Strategic Capital Discussion Overview

September 19, 2011
10:00am – 12:00pm

Rates Hearing Room
911 N.E. 11th Ave, Portland, OR 97232

Participants may participate via phone by dialing 503-230-5566, after the double beep enter 0124#

Overview Outline

- Introduction
- Access to Capital
- Alternative Funding Tools
- Power Cash Flow
- Scenario Analysis
- Capital Review Process (Asset Management)
- Long-Term Capital Investment Strategy

Issue

BPA is undertaking a major capital investment effort and consequently anticipates the potential for exhausting available borrowing authority from the U.S. Treasury, as early as FY 2016 if no further action occurs.

Purpose

The 2011 Strategic Capital discussions will seek to inform and engage interested parties in weighing alternatives for ensuring capital financing at least overall cost over a rolling 10-year period by developing strategies and tools that will extend availability of BPA's Treasury Borrowing Authority.

When BPA updated its 10-year financial plan in 2008, it emphasized the importance of access to capital. The plan established three objectives relevant to this process:

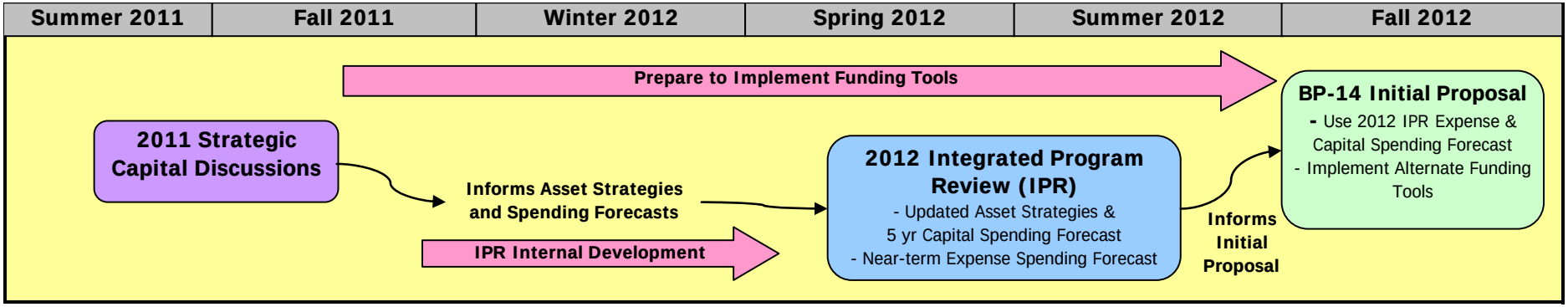
- Ensure that capital financing needs are covered over a rolling 10-year period.
- Develop strategies and tools that will extend BPA's Treasury borrowing authority availability over a rolling 20-year period.
- Ensure BPA is able to meet its capital requirements at least cost.

BPA believes the timing is now for discussing alternative strategies and tools to ensure capital financing at least overall cost over the long-term.

Timing

Discussions started today will inform future capital funding strategies that could impact funding tools and eventually long-term rates over the next ten years. These discussions are prior to updating Asset Strategies and forecast spending levels planned for discussion during the 2012 Integrated Program Review (IPR). The 2012 IPR, planned for Spring/Summer 2012 will provide external stakeholders with an opportunity to discuss and comment on updated capital strategies and near and long-term capital forecasts.

As Access to Capital becomes increasingly limited, BPA's capital asset strategy may need to evolve. Decisions made today could have a significant impact on long-term rates and allocation of capital funding over the next ten years.



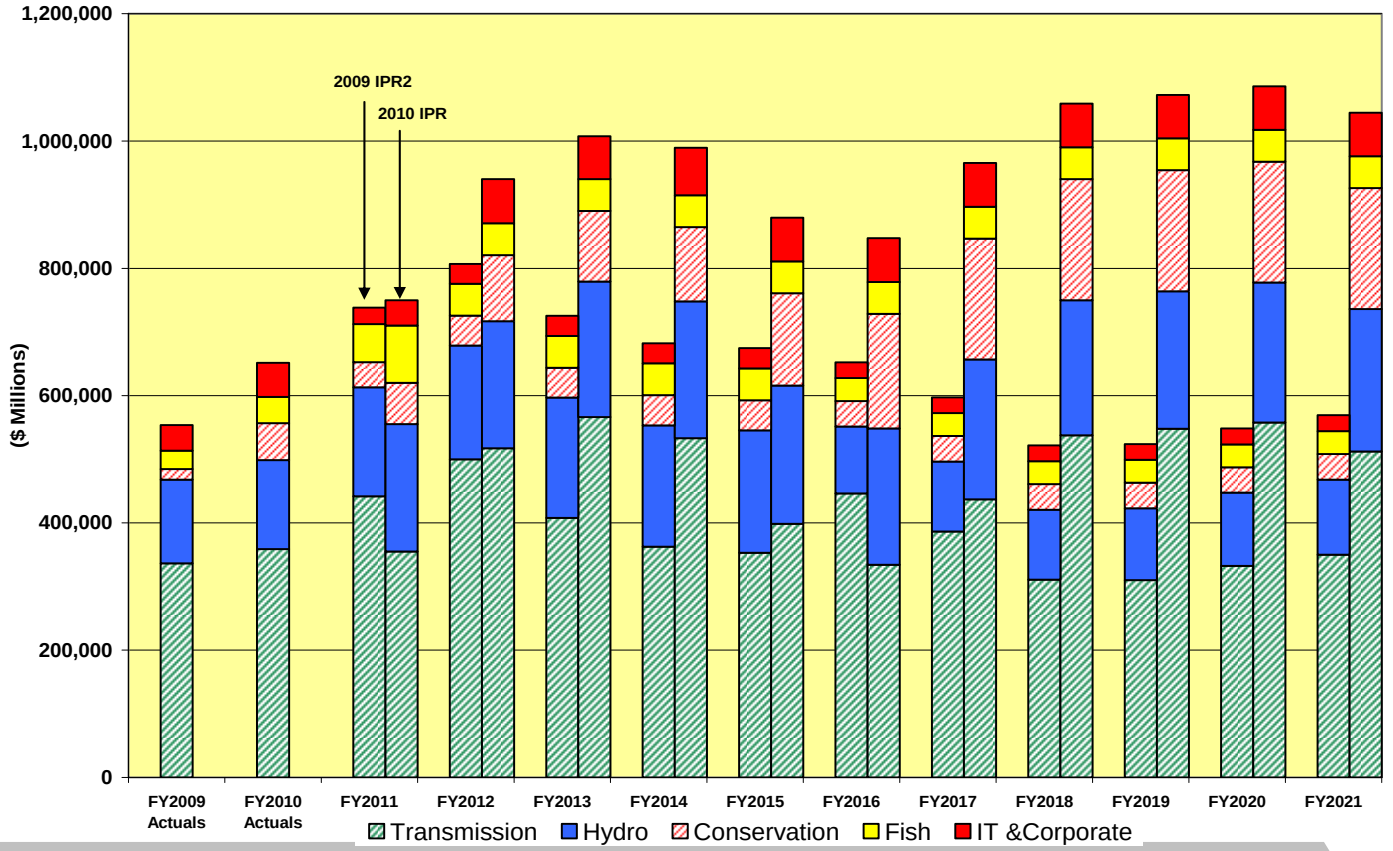
Background Information

Previous discussions and material pertaining to Access to Capital, Asset Strategies, Funding Tools and Long-Term Capital Forecasts have been summarized in a Background Publication accessible at http://www.bpa.gov/corporate/Finance/FinancePublicProcesses/2011CapitalStratDisc.cfm

Future Capital Investments

Projected investment in BPA's capital program between FY 2011-2017 increased approximately $1.5 billion from the 2009 IPR2 to the 2010 IPR. The increase results mainly from strategic evaluation of BPA's long term assets and implementation of 10-year Asset Strategies beginning in FY 2012.

Program estimates past FY 2017 have been inflated by 3.75%, similar to the method employed in the REP-12 long-term rate analysis. Where there was an identifiable shape, we attempted to replicate it.



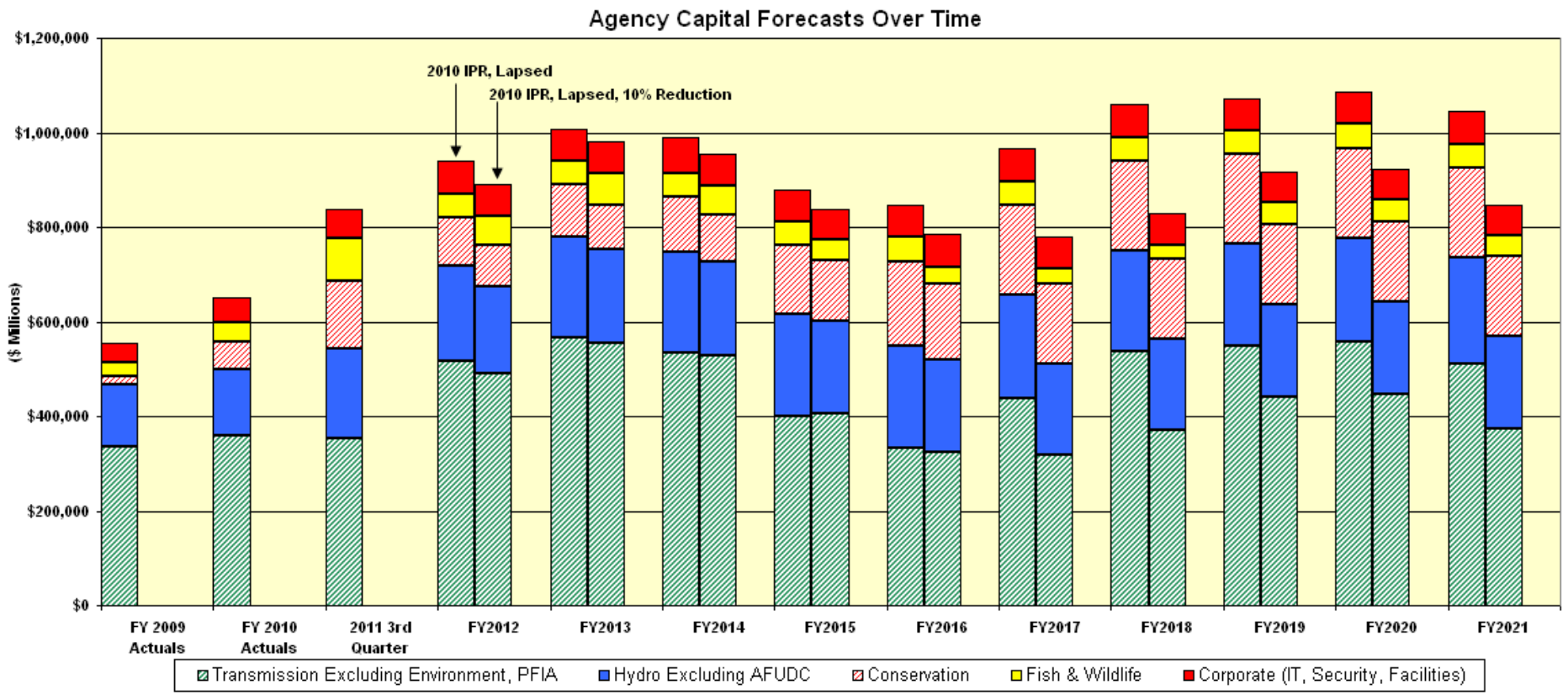
Future Capital Investments

- Rising capital forecasts support crucial investments in aging infrastructure and deteriorating assets across the system as well as new capacity and enhanced system operations.
- Increases in capital forecast come primarily from:
  - Major transmission network reinforcement projects;
  - Major hydro investments such as the rehabilitation of the Grand Coulee Third Powerhouse;
  - Implementation of Fish & Wildlife Accords;
  - Efforts to meet aggressive energy efficiency targets set by the Northwest Power and Conservation Council and additional capitalization of Conservation beginning in FY 2012; and
  - IT projects including ROD replacement and efficiency targets.
- BPA believes the planned capital investments discussed in the 2010 IPR are cost effective from both a long and a short-term perspective, and do not risk potential violation or system degradation due to delayed investment.

Reduction Scenario

- Given the long-term outlook of BPA's access to capital, BPA executives determined that a reduction scenario exercise to assess the impact of reduced capital levels on programs would be prudent.
- Per executive guidance, capital program managers evaluated the impact of a 10% capital reduction to the Agency's 2010 IPR lapsed forecast.
- Considering the 10 percent cost reduction eliminates some cost effective measures while producing a manageable level of risk.
- However, reducing IT capital spending forecast by 10% over ten years endangers delivery of the IT efficiency and automation programs in support of business units.
- These capital discussions reflect the 10 percent Agency reductions as the base case.
- There is currently a considerable amount of uncertainty surrounding Conservation capital levels. In this process spending forecasts do not reflect changes resulting from 2011 spending.
- Prior to making any further reductions to capital, BPA is seeking input from participants on alternative funding tools to ensure access to Treasury borrowing authority over a rolling ten year period. Additional reductions to capital forecasts may be necessary if alternative funding tools are not implemented.

Long Term Agency Capital Investment



Borrowing Authority

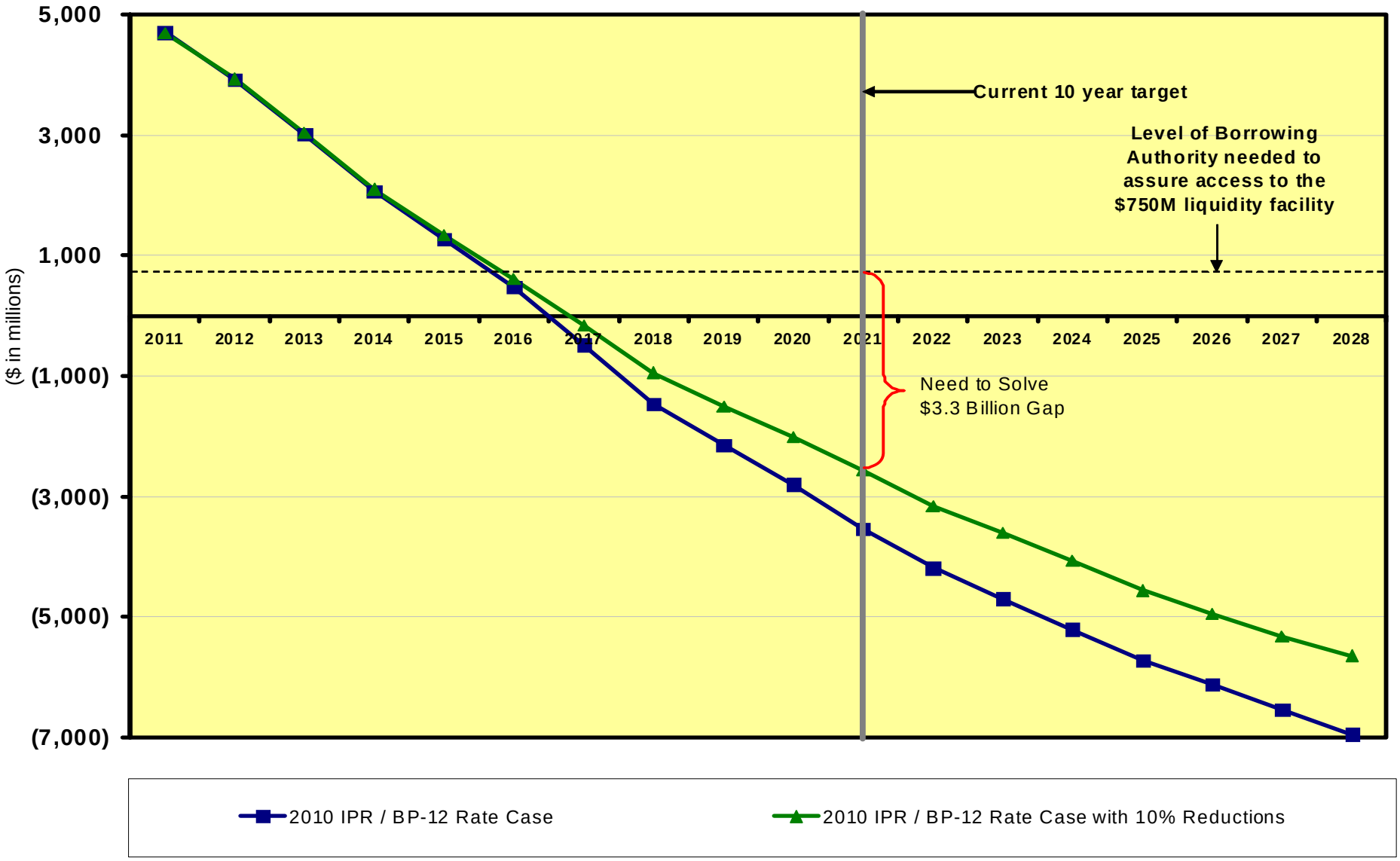
The Facts about Borrowing Authority

- Since 1974, BPA has financed capital projects primarily with borrowing from the U.S. Treasury.
- Using Treasury Borrowing is relatively easy and flexible with minimal notice requirements and transparent pricing.
- An increase in BPA's Treasury borrowing authority is considered to be a corresponding increase in the Federal deficit on the date the respective legislation is enacted, and therefore could require offsetting spending reductions as a condition of approval.

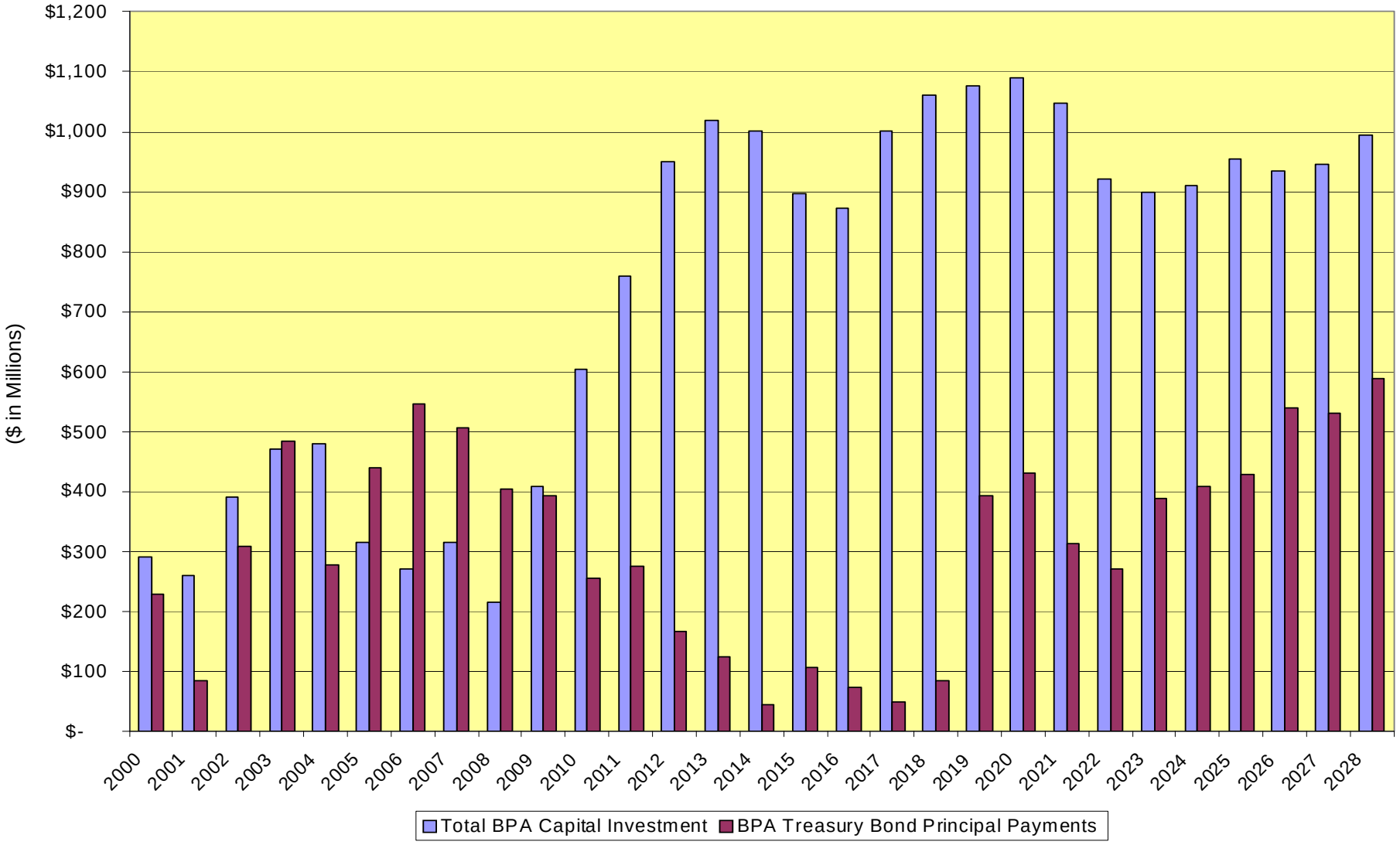
The Situation Today

- Unless new sources of capital are developed, BPA is expecting to run out of its limited Treasury Borrowing Authority in FY 2016. The magnitude of the Access to Capital problem after FY 2016 is a significant concern.
- Access to Treasury Borrowing Authority on a rolling ten year basis is critical given the majority of BPA’s capital projects span across multiple years, requiring funding certainty prior to commencement.
- Alternative funding tools are being explored and planned for discussion, however implementation of new mechanisms typically take 2-3 years.
- As BPA continues to analyze this problem, your support and assistance is needed to aid in finding the proper balance between future capital investments and funding alternatives that ensure access to Treasury Borrowing Authority on a rolling ten year basis.

Remaining Agency Treasury Borrowing Authority



Capital Spending and Treasury Bond Principal Payments



Remaining Treasury Borrowing Authority

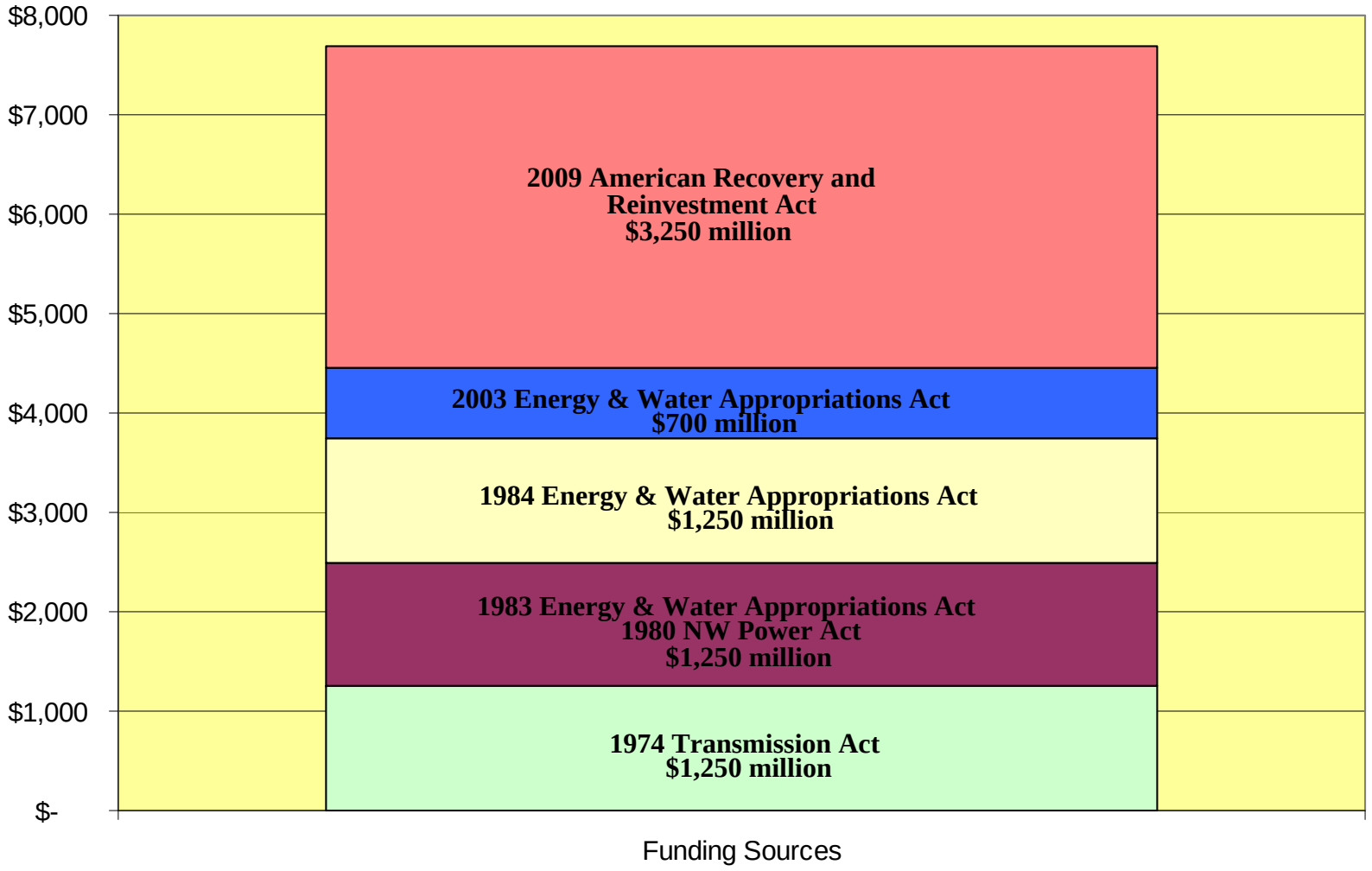
The "Access to Capital" Gap

$ millions

		Annual Average Over 10 Years	Total FY 2012-2021
	Rate Case Assumptions		
1	Remaining Borrowing Authority as of end of FY 2011	471	4,705
2	Amortization (Principal payments to Treasury)	178	1,777
3	Total Available Treasury Financing (1 + 2)	648	6,482
4	Proposed Capital Spending	(1,002)	(10,016)
5	Gap in Access to Capital with 100% Treasury Financing (3 + 4)	(353)	(3,534)
6	Preserve available liquidity	(75)	(750)
7	**Gap with Liquidity** (6 + 7)	(428)	(4,284)
	Closing the Gap Beginning in 2012		
8	Annual reduction needed to close the gap beginning in 2012 (over 14 years)	(428)	(4,284)
9	10% Reduction in capital investments over 10 years	99	990
10	**Remaining Gap** (8 + 9)	**(329)**	**(3,294)**
	Use individual financing alternatives beginning 2012 - change from 10% reduction scenario		
11	50% Conservation	67	665
12	Anticipated Accumulation of Cash	72	720
13	Pre-Pay	170	1,702
14	20% Lease Financing	88	882
15	Use of Existing Transmission Reserves	33	331
16	Transmission Replacements Revenue (Rate) Financing	123	1,233
	Use combinations of financing alternatives - change from 10% reduction scenario		
17	50% Conservation and 20% Lease Financing	155	1,547
18	Prepays and 20% Lease Financing	258	2,584
19	Prepays, 50% Conservation and 20% Lease Financing	325	3,249
20	Prepays, 50% Conservation, 20% Lease Financing and Use of Existing Transmission Reserves	358	3,575
21	Rate Financing to Maintain Minimum Borrowing Authority	331	3,309
	Use variations of the financing alternatives - change from 10% reduction scenario		
22	Expense Conservation and Fish and Wildlife	151	1,507
23	Lease Finance NOS and 20% Lease Financing	145	1,452

Statutory Sources of Borrowing Authority

$5.2 Billion Remaining Borrowing Authority as of the End of Fiscal Year 2010

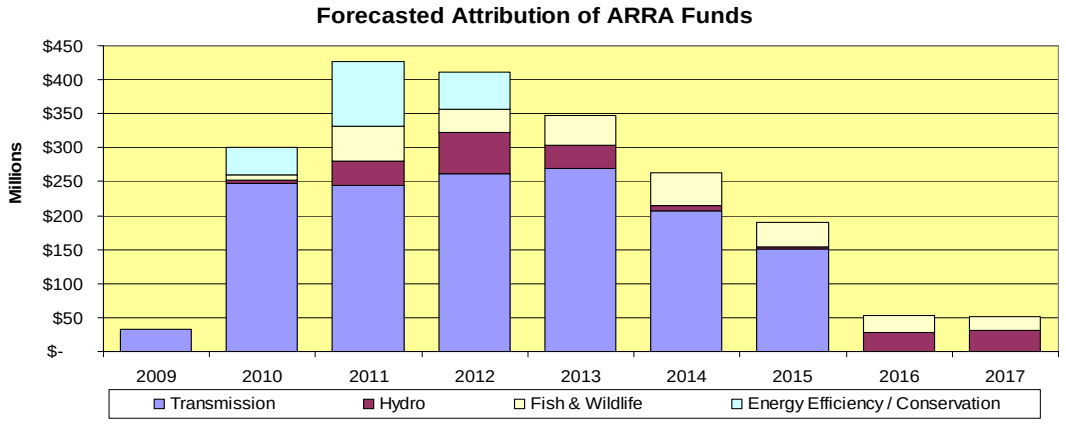


History of Funding Sources and Debt Management Actions

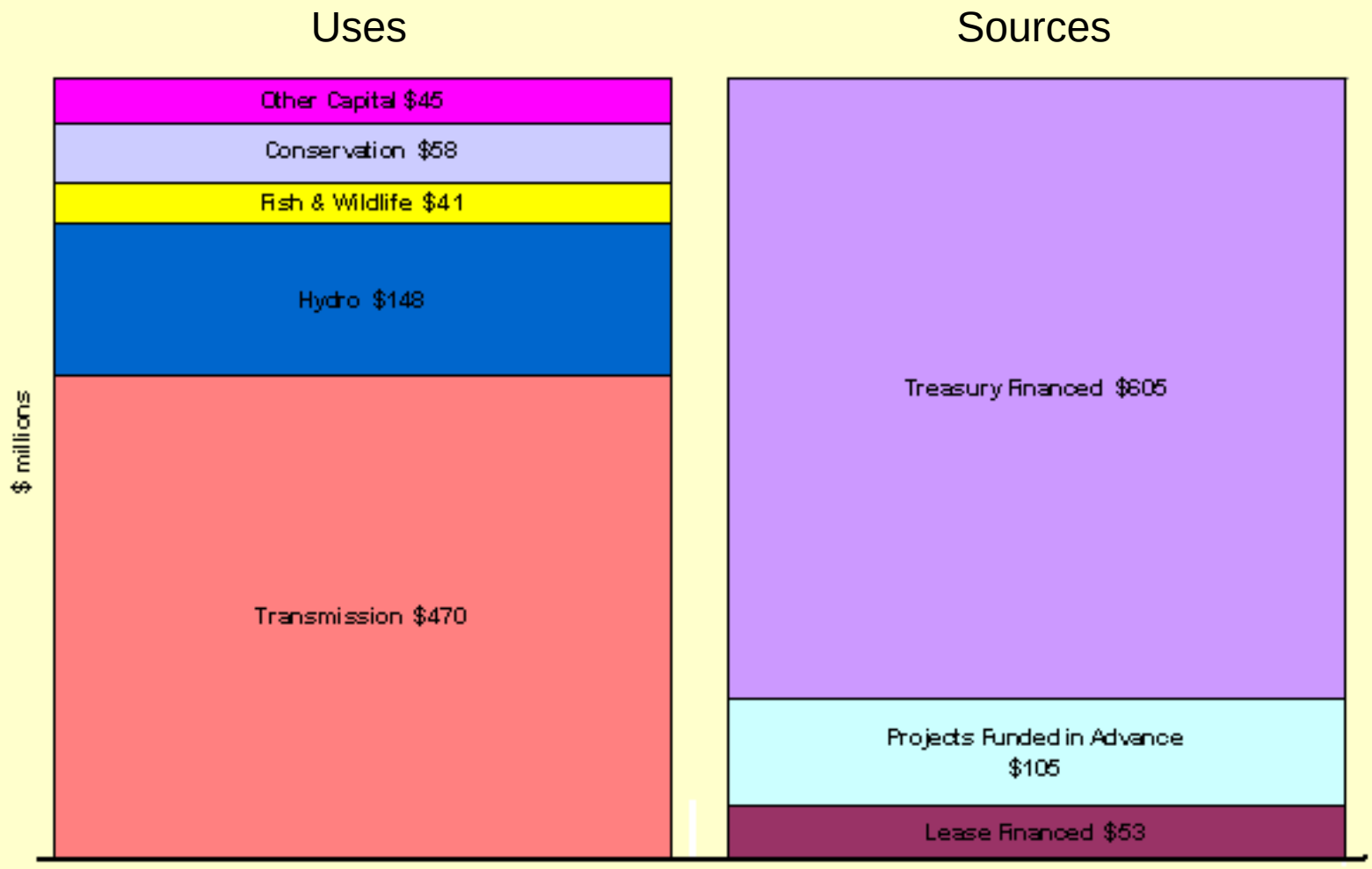
- 1974 – Transmission Act (initial $1.25 billion Treasury Borrowing Authority)
- 1983 – Energy Water Appropriations Act & 1980 Power Act (additional $1.25 billion Borrowing Authority)
- 1984 – Energy and Water Appropriations Act (additional $1.25 billion Borrowing Authority)
- 1989 – Initial Energy Northwest Refinancing for Savings Transactions
- 1990 – Energy Northwest Accelerated Front End Savings Program (~ $300 million NPV savings for rate relief)
- 1994 – Conservation Third Party Direct Funding for Corp/Reclamation Investments
- 1996 – BPA Appropriations Refinancing Act (no Borrowing Authority impact)
- 2001 – Debt Optimization Program Begins
- 2002 – 2004 – Energy Northwest Debt Service Reserve Fund Releases (~ $300 million rate relief)
- 2003 – Energy and Water Appropriations Act ($700 million increase in Borrowing Authority)
- 2004 – Lease Financing Program begins ($120 million)
- 2006 – CGS Debt Extension ($350 million for rate relief and $100 million for Debt Optimization)
- 2007 – Lease Financing Program expanded (~$510 million)
- 2008 – $300 Million Short-Term Liquidity Facility from Treasury (Increased to $750 million in 2009)
- 2009 – American Recovery and Reinvestment Act ($3.25 billion in additional Borrowing Authority)
- 2011 – EN Debt Restructuring / CGS Debt Extension ($1 billion for rate relief)

ARRA Borrowing Authority Use

- The American Recovery and Reinvestment Act provided BPA with an additional $3.25 billion in Treasury Borrowing Authority under the Transmission System Act, thereby increasing total available Borrowing Authority to $7.7 billion.
  - Projects attributed to this increased borrowing authority are required to meet certain federal reporting requirements and material purchasing requirements.
- Overall, BPA has attributed roughly $2 billion in planned capital projects to ARRA funding through 2017. Of this total, $736 million has been expended through mid-August 2011.
- Capital projects attributed to ARRA include major transmission network reinforcement projects and other infrastructure investments; major rehabilitation of the Grand Coulee Third Powerhouse; investment in three major hatchery projects and in other Fish and Wildlife investments; and the effort to meet aggressive energy efficiency targets set forth in the Northwest Power and Conservation Council's 6th Power Plan.
- The chart below depicts ARRA attributed capital spending.



FY 2010 Capital Spending and Funding Sources



Alternative Funding Tools

Cash Financing Tools

- BPA can use cash reserves that have accumulated over time as a source of funds for capital investments.
  - Transmission Services, for example, has used $15 million per year of reserves to fund capital investments since the TR-08 rate case.
  - Given the size of the reserves attributed to Transmission Services, BPA could increase the amount of reserves used for this purpose, although the amount of cash available would be limited by the business unit's risk requirements.
- BPA can also generate cash through rates to fund capital investments. This can be done explicitly, known as revenue financing, by adding a specific cash requirement to the business unit's revenue requirement.
  - Revenue financing has been included on occasion in Power and Transmission rates.
  - BPA can also generate cash implicitly when the revenue requirement would naturally lead to the accumulation of cash. This occurs when rates are set to meet the forecast of accrued expenses and scheduled Federal debt repayment is lower than non-cash expenses. This condition will very likely occur for Power Services in the 2014-2024 period as the bulk of Energy Northwest debt is repaid and Federal debt payments are minimal.

Lease Financing

- The Lease Financing Program is BPA's primary existing alternative source of financing to help preserve BPA's limited Treasury borrowing authority. This program can be used to fund only the Transmission capital program, and not all Transmission capital projects meet the criteria for the program.

- Under this program, BPA enters into lease arrangements with a third party. BPA acts as construction agent to construct and install the leased assets. The construction costs of the assets are financed through bonds or bank lines of credit. Payment of the debt service is secured solely by BPA's lease payments.

- The Lease Financing Program is more expensive than Treasury borrowing authority.

- We expect to maximize the use of the Lease Financing program, striking a balance with use of ARRA borrowing authority.

Third-Party Conservation Financing

- BPA is developing a third-party financing program for conservation acquisition that could be in place as early as FY 2013.
- Non-federal financing employs a BPA-backed bond financing construct which is similar to EN bonds and other non-federal financings in which BPA is obligor and pledges to pay debt service on the bonds.
- The third-party acts as issuer of municipal bonds (tax-exempt as much as possible) and the bond proceeds are used to make BPA's annual conservation investments.
- This funding tool is expected to be able to finance approximately 50% or more of BPA's capitalized conservation acquisition per year.

Third-Party Conservation Financing

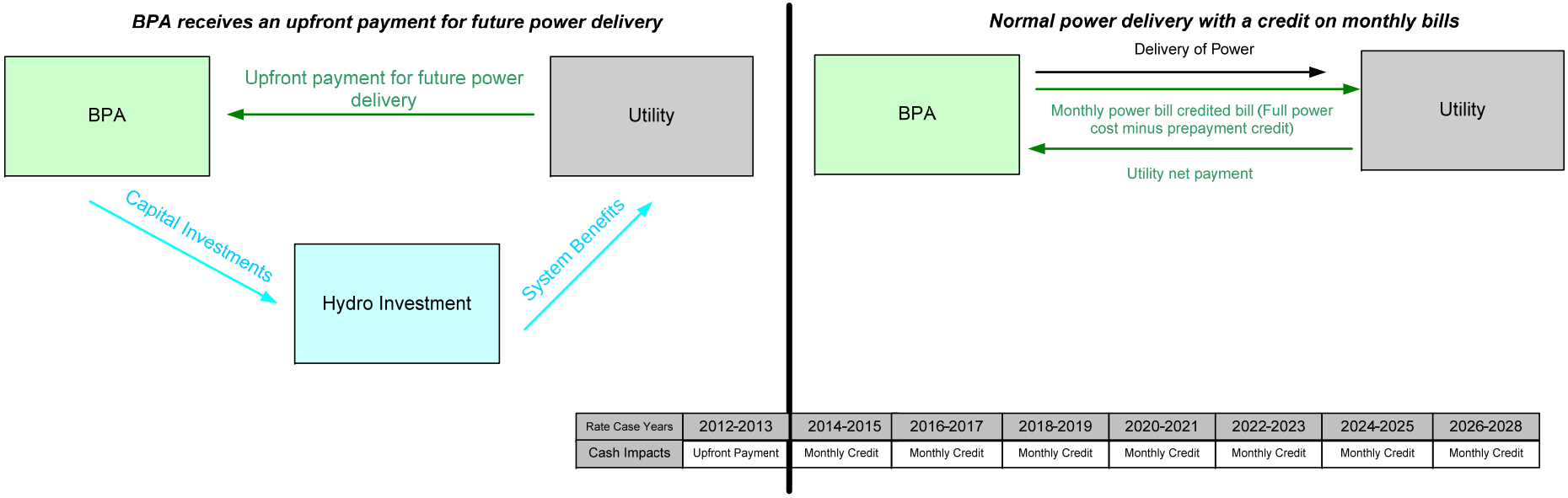
- The funding program is being developed with the goal of minimizing Conservation/EE contract revisions.
- Customers will need to sign a new 3-party agreement with BPA, the issuer (3rd-party), and the individual customer.
- BPA will retain program management as is currently in place. We are evaluating and developing a method that will have the least impact to systems and invoicing processes.
- BPA used third-party financing in the mid-90's to fund conservation projects for individual utilities.
- Third party financing is a viable, efficient, and cost-effective source of capital for those conservation investments that qualify.

Customer Power Pre-Pay

- BPA is exploring a potential customer power prepayment program that could be offered as early as FY 2012.
- A utility would pre-purchase power through 2028 and in return receive corresponding reductions in its future bills through 2028. The utility may fund the upfront prepayment from its financial reserves and/or from the proceeds of bonds it issues for the pre-purchase.
- After the prepayment is made to BPA, subsequent power bills would show reductions (under a fixed, agreed-to schedule) that in aggregate equal the amount of the prepayment plus an imputed interest component. The shape of the offsetting power bill credits may not reflect a level debt service schedule (agreed to in the initial prepayment agreement).
- The amount of power that a customer may pre-purchase would be limited to a portion (under 50%) of its total purchase obligation from BPA. The prepayment envisioned would not involve a prepayment for a fixed block of power at a fixed rate/price. Rather, the scheduled reductions in future power bills would be calculated based on the amounts that would otherwise be due to BPA *at then-current power rates.* This would assure that BPA's ability to change power rates, including the power rates applicable to pre-paying customers, would not be affected.
- A prepayment brings future power revenue forward that enables BPA to invest in power related capital projects prior to depletion of borrowing authority.

Customer Power Pre-Pay

A customer power pre-pay is a relatively cheap source of capital and is efficient and cost-effective for power related capital investments.



Rate Case Years	2012-2013	2014-2015	2016-2017	2018-2019	2020-2021	2022-2023	2024-2025	2026-2028
Cash Impacts	Upfront Payment	Monthly Credit	Monthly Credit	Monthly Credit	Monthly Credit	Monthly Credit	Monthly Credit	Monthly Credit

Power Cash Flows

Power Cash Flows

- Current forecasts for Power revenue requirements between 2014 and 2024 indicate a potential accumulation of cash over the period.
  - This is in large part due to the Debt Optimization Program and the recent additional restructuring of Energy Northwest debt.
  - The repayment model that schedules Federal debt repayment responds to the magnitude of non-Federal debt service that is present: *the greater the non-Federal debt service, the smaller the Federal repayment scheduled.*
- Between 2014 and 2024 low amounts of Federal debt are scheduled for repayment. This includes fixed irrigation assistance payments (as no-interest obligations, irrigation assistance is only paid when it comes due).
- Revenue requirements are based on total accrued expenses: O&M, purchased power and transmission services, depreciation and net interest expenses.
- This issue was previously discussed in the 2008 Financial Plan Update and BPA believes the time is approaching when this issue should be addressed.
- We plan to include this issue in pre-rate case discussions after the start of the calendar year.

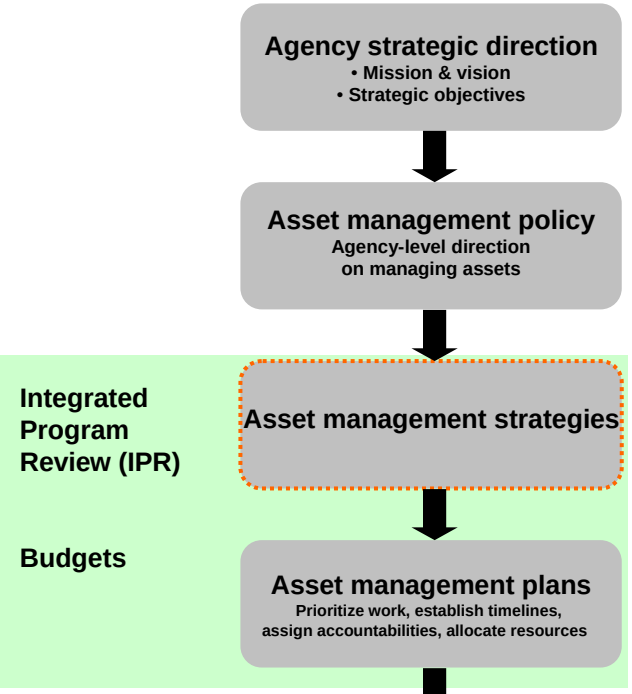
Power Cash Flows

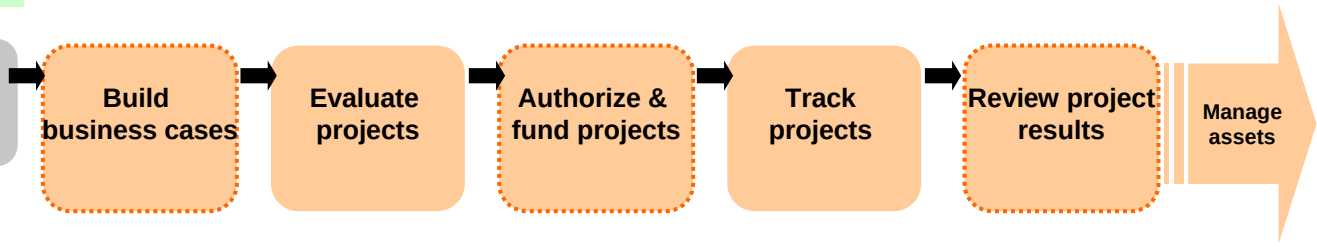
- When non-cash items (like depreciation) do not provide sufficient funds to cover cash requirements for debt repayment and irrigation assistance, net revenues are added to the revenue requirement so that, not only does accrual cost recovery occur, but full cash coverage is also achieved.
- During 2014-2024 the opposite is true: non-cash items could be greater than cash requirements by an estimated $1.1 billion over the next eleven years.
  - When this general situation previously occurred in the 1990s, the cash was applied toward risk mitigation for meeting Treasury Payment Probability, reducing the need to add Planned Net Revenues for Risk to the revenue requirement. However, that was before establishment of the Slice product and the different means of risk mitigation for Slice and non-Slice products.
- This projected cash flow will be discussed further when addressing alternative funding tools in detail.

($000s)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	
Non-Cash Elements	178,674	183,385	184,133	201,104	218,921	236,912	260,908	279,609	297,816	309,871	319,703	
Cash Requirements	100,470	124,487	74,815	51,277	52,276	228,836	214,058	198,398	189,278	178,085	148,324	
Cash Flow	78,204	58,898	109,318	149,827	166,645	8,076	46,850	81,211	108,538	131,786	171,379	1,110,731

Capital Review Process – Asset Management

BPA's Asset Management System





A systematic, rigorous process for:

- **Determining long-term investment strategies**
- **Evaluating and authorizing capital projects**
- **Tracking performance**

Develop Ten Year Asset Strategies

- Asset management strategies are key to ensuring that critical FCRPS assets operate reliably, meet availability requirements, provide adequate capacity, and incur costs that are prudent and economic over the long-term.
- Asset management strategies must be developed and maintained for Transmission, Federal Hydro, Facilities and IT at a minimum.
  - Fish & Wildlife and Conservation asset strategies are currently under development.
- Asset strategies are developed to answer the following questions:
  - Which assets are critical to achieving reliability, availability, adequacy and other long-term outcomes?
  - What performance objectives should we set for critical assets?
  - How are our critical assets performing today?
  - What are the performance gaps to meeting the performance objectives, and which gaps should we close?
  - What are the risks to closing the gaps, and which risks should we manage?
  - What should our investment and maintenance strategies be?
  - What are the anticipated costs?
- Asset strategies are reviewed and approved by the Capital Allocation Board (CAB). The CAB is comprised of the Administrator, Deputy Administrator, Chief Operating Officer, Chief Financial Officer, Chief Risk Officer, and the EVP-Corporate Strategy Officer.

Business Case Development

- BPA policy requires a Business Case for all proposed capital projects.
- The Business Case is the vehicle for proposing, evaluating, and authorizing capital projects.
- Capital projects must be consistent with the investment needs, strategies, and priorities in the asset category's asset plan.
- A Business Case must show a business need for investment; assess financial and nonfinancial implications and risks; evaluate alternatives; propose project implementation targets; and otherwise justify the capital project.
- Business cases must employ the agency's common planning assumptions when they are applicable to a project.
  - Common planning assumptions include economic or financial assumptions, such as load forecast, market price forecast, inflation forecast, and discount rate assumptions.
- Business Cases are initially reviewed and approved by the Agency Capital Project Review Team (ACPRT). The ACPRT is comprised of senior staff from Finance, Enterprise Risk Management, and Agency Asset Management. If the Business Case exceeds $7 million or is strategically important, CAB review and final authorization is required.
- Capital projects must be approved before funding is made available and capital expenditures incurred.
- Project sponsors monitor progress of capital projects and provide quarterly updates on schedule and cost. These updates are posted on the BPA Asset Management website.
- Post Project Reviews are conducted once capital projects are placed in service.

Customer and Stakeholder Outreach

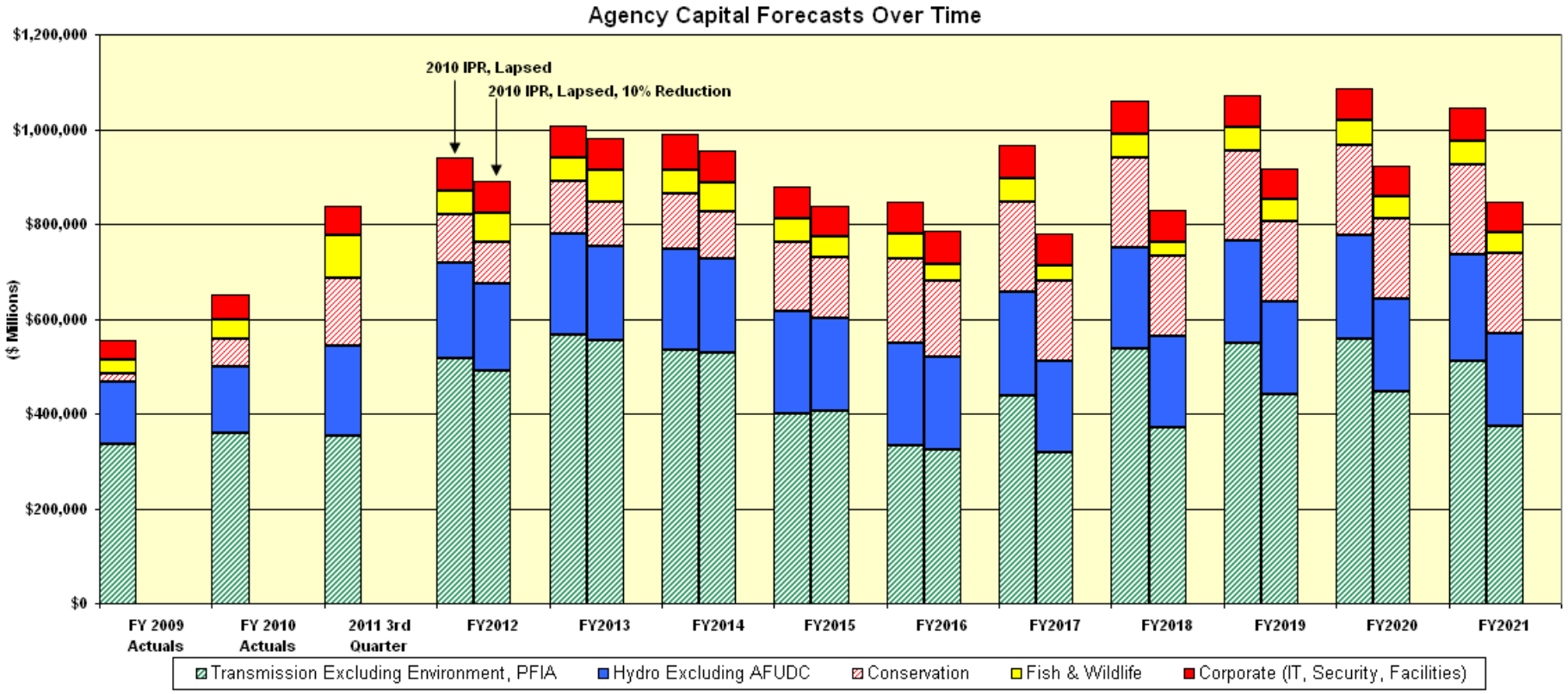
- Components within an Asset Strategy are typically updated on a 2-year cycle for corporate and external stakeholder review. Components typically include:
  - A description of the business environment;
  - A summary of asset criticality, including rationale;
  - Asset performance objectives, measures and end-stage targets;
  - A summary of current asset performance (gap analysis);
  - Summary results from risk assessments;
  - Strategies;
  - Proposed planning levels; and
  - Continuous improvement plan.
- Customers and other stakeholders have an opportunity to review and comment on updated Asset Strategies during the Integrated Program Review (IPR) or similar process.
  - The IPR occurs every two years, or just prior to each rate case.
- Quarterly updates on capital spending, project progress and emerging issues are discussed during the Quarterly Business Review (QBR).

Long-Term Capital Investment Strategy

Methodology for Reductions

- As previously discussed program managers participated in a reduction exercise analyzing the impact and risk resulting from a 10 percent reduction over a 10 year period based on 2010 IPR levels.
- BPA Executives reviewed these results and determined that a reduction of 10 percent over a 10 year period (excluding IT) eliminates some cost effective measures while producing a manageable level of risk.
- Because much of the capital spending in FY 2012-2013 is tied to work that has already begun or been contracted for, a 10 percent reduction across the board for each year is not feasible.
- Programs provided update capital forecasts with roughly a 10 percent reduction shaped over the FY 2012-2021 period. Generally reductions are smaller in the next couple of years, growing in later years.
- Reductions were not taken across the board, instead programs have identified the areas where reductions were achievable with the least impact to program achievement.
- Information Technology (IT) capital spending improves business unit efficiency and capability and could not be reduced beyond the IPR forecasts without jeopardizing delivery of the business unit programs. Each program other than IT has been reduced slightly more than their 10 percent to “spread” the IT 10 percent reduction to the other programs.

Long Term Agency Capital Investment



Detailed Capital Level Estimates FY 2012-2021

2010 IPR Lapsed	2012	2013	2014	2015	2016
Power Excluding AFUDC	$353,566	$ 374,115	$381,674	$ 411,987	$ 443,942
Transmission Excluding Environment and PFIA	$517,235	$ 565,907	$533,170	$ 398,691	$ 334,304
Corporate	$ 69,127	$ 67,543	$ 74,343	$ 68,766	$ 68,882
Total	$939,928	$ 1,007,565	$989,187	$ 879,444	$ 847,128

2010 IPR Lapsed with 10% Reductions	2012	2013	2014	2015	2016
Power Excluding AFUDC	$332,735	$ 359,215	$358,280	$ 365,990	$ 391,634
Transmission Excluding Environment & PFIA	$490,254	$ 554,603	$529,092	$ 407,020	$ 324,574
Corporate	$ 68,539	$ 66,862	$ 67,706	$ 63,835	$ 67,908
Total	$891,527	$ 980,680	$955,077	$ 836,845	$ 784,115

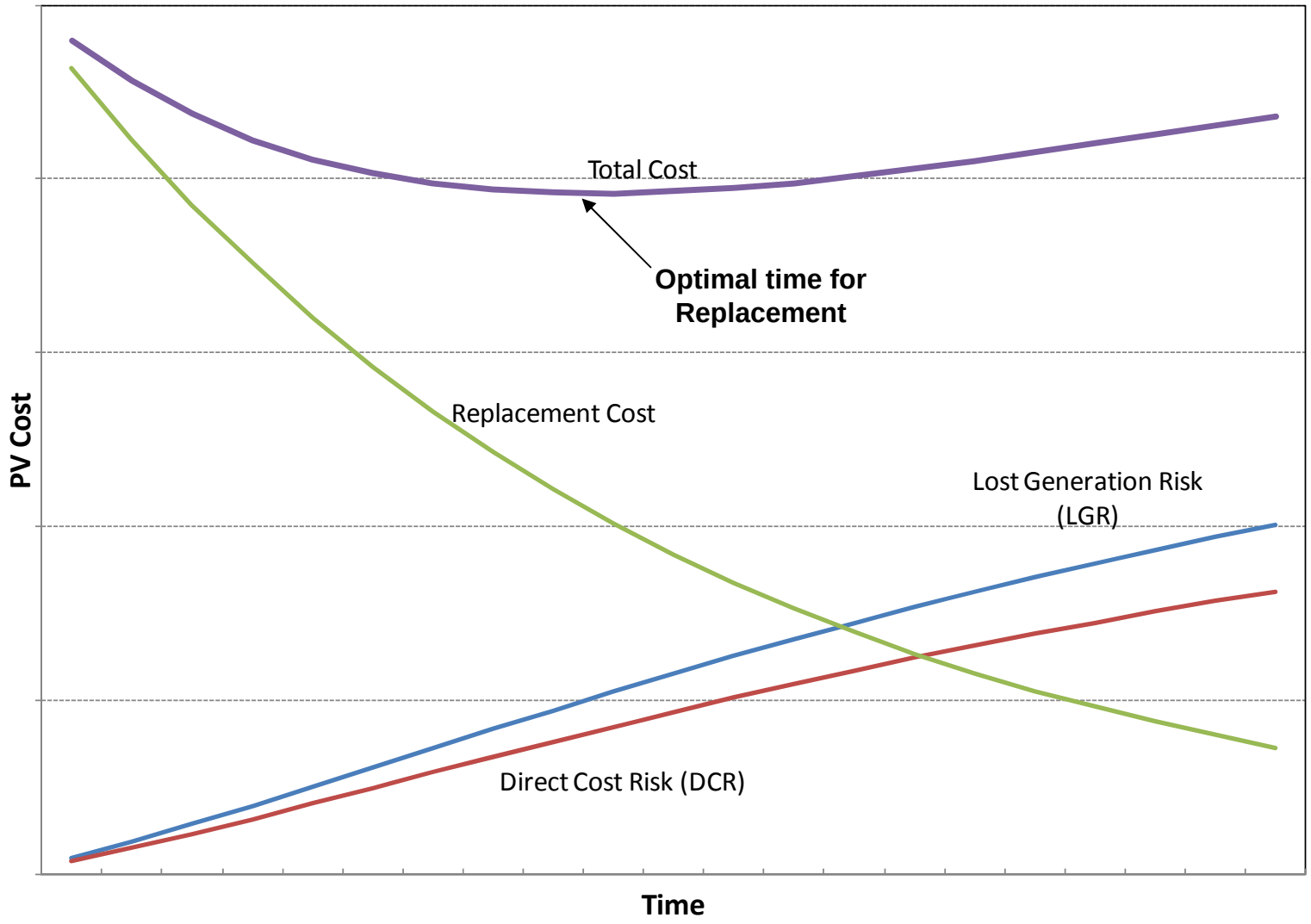
2010 IPR Lapsed	2017	2018	2019	2020	2021
Power Excluding AFUDC	$ 459,824	$ 452,500	$ 456,113	$ 459,786	$ 463,523
Transmission Excluding Environment and PFIA	$ 436,837	$ 537,541	$ 547,923	$ 557,743	$ 512,365
Corporate	$ 68,714	$ 68,699	$ 68,255	$ 68,398	$ 68,392
Total	$ 965,375	$ 1,058,740	$ 1,072,291	$ 1,085,927	$ 1,044,280

2010 IPR Lapsed with 10% Reductions	2017	2018	2019	2020	2021
Power Excluding AFUDC	$ 393,844	$ 392,598	$ 409,209	$ 409,857	$ 409,647
Transmission Excluding Environment & PFIA	$ 317,496	$ 369,560	$ 441,944	$ 447,287	$ 373,216
Corporate	$ 69,080	$ 67,215	$ 66,870	$ 65,318	$ 64,880
Total	$ 780,420	$ 829,373	$ 918,024	$ 922,463	$ 847,742

Hydro

- Bonneville Power Administration, the Army Corps of Engineers and the Bureau of Reclamation shared a comprehensive report on the age, condition and value of the Federal Columbia River Power System (FCRPS) during the 2010 Integrated Program Review (IPR).
  - This assessment identified major components of the hydro power system in need of replacement in order to meet reliability standards, availability requirements, environmental and safety standards, and other needs.
  - The 2012 Hydro Program Asset Strategy identified a plan to meet these requirements while minimizing the life-cycle costs of assets, thereby maximizing the value of the FCRPS.
- To accomplish this, the Asset Strategy takes a least-cost approach to determine the timing of future equipment replacement decisions.
  - *Equipment Replacement Cost, Lost Generation Risk (LGR,) Incremental Equipment Failure Risk (DCR,) Safety Risk* and *Environmental Risk* are forecast in annual time steps in order to determine the optimum timing for replacement for each piece of equipment in the system.
  - The Hydro Program Optimization model is run for each piece of equipment on the system and results in the “least-cost plan” for the Hydro Program. This least-cost approach is described graphically on the next slide.

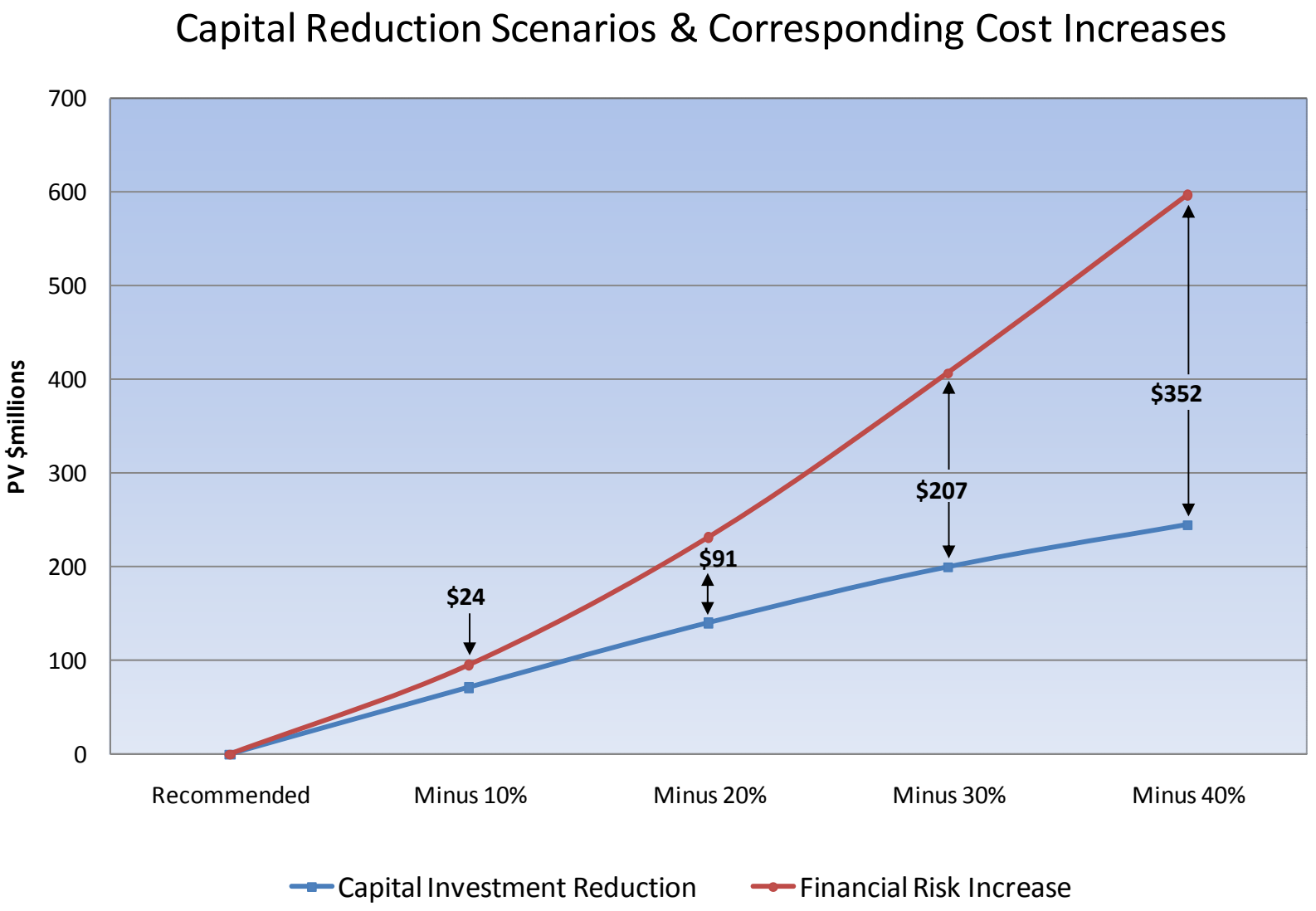
Hydro – Total Cost of Replacement at Different Points in Time



Hydro

- The recommended capital program identified during the 2010 IPR process was roughly $250 million per year.
- In response to constraints on borrowing authority, the Hydro Program optimization model was re-run with annual funding constraints below the recommended program levels.
- As capital funding levels for the FCRPS were increasingly constrained, more new investments were deferred past their cost minimum, which caused the Total System Cost to increase accordingly. Financial risk costs outpaced investment deferral benefits at an ever-increasing rate.
- Deviating from the “least-cost plan” increases the Total System Cost and correspondingly results in upward pressure on rates. The graph on the next slide displays the difference between Capital Investment reductions, i.e. cost “savings” (blue,) and the corresponding impact to financial risk, i.e. cost increases (red,) across a range of funding levels.

Hydro


Capital Reduction Scenarios & Corresponding Cost Increases
PV $millions
700
600
500
400
300
200
100
0
Recommended
Minus 10%
Minus 20%
Minus 30%
Minus 40%
$24
$91
$207
$352
Capital Investment Reduction
Financial Risk Increase

Fish & Wildlife

- **BPA's Integrated Fish and Wildlife Program (Integrated Program) implements projects that meet the following:**
  - BPA's fish and wildlife mitigation objectives under the Northwest Power Act, consistent with the Program adopted by the Northwest Power and Conservation Council.
  - BPA's Endangered Species Act (ESA) offsite fish and wildlife requirements under biological opinions from the U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration (NOAA Fisheries)
  - BPA's commitments encompassed within the Columbia Basin Fish Accords.
- **The Fish and Wildlife long term capital investment strategy includes 3 primary types of investment – major construction, land acquisitions, and tributary passage improvements.**
- **The entire capital budget essentially supports meeting the Accord, BiOp, or wildlife mitigation commitments. Adjustments may be necessary due to the recent ruling from Judge Redden's court.**
- **Shaping of the 10% reductions over the next ten years reflect higher capital forecast in the near-term (FY 2012-14) with lower levels in the long-term (FY 2015-21).**
  - Increases in the near term support Accord hatchery investments (including Chief Joseph and Snake River Sockeye among others), and land acquisitions for wildlife and resident obligations (such as the Willamette Memorandum of Agreement (MOA) and the Montana and Salish Kootenai agreements).

Fish and Wildlife

The management plan for reduced investments over the next ten years is briefly outlined below:

Major Construction (Primarily hatcheries)

- F&W management will work with Accord partners to develop a comprehensive hatchery construction schedule. Timeslots with fiscal year spending bounds will be developed for each hatchery.
- Contingencies will be built into existing budgets to allow for change orders while not exceeding the total construction budget.

Land Acquisitions

- Land purchases will be used as a dial to assist in fully utilizing budgets.
- Stronger coordination with sponsors and Realty Services to optimize opportunities to make acquisitions in the fiscal years desired to better meet budgets.
- Settlement agreements are being pursued to define remaining obligation and financial commitment (and phase out over time).

Tributary Passage (Screens, culverts)

- Tributary passage is the smallest capital component, but supports the implementation objectives of the BiOp for reducing limiting factors or removing barriers that impede listed populations access to spawning or rearing habitat.

Conservation

- Under the Northwest Power Council's 6th Power Plan, Energy Efficiency is identified as the lowest cost energy resource. BPA partners with its wholesale utility customers to achieve public power's share of all cost-effective conservation identified in the Council's Power Plan.
- Over the last 29 years (1982-2010), BPA and its customers have saved more than 1,100 average megawatts (aMW) of electricity through Energy Efficiency (EE) and Conservation.
  - These savings are equivalent to the generation from the region's nuclear plant (Columbia Generating Station) on a firm energy basis.
- Today, demand for EE is strong and the targets set under the Northwest Power and Conservation Council's 6th Power Plan are aggressive. The public power target nearly doubled from 260 aMW (52 aMW/year) in the 5th Power Plan to 504 aMW (~101 aMW/year) in the 6th Power plan.
- To meet these aggressive targets EE capital investments have risen substantially in recent years. This is due in part to increasing targets as well as the phasing out of the Conservation Rate Credit (CRC) in FY 2011, and the capitalization of most programmatic conservation acquisition beginning in FY 2012.

Conservation

- Consistent with BPA's Post 2011 Policy, BPA's capital budgets are set to acquire 75% of public power's programmatic savings target, with the other 25% expected to come from utility self-funding.
- Starting in FY 2012, up to 30% of BPA's capital budget will be used to fund BPA managed regional conservation programs and complete development of the EE Central reporting system.
- The bulk of BPA's conservation capital budget, at least 70%, will support utility Energy Efficiency Incentives (EEI).
  - The EEI budget will be distributed to utilities based on their share of BPA's tier 1 system (Tier One Cost Allocator). This distribution is based on an equity principle that utilities have access to funds relative to their portion of the Tier 1 system.

Transmission

The Transmission Services Asset Management Strategies are designed to convert the agency's mission, vision, and strategic objectives into long-term investment and maintenance strategies. While ensuring long-term asset costs will be prudent and economic, the Strategies seek to ensure the critical assets operate reliably, meet availability requirements and provide adequate capacity into the future.

- Transmission Services capital program key drivers for developing expansion strategies are:
  - Meeting NERC planning standards and WECC reliability criteria
  - Improving reliability through path constraint mitigation
  - Incorporating new Generation Sources
  - Upgrading key Transmission infrastructure
  - Meeting Customer Service requirements
- Transmission Services capital program key drivers for developing replacement strategies are:
  - Equipment end of life issues;
  - Equipment maintainability and availability;
  - Equipment security and exposure to hazards;
  - Obsolescence and original equipment manufacturer (OEM) support; and
  - Legislative and regulatory compliance.

Transmission

- Based on BPA Transmission Services' participation in the 2010 Transmission & Distribution Benchmarking Community survey, the following are FY 2009 comparisons for line and substation capital programs:
  - The line replacement capital spending percentage to installed asset base is lower than average. BPA's replacement rate is 2.2% while the mean is 3%.
  - The line expansion capital spending percentage to installed asset base is also lower than average. BPA's spending rate is 1% while the mean is 1.7%.
  - The substation capital spending percentage to installed asset base is also lower than average. BPA's spending rate is 5% while the mean is 9.2%.

Transmission

- Given that Transmission Services capital program levels in the base IPR are 25% below what has been identified as being needed to implement just the replacement program strategies, a 10% reduction scenario results in significant modification to Main Grid and Area & Customer Service program strategies.
  - With the majority of the reduction or delay in Main Grid and Area & Customer Service, serious issues may arise concerning path constraints, limiting BPA's ability to incorporate generation and deliver power beyond the region.
  - Reduced or delayed capital spending in replacements will cause increased failures, outages and require emergency/unplanned repairs and/or replacements, and ultimately cost the agency more in the long-run.
- An overall 10% reduction takes approximately 5% from the baseline of each capital program and removes 1/2 of the original project contingency.

Security

- Security system enhancements are driven by the need to protect Transmission assets that support the reliability of the Northwest Bulk Electric System (BES) as well as provide a safe and secure work environment.
- BPA has implemented a graded security strategy which provides a long term solution for protecting BPA's critical facilities from identified threats. This strategy is in line with requirements put forth by Homeland Security, Department of Energy, and other congressional mandates (e.g. NERC CIP).
- Delaying the implementation of the graded security strategy increases BPA's risks associated with protecting critical assets.

Non-Electric Facilities

- The goals of Facilities Asset Management (FAM) include establishing facility priorities, identifying risks, and developing strategies to mitigate those risks. Facilities-related risks are grouped into two areas: building failures that adversely impact the BPA power system and hazards that put BPA employees at risk.
- FAM has undertaken assessments over the last few years to identify critical assets and the conditions of these assets. The risk of failure of the assets has been modeled and a capital plan has been developed to address the highest risks to the system.
  - Leasehold Improvements at HQ
  - Facilities to Enable Improved Transmission Field Maintenance Operations
  - Facility Asset Sustainment
  - Life, Safety and Work Environment
  - Continuity of Critical Business Operations
- Postponing or eliminating replacement of a facility will reduce capital costs but will increase maintenance and repair costs.

Information Technology

- The BPA IT Capital strategy is providing agency cost savings and efficiencies while striking a balance between maintaining system reliability, implementing Operational Excellence, and attaining regulatory compliance while being good environmental stewards.
- Approximately 70% of IT Capital investments directly benefit BPA's customers and business lines by either delivering new capabilities or increasing efficiencies of existing capabilities.
- Approximately 30% of the IT Capital is allocated to maintaining a secure and reliable computing environment.
  - A key component of the IT strategy in meeting these drivers is to introduce efficiencies and industry best practices to drive down out year infrastructure costs.
  - Offsetting the server saving is a dramatic increase in storage requirements.
  - Between FY 2012 to FY 2017, the following activities are planned to maintain a secure and reliable IT infrastructure:
    - Desktop modernization (FY 2012- 2013)
    - PBX replacement (FY 2013)
    - Network modernization and migration to IPv6 (FY 2014-2015)
    - Data center modernization (FY 2017-2018)

New Additions

- Celilo Upgrade is Needed:
  - Aging control systems are becoming un-maintainable and degrading reliability.
  - Original GE transformers are over 40 years old and gassing.
  - The expansion transformers and smoothing reactor's have a design defect.
  - Celilo-NOB DC transmission line vibration dampers and compression fittings are nearing the end of their useful life (40+ years old).
  - The estimated cost of the project is $350 million.

- John W. Keys III Pump-Generating Plant (at Grand Coulee) Adds Value:
  - Hydroelectric pumped storage will aid in managing variable energy resources within the Federal Columbia River Power System and has significant potential in the Pacific Northwest.
  - Keys Pump-Generating Plant is currently underutilized and nearing the end of its useful life with reliability and availability issues beginning to emerge. Investment in modernization and upgrades would make Keys a valuable resource for providing balancing services for variable generation resources.
  - The total project cost would range from $140 million to $300 million.

Financial Disclosure

This information has been made publicly available by BPA on September 12, 2011 and contains information not reported in agency financial statements.