

# PNM 2014-2033 Integrated Resource Plan

JANUARY 9, 2014



Talk to us.



# AGENDA

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**JANUARY 9<sup>TH</sup>**

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## **Today's agenda**

- Welcome, Introductions, Safety and Ground Rules
- Discuss Process
- Illustrate Portfolio Comparisons
- Discuss Schedule & Plan future meetings

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# SAFETY AND LOGISTICS

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- Fire escape routes via stairways at east and west ends of hallway; please let us know if you require special handicap egress or special assistance
- We must obey any fire or emergency alarm; even drills/test alarms
- Restrooms – Women's room at west end; Men's room at east end
- Must sign in and sign out with security desk each time you enter the building
- Recycling – please help our efforts by dropping plastic or aluminum containers in the designated recycle bins

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## MEETING GROUND RULES

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- Questions and comments are welcome; please be mindful of our time constraints
- Comments should be respectful of all participants
- Use name tents to indicate you have a comment or question
- Reminder: today's presentation is not PNM's plan or a financial forecast, it is an illustration of the IRP modeling process

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## DISCLOSURE REGARDING FORWARD LOOKING STATEMENTS

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The information provided in this presentation contains scenario planning assumptions to assist in the Integrated Resource Plan public process and should not be considered statements of the company's actual plans. Any assumptions and projections contained in the presentation are subject to a variety of risks, uncertainties and other factors, most of which are beyond the company's control, and many of which could have a significant impact on the company's ultimate conclusions and plans. For further discussion of these and other important factors, please refer to reports filed with the Securities and Exchange Commission. The reports are available online at [www.pnmresources.com](http://www.pnmresources.com).

The information in this presentation is based on the best available information at the time of preparation. The company undertakes no obligation to update any forward-looking statement or statements to reflect events or circumstances that occur after the date on which such statement is made or to reflect the occurrence of unanticipated events, except to the extent the events or circumstances constitute material changes in the Integrated Resource Plan that are required to be reported to the New Mexico Public Regulation Commission (NMPRC) pursuant to Rule 17.7.4 New Mexico Administrative Code (NMAC).

# WELCOME BACK

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## IRP PROGRESS TO DATE

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- Described process (September 17)
- Existing system (September 17)
- Gas/carbon/electricity price scenarios (September 20)
- Load forecast based on current conditions (September 20)
- Energy efficiency resource (September 20)
- Planned portfolio analysis for 2014-2033 IRP (September 26)
- Wind resource sensitivity (November 15)
- Transmission system (November 15)
- San Juan Generating Station Regional Haze Rule compliance (December 20)

# REMAINING ANALYSIS

## PORTFOLIO MODELING AND RISK ANALYSIS WORK

	RSIP w/ PV-3	FIP	RSIP w/o PV-3
Load	High/Mid/Low	High/Mid/Low	High/Mid/Low
Gas/Carbon	High/Mid/Low	High/Mid/Low	High/Mid/Low

- Technology Breakthrough (high load and low load)
- Energy efficiency sensitivity (energy saved per dollar spent)
- Transmission investment
- \$0/\$8/\$20/\$40/metric ton CO2 pricing
- Water lack of availability sensitivity

# PORTFOLIO COMPARISONS

## SJGS REGIONAL HAZE COMPLIANCE SCENARIO

Year	Revised SIP with PV3	Revised SIP w/o PV3	FIP ("4 SCR")	FIP ("4-Unit Shutdown at SJ")
2014				
2015	Red Mesa (102 MW) 2015 Solar (23 MW)	Red Mesa (102 MW) 2015 Solar (23 MW)	Red Mesa (102 MW) 2015 Solar (23 MW)	Red Mesa (102 MW) 2015 Solar (23 MW)
2016	Aeroderivative (40 MW) Solar (40 MW)	Aeroderivative (40 MW) Solar (40 MW)	Aeroderivative (40 MW)	Aeroderivative (40 MW) Solar (40 MW)
2017				Large GT (177 MW) Large GT (143 MW) Palo Verde 3 (134 MW) 1x1 Combined Cycle (250 MW) Wind (100 MW)
2018	Large GT (177 MW) Palo Verde 3 (134 MW) San Juan Acquisition (78 MW)	Large GT (177 MW) Large GT (143 MW) San Juan Acquisition (78 MW)		
2019				
2020		Wind (100 MW)		Solar (20 MW)
2021	Wind (100 MW)			
2022				
2023				2nd Aeroderivative (40 MW)
2024				
2025			Wind (100 MW)	
2026	Solar (20 MW)	Solar (20 MW)	Solar (20 MW)	Reciprocating Engines (93 MW)
2027	2nd Aeroderivative (40 MW)	2nd Aeroderivative (40 MW)	2nd Aeroderivative (40 MW)	
2028				
2029	Aeroderivative (40 MW)	Aeroderivative (40 MW)	Aeroderivative (40 MW)	
2030				
2031	Small GT (85 MW)	Aeroderivative (40 MW)	Small GT (85 MW)	Aeroderivative (40 MW)
2032				Aeroderivative (40 MW)
2033		Reciprocating Engines (93 MW)		



# PORTFOLIO COMPARISONS

## SJGS REGIONAL HAZE COMPLIANCE SCENARIO - SIMILARITIES

- Based on growth of energy efficiency resource
- Require investments prior to 2018
- Post 2018 additions are renewables and peaking capacity

Year	Revised SIP with PV3	Revised SIP w/o PV3	FIP ("4 SCR")	FIP ("4-Unit Shutdown at SJ")
2014				
2015	Red Mesa (102 MW)	Red Mesa (102 MW)	Red Mesa (102 MW)	Red Mesa (102 MW)
	2015 Solar (23 MW)	2015 Solar (23 MW)	2015 Solar (23 MW)	2015 Solar (23 MW)
2016	Aeroderivative (40 MW)	Aeroderivative (40 MW)	Aeroderivative (40 MW)	Aeroderivative (40 MW)
	Solar (40 MW)	Solar (40 MW)		Solar (40 MW)
2017				Large GT (177 MW)
				Large GT (143 MW)
				Palo Verde 3 (134 MW)
				1x1 Combined Cycle (250 MW)
				Wind (100 MW)
2018	Large GT (177 MW)	Large GT (177 MW)		
	Palo Verde 3 (134 MW)	Large GT (143 MW)		
	San Juan Acquisition (78 MW)	San Juan Acquisition (78 MW)		
2019				
2020		Wind (100 MW)		Solar (20 MW)
2021	Wind (100 MW)			
2022				
2023				2nd Aeroderivative (40 MW)
2024				
2025			Wind (100 MW)	
2026	Solar (20 MW)	Solar (20 MW)	Solar (20 MW)	Reciprocating Engines (93 MW)
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2028				
2029	Aeroderivative (40 MW)	Aeroderivative (40 MW)	Aeroderivative (40 MW)	
2030				
2031	Small GT (85 MW)	Aeroderivative (40 MW)	Small GT (85 MW)	Aeroderivative (40 MW)
2032				Aeroderivative (40 MW)
2033		Reciprocating Engines (93 MW)		

# PORTFOLIO COMPARISONS

## SJGS REGIONAL HAZE COMPLIANCE SCENARIO - DIFFERENCES

- Net present value over twenty years
- Potential for higher than estimated costs over twenty years
- Carbon dioxide emission profiles

Year	Revised SIP with PV3	Revised SIP w/o PV3	FIP ("4 SCR")	FIP ("4-Unit Shutdown at SJ")
2014				
2015	Red Mesa (102 MW)	Red Mesa (102 MW)	Red Mesa (102 MW)	Red Mesa (102 MW)
	2015 Solar (23 MW)	2015 Solar (23 MW)	2015 Solar (23 MW)	2015 Solar (23 MW)
2016	Aeroderivative (40 MW)	Aeroderivative (40 MW)	Aeroderivative (40 MW)	Aeroderivative (40 MW)
	Solar (40 MW)	Solar (40 MW)		Solar (40 MW)
2017				Large GT (177 MW)
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2028				
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2032				Aeroderivative (40 MW)
2033		Reciprocating Engines (93 MW)		

# REMAINING ANALYSIS

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## FUTURE MEETING TOPICS

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- Technology assessment & Technology Breakthrough load curves (Jan 27)
- Portfolio Comparisons for Pricing and load curve analysis (week of Feb 3)
- Portfolio Comparisons for remaining cases (week of Feb 17)
- Summary of process and impact of Public Advisory Process (week of March 10)

# Thank you



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**MAKE SURE WE HAVE UP TO DATE CONTACT INFORMATION FOR YOU**

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[www.pnm.com/irp](http://www.pnm.com/irp) for documents

[irp@pnm.com](mailto:irp@pnm.com) for e-mails

Register your email on sign-in sheets for alerts of upcoming meetings and notices that we have posted new information to the website.

**Meetings Schedule:**

Tuesday, Sept. 17, 2013, 8 a.m.- noon

Friday, Sept. 20, 2013, 8 a.m.- noon

Thursday, Sept. 26, 2013, 8 a.m.- noon

Friday, Oct. 4, 2013, 8 a.m.- noon

Friday, Nov. 15, 2013, 8 a.m.- noon

# IRP GOALS

## BALANCE

