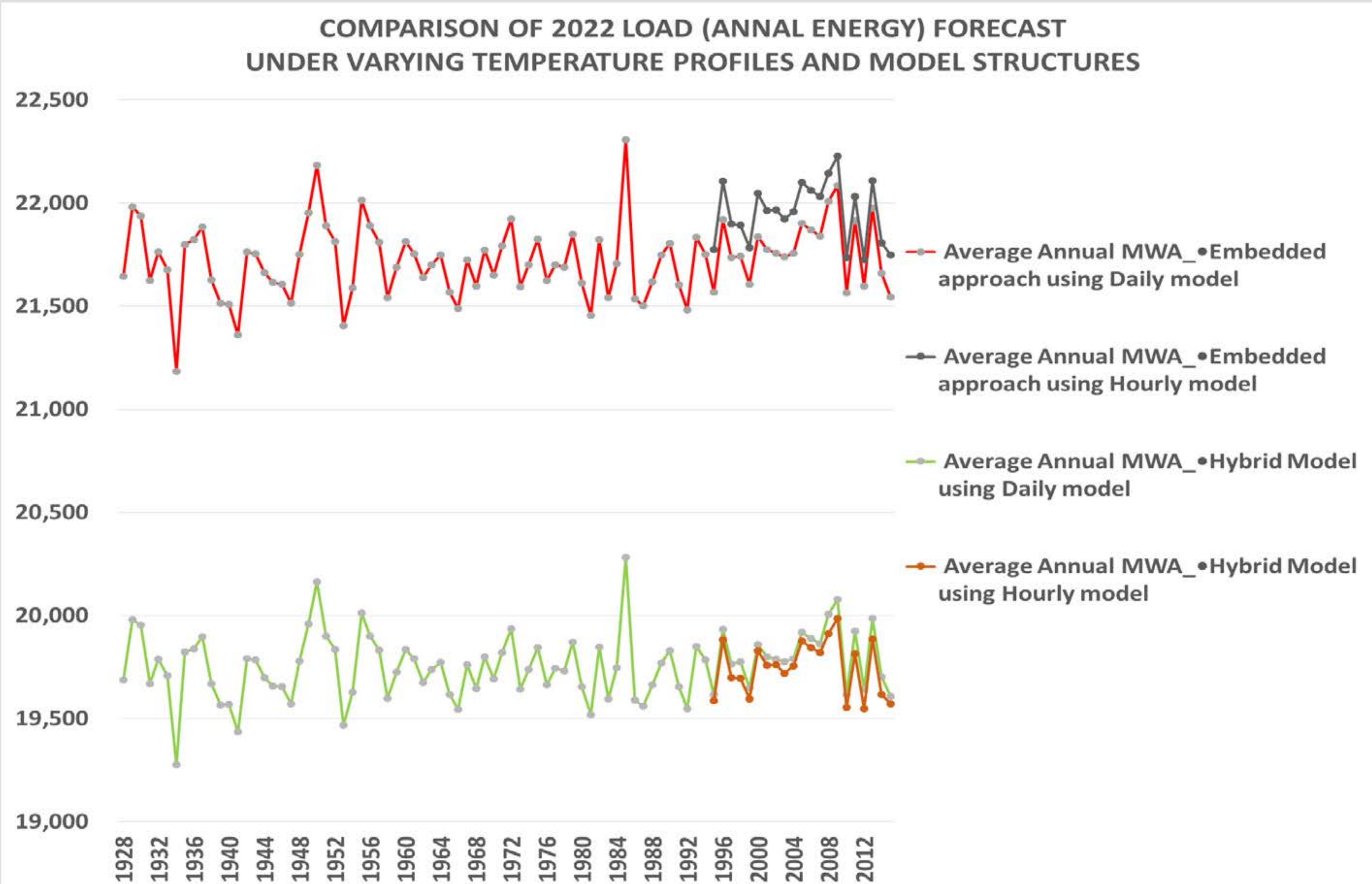
- Hourly load under the 88 different past profiles

*WN loads from the LTM can only be fully updated every 5 years, as part of Power Plan. For RA application we can update the temperature, economic drivers, natural gas prices of the LTM every year. EE amount will not be updated for RA analysis.
**- 1928 through 2014, as of 2015.

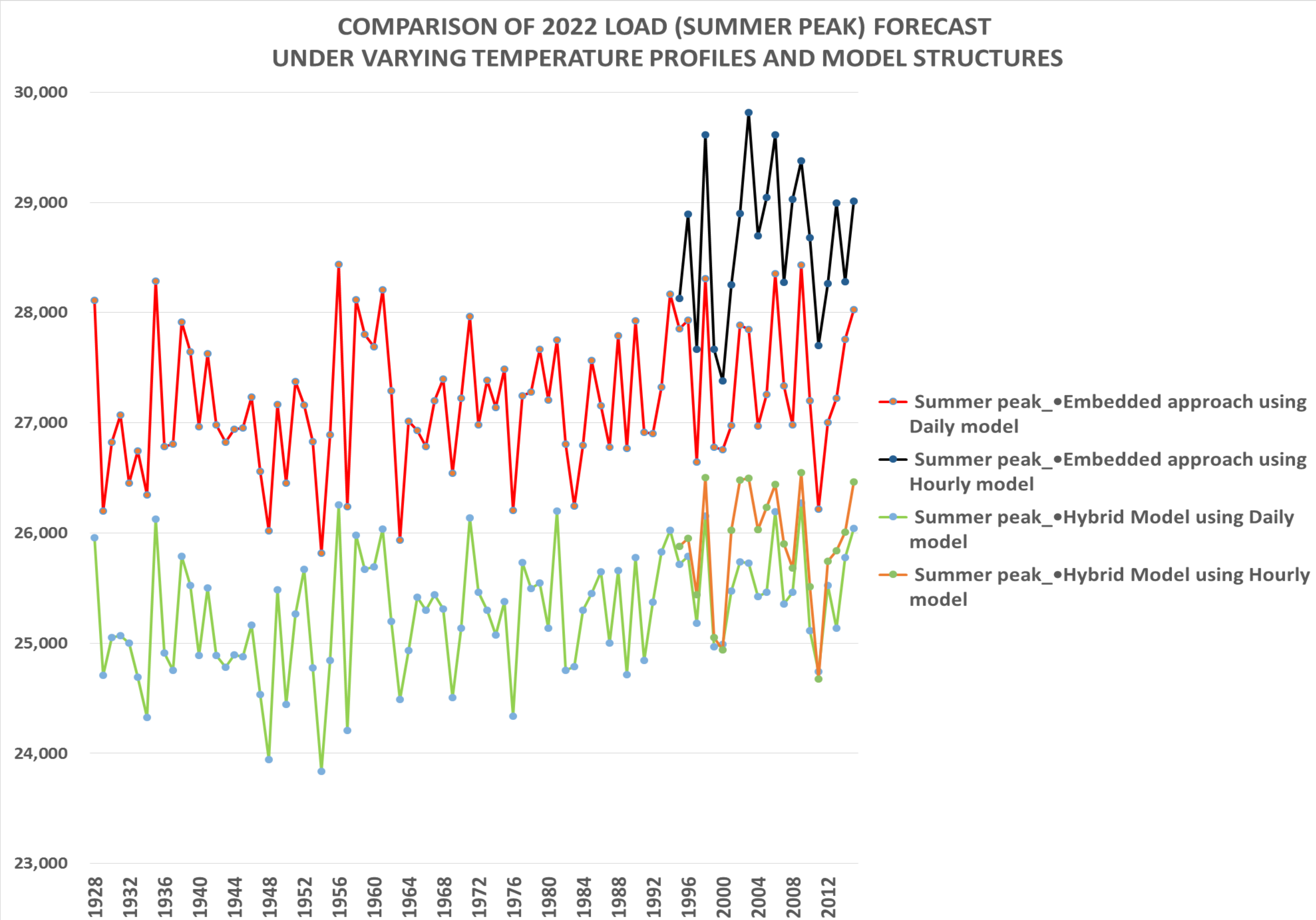
- Do you think that hybrid approach is more suitable for RA rather than the Embedded efficiency approach?

Comparison of Load Forecasts for 2022
(Annual Energy, Summer and Winter Peaks)

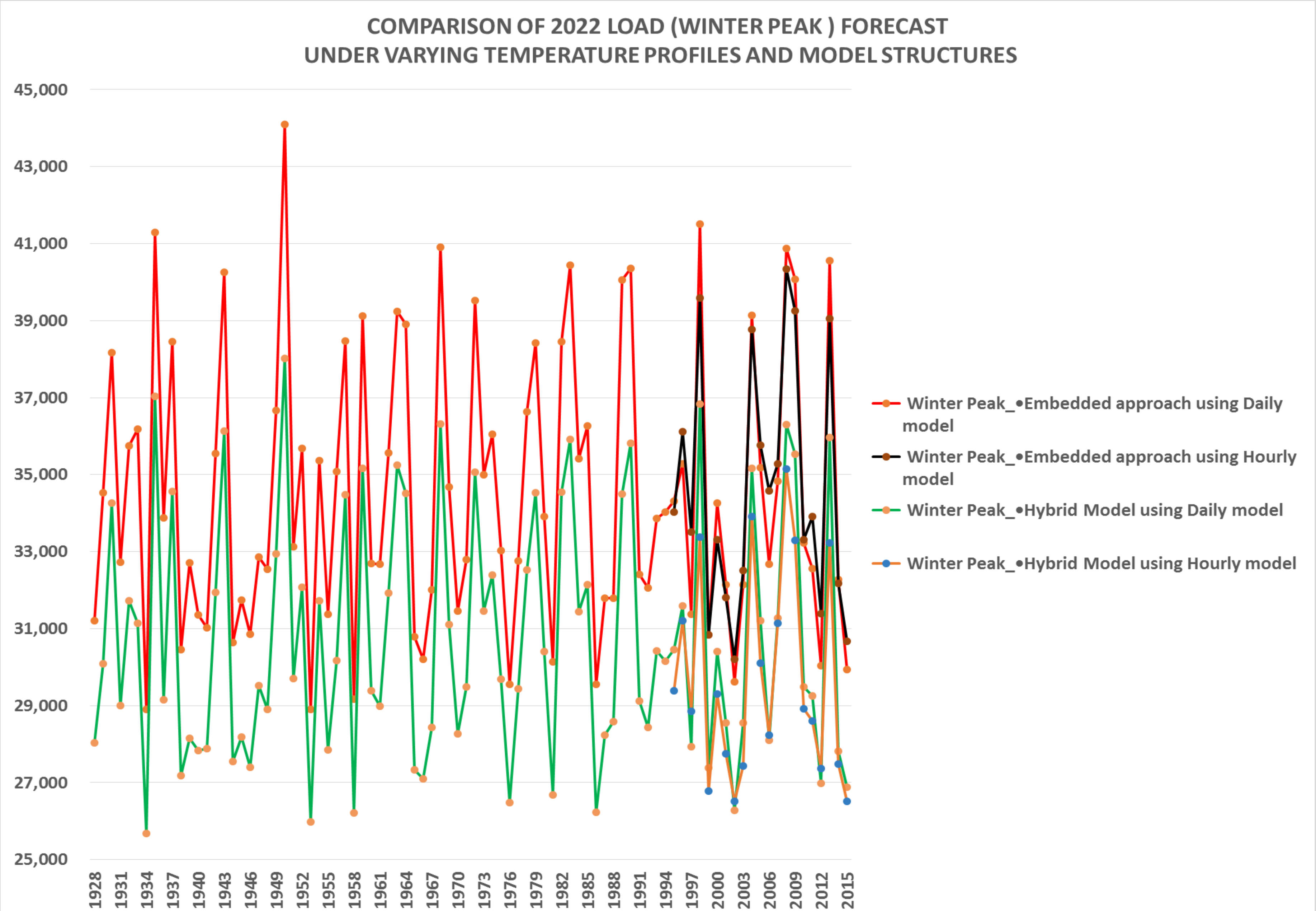
- To test the impact of options:
  - Hourly model vs daily model
  - Embedded conservation vs hybrid approach
- Four load forecasts were compared
  - **Embedded approach using Daily model**
  - **Embedded approach using Hourly model**
  - **Hybrid Model using Daily model**
  - **Hybrid Model using Hourly model**



COMPARISON OF 2022 LOAD (ANNAL ENERGY) FORECAST
UNDER VARYING TEMPERATURE PROFILES AND MODEL STRUCTURES
22,500
22,000
21,500
21,000
20,500
20,000
19,500
19,000
1928
1932
1936
1940
1944
1948
1952
1956
1960
1964
1968
1972
1976
1980
1984
1988
1992
1996
2000
2004
2008
2012
Average Annual MWA_•Embedded approach using Daily model
Average Annual MWA_•Embedded approach using Hourly model
Average Annual MWA_•Hybrid Model using Daily model
Average Annual MWA_•Hybrid Model using Hourly model



COMPARISON OF 2022 LOAD (SUMMER PEAK) FORECAST
UNDER VARYING TEMPERATURE PROFILES AND MODEL STRUCTURES
30,000
29,000
28,000
27,000
26,000
25,000
24,000
23,000
1928
1932
1936
1940
1944
1948
1952
1956
1960
1964
1968
1972
1976
1980
1984
1988
1992
1996
2000
2004
2008
2012
Summer peak_•Embedded approach using Daily model
Summer peak_•Embedded approach using Hourly model
Summer peak_•Hybrid Model using Daily model
Summer peak_•Hybrid Model using Hourly model


COMPARISON OF 2022 LOAD (WINTER PEAK) FORECAST
UNDER VARYING TEMPERATURE PROFILES AND MODEL STRUCTURES
45,000
43,000
41,000
39,000
37,000
35,000
33,000
31,000
29,000
27,000
25,000
1928
1931
1934
1937
1940
1943
1946
1949
1952
1955
1958
1961
1964
1967
1970
1973
1976
1979
1982
1985
1988
1991
1994
1997
2000
2003
2006
2009
2012
2015
Winter Peak_•Embedded approach using Daily model
Winter Peak_•Embedded approach using Hourly model
Winter Peak_•Hybrid Model using Daily model
Winter Peak_•Hybrid Model using Hourly model

Incorporating Uncertainty

Range of Uncertainty	Low	High
Forecast error	-5%	+5%
Economic driver range	-5%	+2%

Recap of what we have presented today

- Temperature variance for the two periods 1928-2015 and 1995-2015 are statistically the same.
- Energy load forecast from the daily and hourly models are reasonably close.
- Peak load forecast is more accurate from the hourly model.
- Treatment of conservation in RA is complicated.
- We have two ways of incorporating future efficiency measures in the models. Both methods are subject to error and uncertainty.
- To reflect forecast load uncertainty, load forecast 5 years out should be subjected to a uncertainty range of
 -10% and +7.

Your recommendation on

- Normalizing loads over which period:
  - 1928-2015
  - 1995-2015
- Use Hourly or Daily model structure?
- Treat future efficiency
  - Embedded minus target
  - Use WN Sales forecast from LTM (hybrid)
- Uncertainty range ?