

# **Proposed 2010 Integrated Resource Plan**

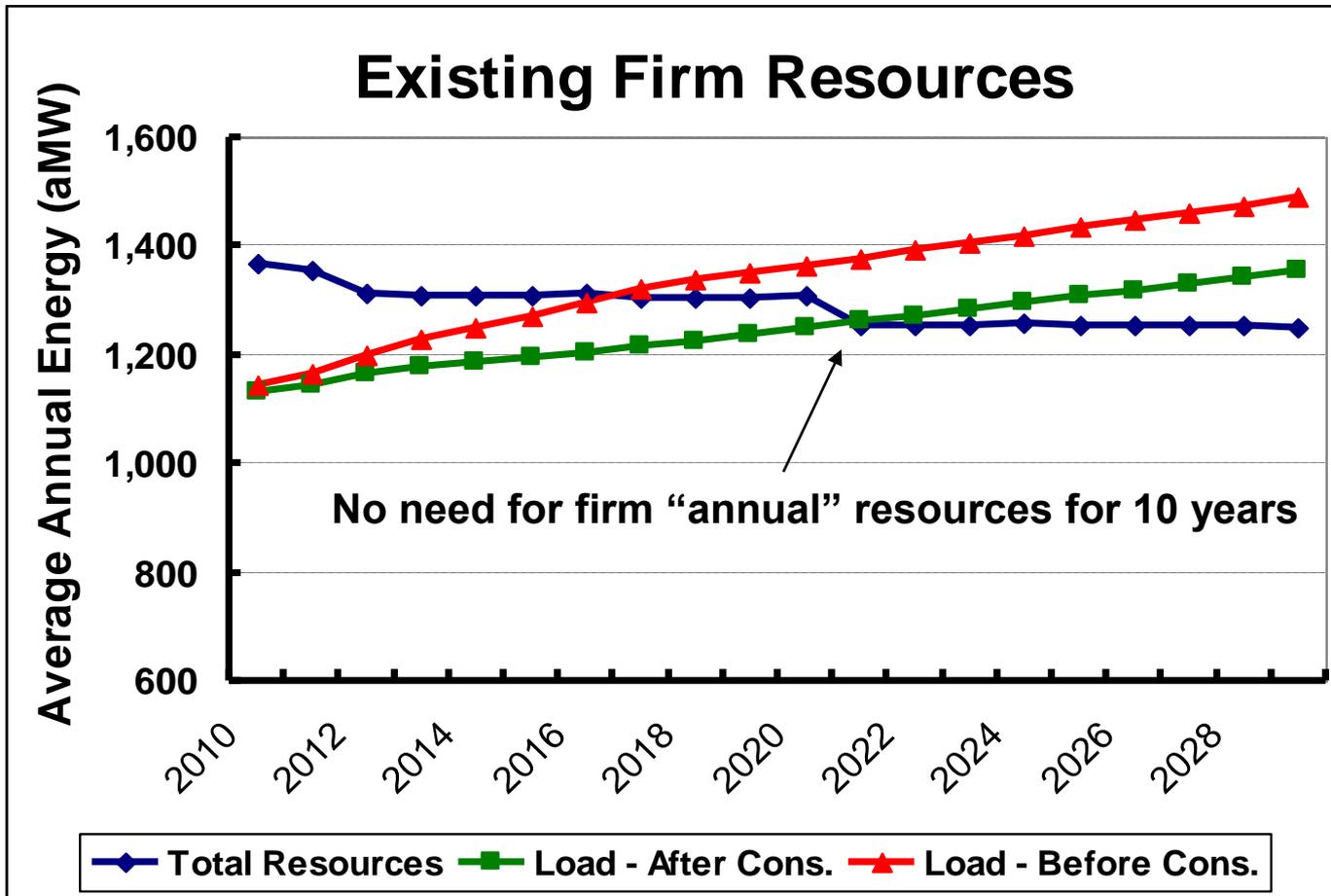
**Energy, Technology, & Civil Rights Committee  
Seattle City Council  
August 4, 2010**

# Integrated Resource Planning: Objectives and Key Questions

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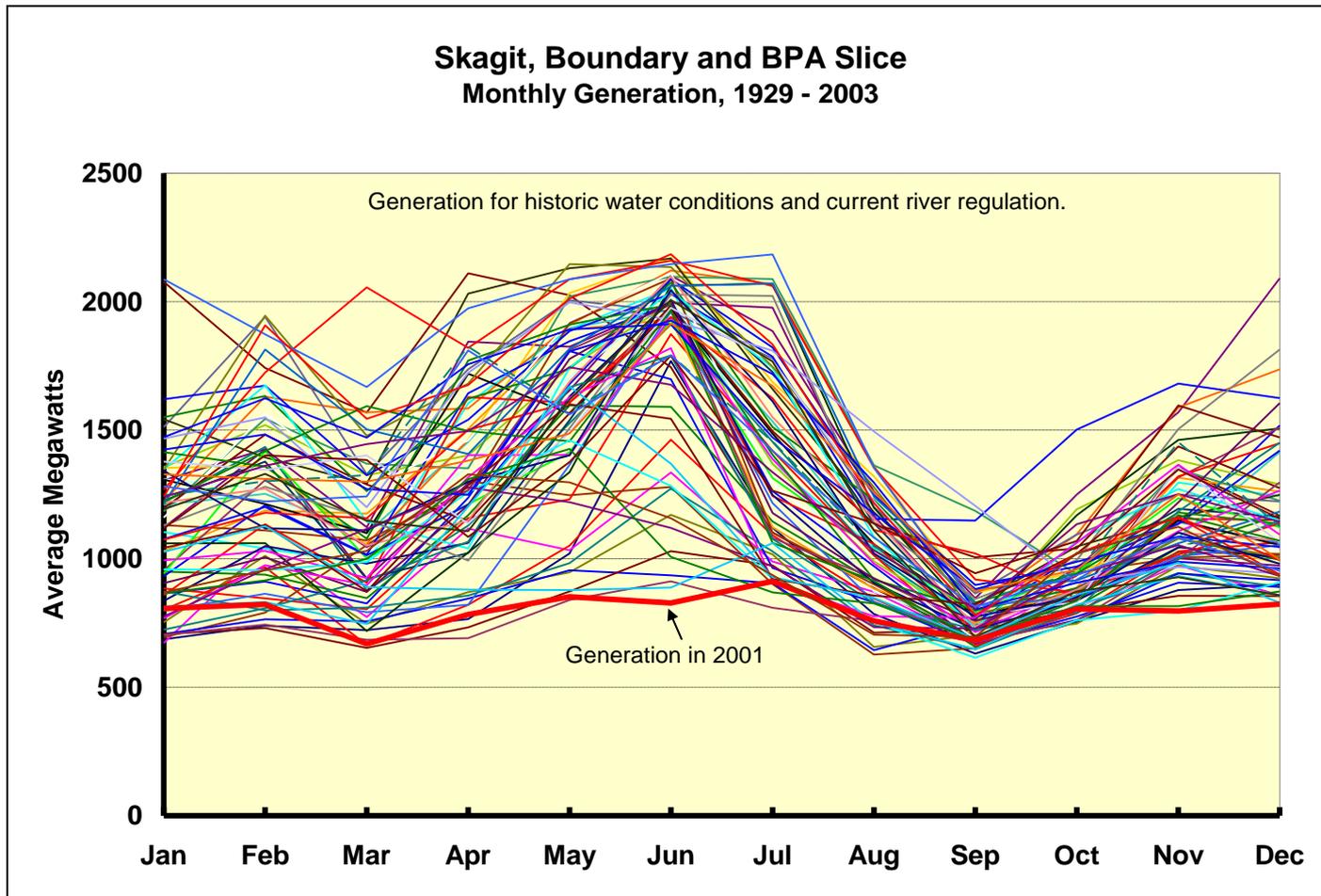
- Objectives:
  - Sufficient Power Supply for Reliability & Low Costs
  - Meeting I-937 and Other Regulatory Requirements
  - Appropriate Mix of Cost and Risk
  - Stakeholder and Public Involvement
  
- The IRP is About Three Key Questions:
  - How Much Conservation and Resources?
  - When?
  - What Kind?

# Forecast Annual Average Demand and Firm\* Resources

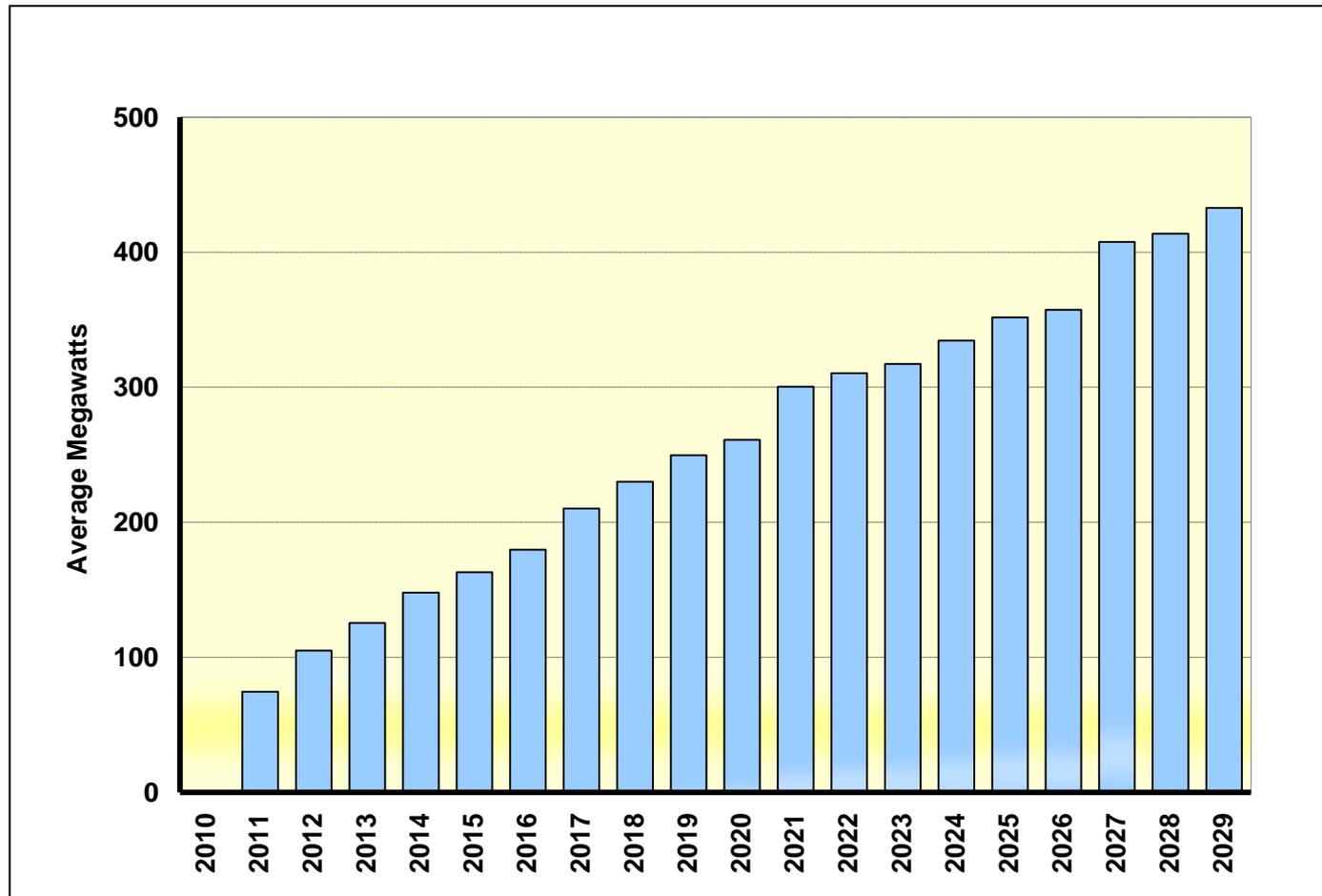


\*"Firm" resources are available even under very low hydro conditions

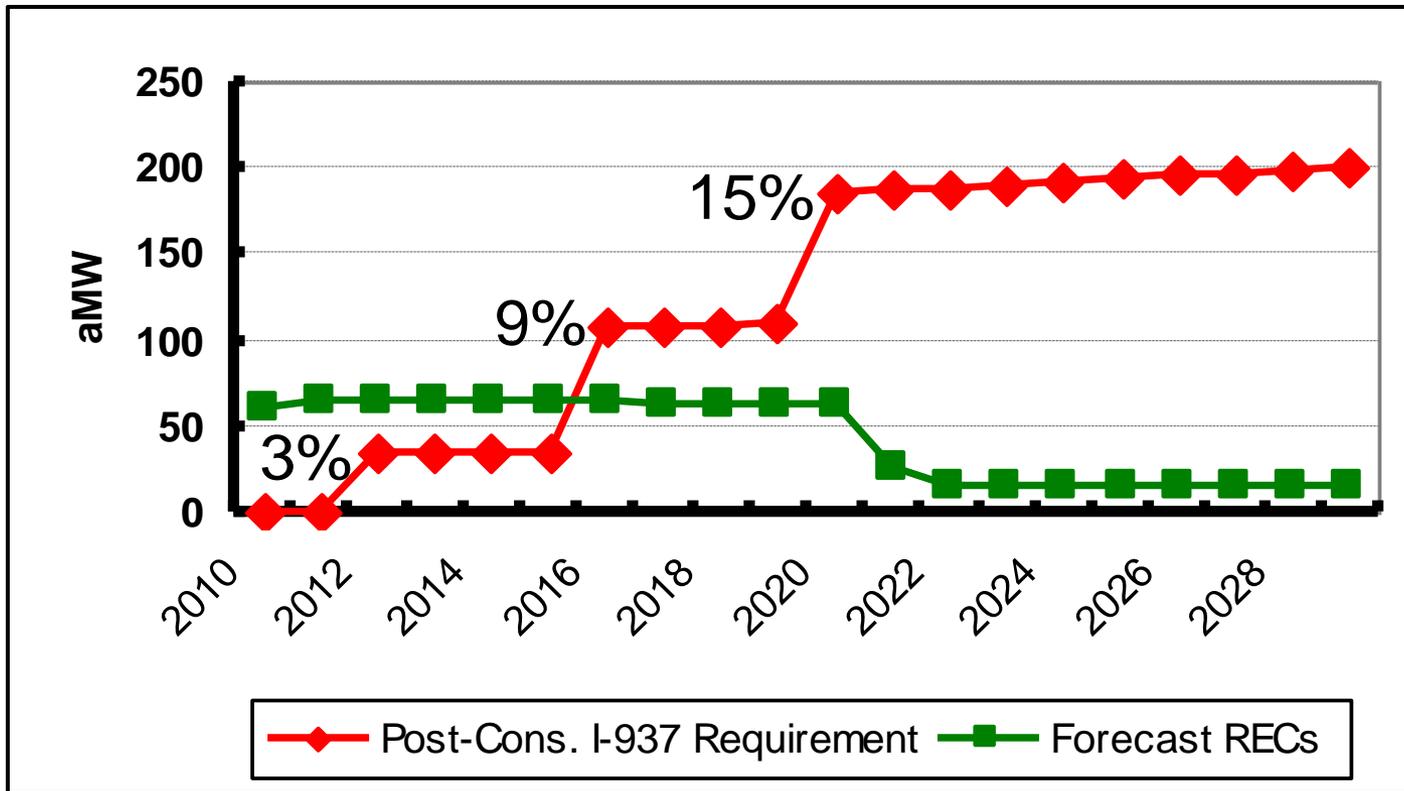
# Historical Hydro Generation for Skagit, Boundary, and Slice



# Winter Resources for 95% Coverage of Demand and Hydro Variability



# City Light I-937 Compliance Outlook: Now About 40 aMW Short for 2016



Hydropower is not a qualifying resource for I-937

# Nine I-937 Compliant Resource Portfolios Tested

Candidate Portfolio		2020 New Renewables (aMW)	2020 RECs (MWh)	Resource Strategy
1	RECs-Only	5	981,120	Rely on the market for power and RECs
2	Lo-RECs	119	35,040	Meet targets with mostly resources
3	Med-RECs	30	420,480	Blend of RECs and resources
4	Hi-RECs	75	814,680	RECs for I-937, resources for reliability
5	Gas & Max RECs	5	981,120	Natural gas CCT and maximum RECs
6	Wind & Gas	105	157,680	Lots of wind, natural gas SCT
7	Hi-Cons.	112	78,840	Higher conservation (5-yr. plan )
8	Max Exchanges	88	306,600	Highest level of exchanges
9	Cons: L.G.	29	823,440	Less conservation (pace of load growth)

# Performance of Top Three Portfolios: Rankings in Scenarios, Risk, and Cost

Scenarios	Top 3 Portfolios		
	Hi-Cons.	Lo-RECs	Hi-RECs
Low Demand	1	2	3
High Demand	1	2	3
Low CO <sub>2</sub> Cost	1	2	3
High CO <sub>2</sub> Cost	2	1	3
Low Natural Gas Prices	2	1	3
High Natural Gas Prices	1	2	3
Low REC Prices	2	1	3
High REC Prices	1	2	3
Scenario Average	1	2	3
Risk	1	3	2
20-yr. NPV of Costs	1	2	3

# “Preferred Portfolio” Recommendation: High Conservation

Preferred Portfolio*									
Cumulative Resources (aMW)									
	Conservation	Gorge Tunnel 2	Biomass Cogen.	Priest Rapids	Geothermal	Wind	CHP/DG	RECs	Total RECs & Resources
2010	14								14
2011	30								30
2012	46								46
2013	61								61
2014	74								74
2015	87	5							92
2016	100	5	14					17	136
2017	113	5	14	24				19	175
2018	124	5	14	24				22	189
2019	127	5	14	24	18			4	192
2020	130	5	28	24	18	56		9	270
2021	131	5	28	24	18	104			310
2022	132	5	28	24	18	104		11	322
2023	133	5	28	24	18	104	6	7	325
2024	134	5	28	24	18	104	6	9	328
2025	135	5	28	24	18	104	6	11	331
2026	136	5	28	24	18	104	6	13	334
2027	138	5	28	24	18	104	6	15	338
2028	139	5	28	24	18	104	6	17	341
2029	140	5	28	24	18	128	6		349

\*Excludes 50-100 aMW of short-term winter exchanges and reshaping transactions

# Key Action Items

Actions	2010	2011
<b>Conservation Resources</b>		
Pursue accelerated conservation in the amounts targeted in the Hi-Cons. portfolio	14 aMW by end of 4 <sup>th</sup> Qtr	16 aMW by end of 4 <sup>th</sup> Qtr
Complete a new conservation resource potential assessment for use in resource planning and I-937 compliance	Complete project design and contracting	Begin incorporating study results into IRP
<b>I-937 Renewable Energy Credits (RECs) and Resources</b>		
Continue to acquire RECS and/or renewable resources, in keeping with the resource acquisition strategy – as presented to the ETCR Committee on May 19 <sup>th</sup> , 2010	Identify and evaluate REC and renewable resource opportunities	Acquire an average of 7.3 aMW of renewables and/or RECs
<b>Generation Resources</b>		
Pursue full BPA contract rights	Analyze contract and provide input to BPA	Finalize the contract in 2011
<b>Market Resources</b>		
Serve retail load with market purchases, short-term exchanges, and transactions to reshape energy into the winter heating season as needed	Ongoing	Ongoing

# Questions or Comments?

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## **IRP Website Address:**

<http://www.seattle.gov/light/news/issues/irp/>

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