

COLUMBIA BASIN FUND

Initial Economic Assessment

April 2021



HILBERK

Purpose of this Study

- Provide an initial economic assessment of the proposed Columbia Basin Fund
- Consider distributional impacts by sector and geography
- Consider the long-term economic outcomes in the Lower Snake River region and the Northwest as a whole

Our Discussion Today

- The Proposed Investment
- Anticipated Economic & Fiscal Impacts
- Long-term Economic Outlook
- Conclusion
- Q&A

Summary of Key Findings

The Columbia Basin Fund offers opportunity to add jobs, upgrade infrastructure, and strengthen the economy.

- Support for an average of 20,000 jobs a year in the Northwest over the first 10 years of the investment.
- Strategic upgrades to infrastructure.
- The opportunity to leave the energy and tourism sectors stronger than they are now.

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It's important contract this opportunity with a realistic picture of the status quo.



The Proposed Investment



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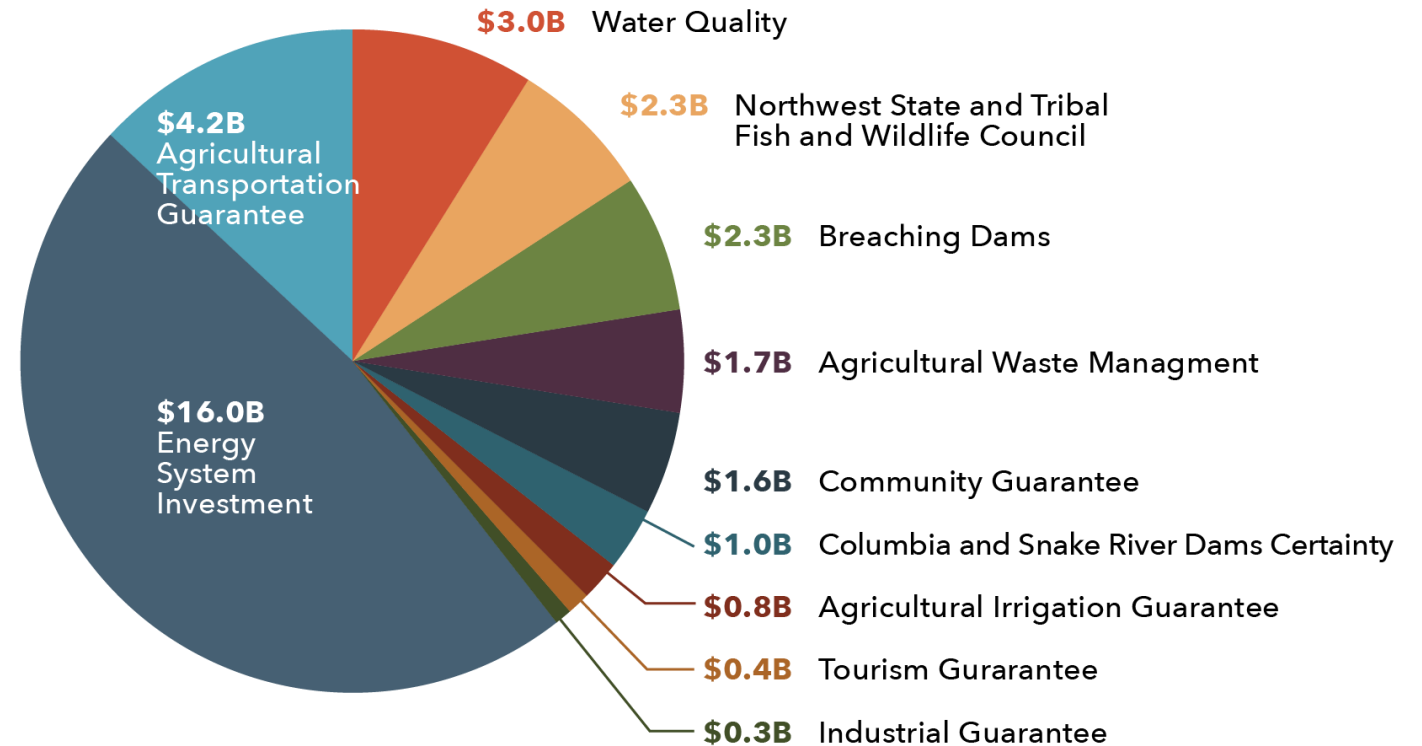
On Feb. 7, U.S. Rep. Mike Simpson released a framework for the proposed Columbia Basin Fund

- 50+ line items for community investment, leaving specifics up to local communities and industries
- Broad categories of investment:
 - Energy replacement, efficiency, and research
 - Agricultural transportation
 - Water quality
 - Habitat restoration
 - Dam breaching
 - Waste management
 - Irrigation infrastructure
 - Economic development
 - Tourism promotion

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Key Findings

1. Over \$30 billion of the proposed investment (93% of the funds) would be allocated to supporting the region's economic transition.
2. \$2.2B (7%) will be invested in Tribal communities.

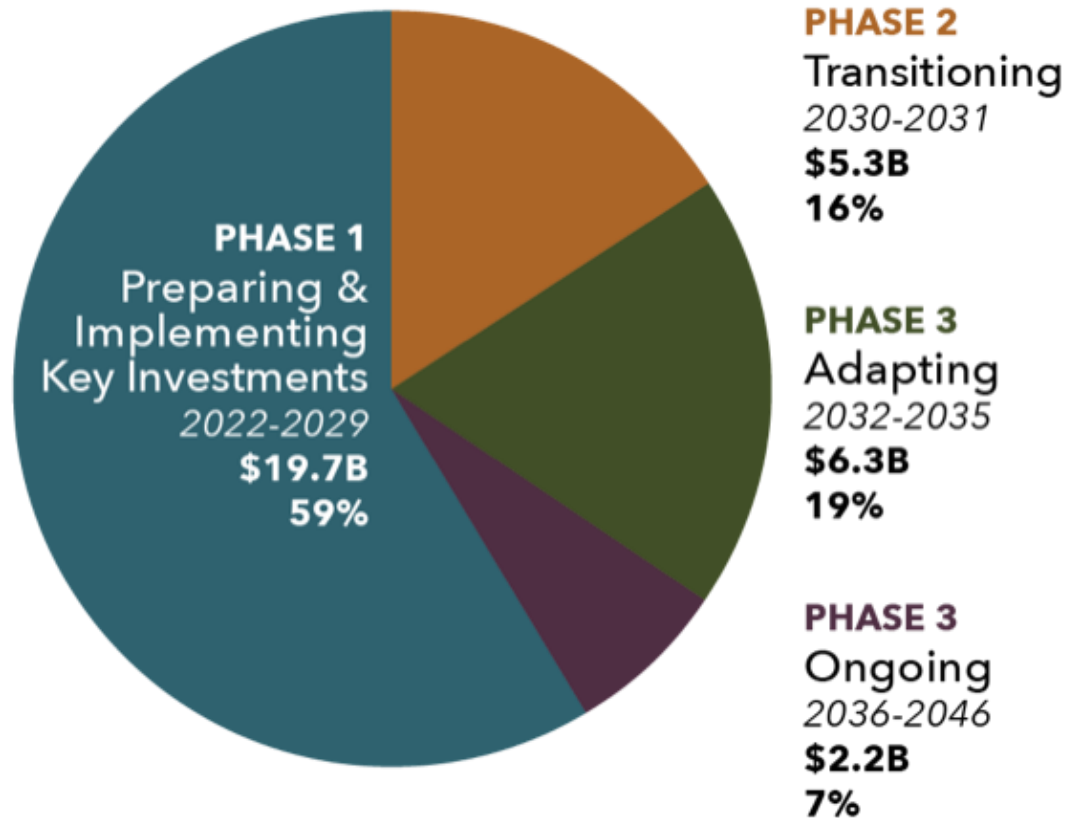
Illustrative Investment Scenario: Time & Activity

BERK has generated a potential investment scenario based on the Columbia Basin Fund proposal with assumptions around investment timeline, activity, and location.

Phase 1 8 years								Phase 2 2 years		Phase 3 4 years				Phase 4 11 years										
'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	'36	'37	'38	'39	'40	'41	'42	'43	'44	'45	'46
Preparing & Implementing Key Investments <ul style="list-style-type: none"> • Study and mitigation of rail and road infrastructure • Energy capacity development and grid optimization • Construction of the Snake River Center for Advanced Energy Storage • Irrigation infrastructure • Animal waste research and biodigester development • Reconfiguring grain transportation and storage infrastructure • Fish habitat restoration and salmon fisheries infrastructure investment • National recreation area infrastructure • Economic development investment – Tri-Cities, Lewiston-Clarkston • Intermodal transportation hub – Tri-Cities • Columbia River lock, dam maintenance 								Transitioning <ul style="list-style-type: none"> • Habitat restoration • Continuing energy investment • Removing berms from four LSR dams and sediment from river 		Adapting <ul style="list-style-type: none"> • Corridor restoration • Cultural resource protection • Lewiston-Clarkston waterfront redevelopment • Continuing energy investment • Marina relocation and compensation • Sport fishing compensation • Recreational boating compensation 				Ongoing <ul style="list-style-type: none"> • Tourism promotion • Maintaining water quality and habitat restoration 										

Illustrative Investment Scenario: Phase & Expenditure

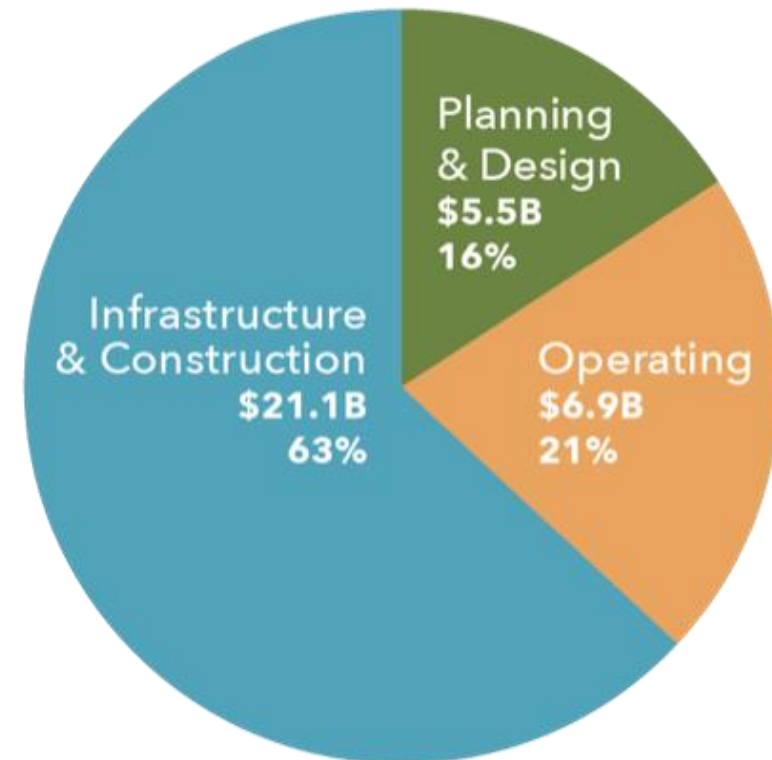
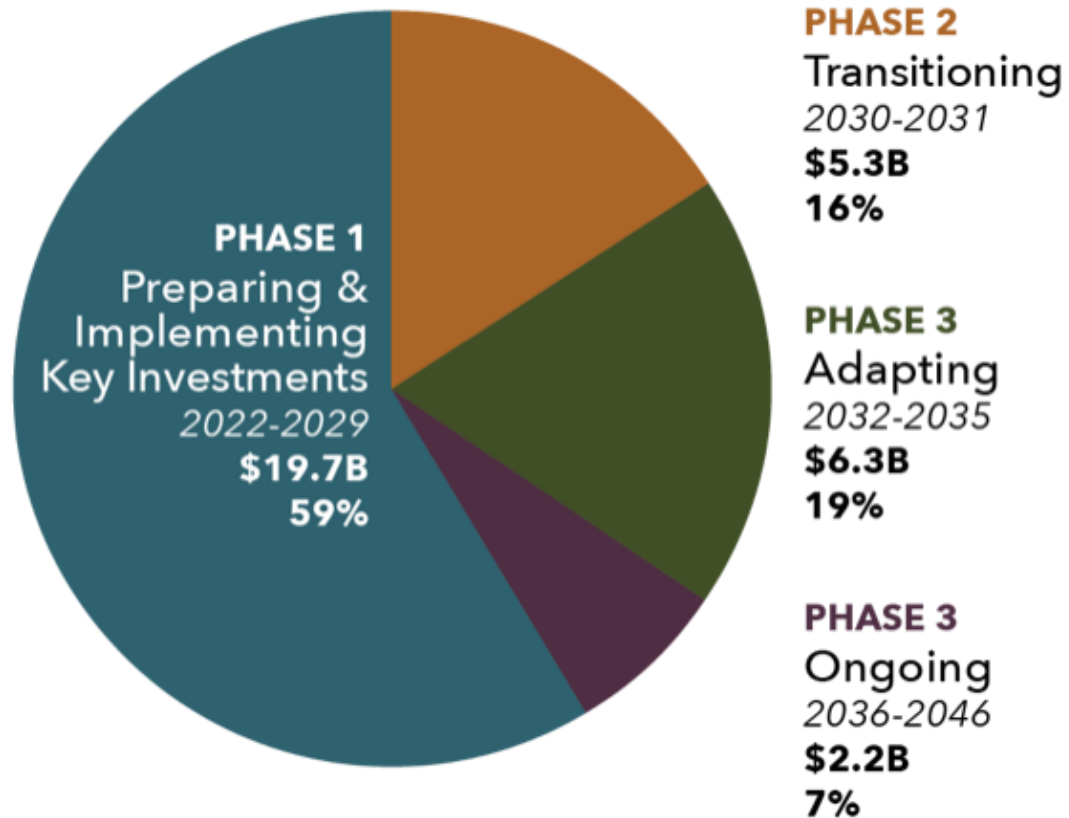
3. \$20 billion, or about 60% of the total investment, would likely be spent before breach of the dams.



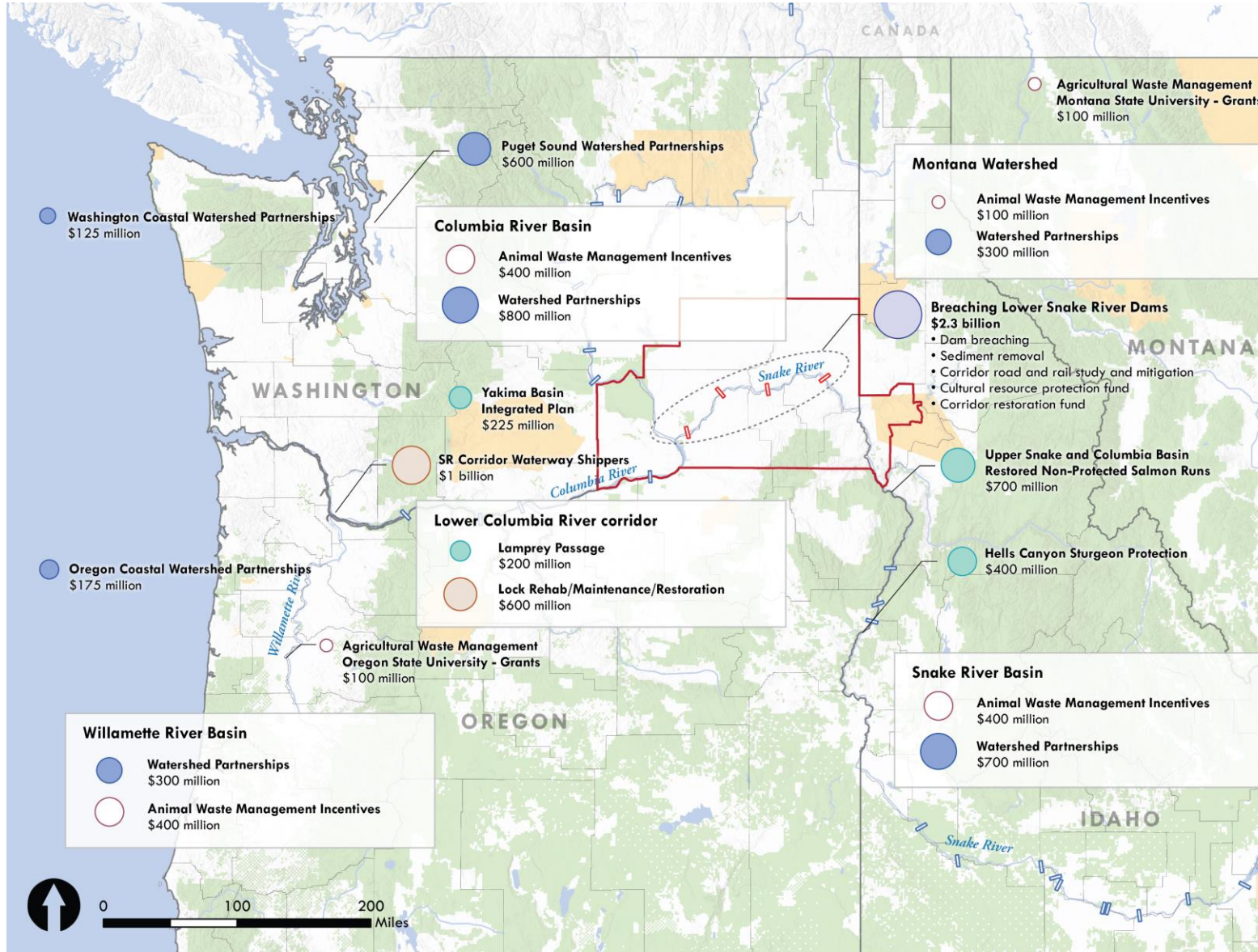
Illustrative Investment Scenario: Phase & Expenditure

3. \$20 billion, or about 60% of the total investment, would likely be spent before breach of the dams.

4. \$21 billion (63%) of the investment would likely be spent on construction and infrastructure.



Illustrative Investment Scenario: Geography



Energy Replacement (System-wide)

- NW Grid Resiliency/Optimization \$2 billion
- Salmon Spill-BPA Power Replacement \$4 billion
- LSR Dam Lost Generation \$10 billion

Northwest State and Tribal Fish and Wildlife Council

- Salmon Conservation Corps \$75 million
- Priority Salmon Fisheries Infrastructure \$700 million

Snake, Columbia, and Willamette River Basins

- Voluntary removal/mitigation \$500 million
- Dam removal indemnification fund \$500 million

LSR Tourism Promotion

- Idaho \$50 million
- Tri-Cities/Spokane \$75 million

LEGEND

- State Boundary
- County Boundary
- Federal Lands
- Tribal Lands
- Water

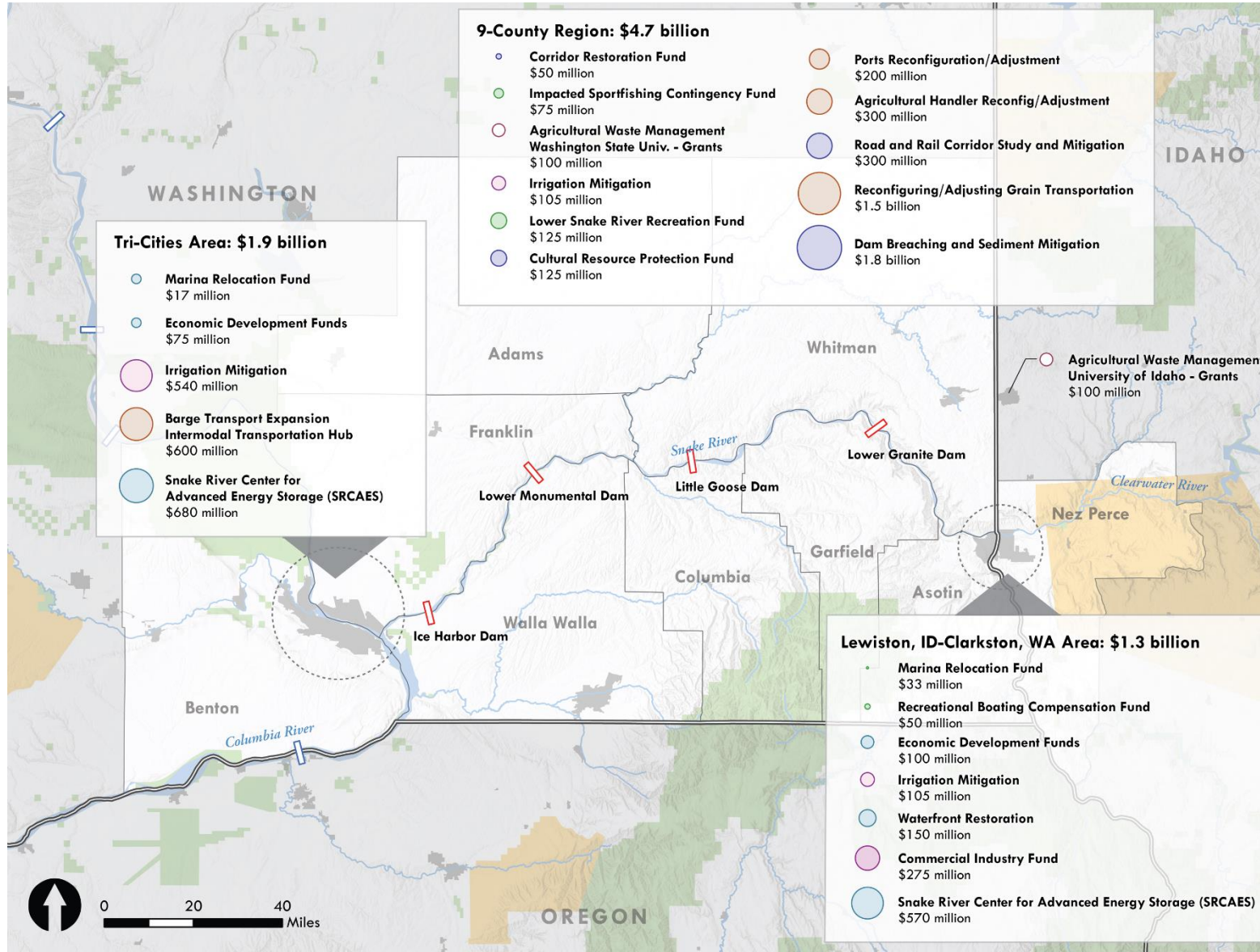
Major Dams: Snake and Columbia Rivers

- Considered for Removal
- Remaining



Sources: BERK, 2021; US Census Bureau, 2021; Washington State Open Geospatial Portal, 2021.

Illustrative Investment Scenario: Geography



5. At least \$7.9 billion, or 24% of the total investment, would likely be spent in the 9 counties closest to the LSR.

LEGEND

- State Boundary
 - County Boundary
 - Federal Lands
 - Tribal Lands
 - Water
- Major Dams: Snake and Columbia Rivers**
- Considered for Removal
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Anticipated Economic & Fiscal Impacts



Economic and Fiscal Impacts

- The investment of \$33.5 B will support direct employment and associated labor income for trades workers, administrative staff, and other employees at these firms.
 - **+ Indirect impacts.** Upstream supply chain transactions such as the purchase of materials by construction and engineering firms.
 - **+ Induced impacts.** Household expenditures on goods and services (e.g., groceries, entertainment) by workers employed in support of these projects.
- The final legislative package could use strategies to avoid “leakage” and capture benefits in the affected 9 counties and the Northwest overall:
 - Local sourcing requirements.
 - Build local capacity, Tribal capacity, and connections with supply chains.

6. \$21.1B would likely be spent on infrastructure, stimulating jobs and spending in the region.

7. Phases 1 and 2 (the first 10 years of the investment) would support an annual average of more than 20,000 jobs across the Northwest.

8. Local and state net fiscal impacts would likely be positive, via additional sales tax and other one-time revenues. Costs of providing services are unlikely to shift significantly.



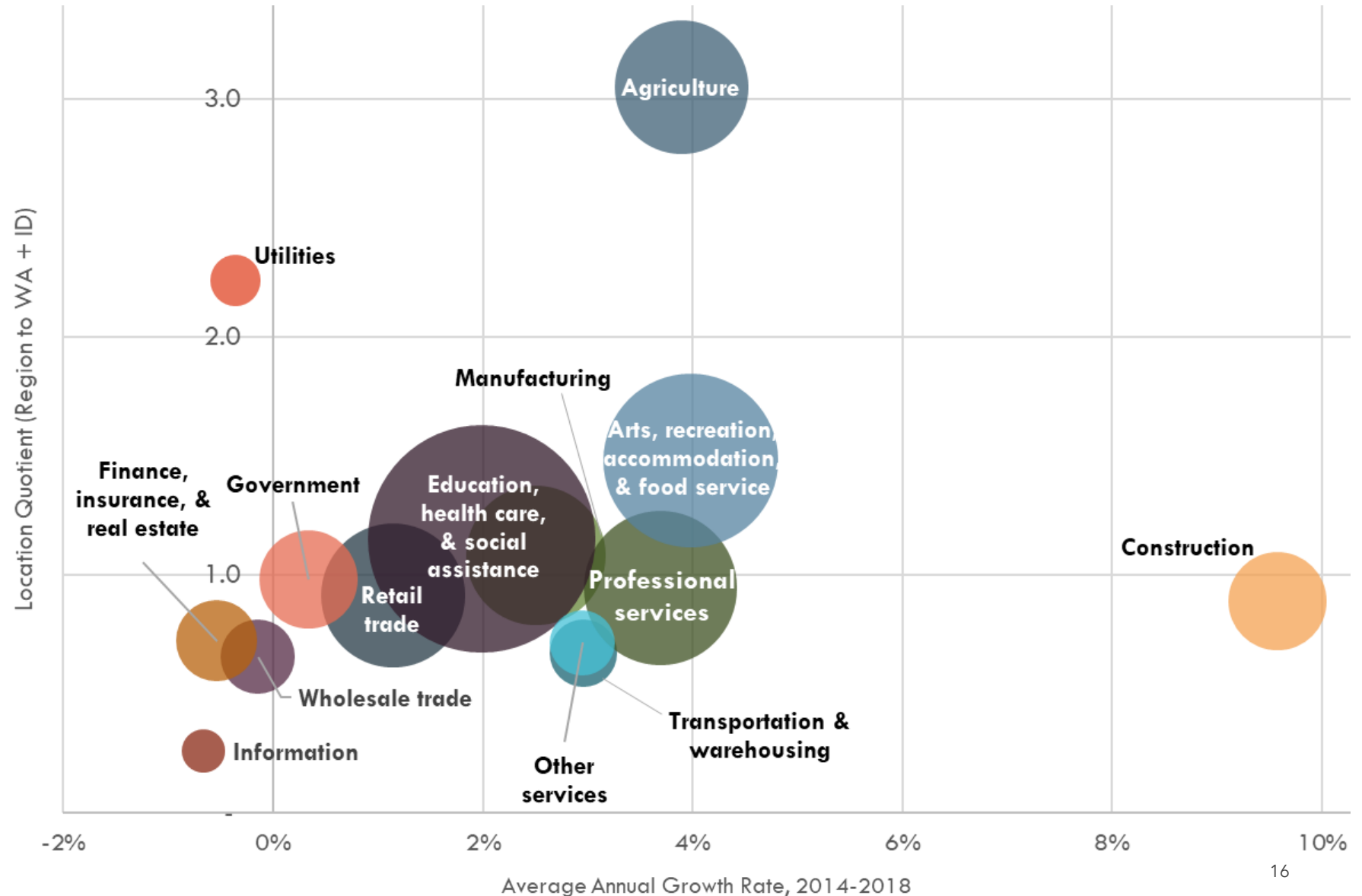
Long-term Economic Outlook



Long-term Economic Outlook

- Affected industries, including **Agriculture** and **Utilities**, are signature industries of the regional economy
- **Recreation & Tourism** (part of arts, recreation, etc.) is a relatively small sector in this region
- **Construction** is a fast-growing industry in the region

Employment by Sector in 9-County Region



Agriculture

Transportation

- Breaching the LSR dams will eliminate the LSR barging option for grain producers.
- Studies have estimated the costs to mitigate impacts to grain producers at \$404M to \$1.4B.
- The proposal includes \$3.5B for agricultural transportation, including road and rail infrastructure, grain storage, port improvements, expanded barging on the Lower Columbia, and a flexible fund that could directly subsidize grain shipping.

9. The \$3.5B for transportation mitigation is more than double the highest estimate of mitigation costs.

10. The \$1.5B fund for grain producers exceeds previous estimates of increased shipping costs under a dam breach scenario, indicating producers will likely face lower shipping costs under the proposal.

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Irrigation

- Some wells and pumps in the area of the LSR could lose functionality if the dams are breached.
- Studies have estimated the costs to mitigate impacts to irrigators (and other water users) at \$153M to \$683M.
- The investment includes \$750M for irrigation mitigation, including well and pump construction and improvement, and water conveyance infrastructure.

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10. The \$1.5B fund for grain producers exceeds previous estimates of increased shipping costs under a dam breach scenario, indicating producers will likely face lower shipping costs under the proposal.

11. The \$750M for irrigation mitigation is 10% greater than the highest estimate of mitigation costs.

Energy

To mitigate the impacts of losing the LSR dams as a power source, the investment package focuses on:

- New zero-emission generation capacity.
- Research & development of clean energy storage.
- Upgrades to the regional transmission network.

This portion of the investment offers the following benefits:

- Supports jobs in infrastructure and construction through the duration of the project.
- Exceeds estimated capital and O&M costs for energy replacement, reducing the likelihood of price hikes.
- Invests in improved grid stability, energy efficiency, and innovation.

While the investment will support new jobs in energy, the quality of employment opportunities is less certain. The investment in energy research in the package attempts to address this.

12. Energy investment is the largest component of the investment, with \$16B for energy replacement, efficiency, and grid improvements and \$1.25B for the Snake River Center for Advanced Energy Storage.

13. \$10B would help mitigate impacts to ratepayers and potentially augment capacity beyond the current level.

14. Investment has the potential to promote regional employment, grid stability, innovation, research, and development

Recreation and Tourism

Removing the dams will transform the LSR from a flatwater to a whitewater recreation area.

Some existing tourism activities, including cruises, boating, and swimming, will cease; while others, including rafting, camping, and fishing, will face new possibilities.

The Fund invests:

- \$125M for a national recreation area along the LSR.
- \$125M for tourism promotion.
- A combined \$175M to mitigate impacts to marinas, boat owners, and sport fishers (in the short term).

15. The industry would likely benefit from the investment of \$425M for tourism, \$7.3B for salmon and conservation, and \$175M for regional economic development.



Conclusions



Consideration of the Status Quo

There are costs and risks associated with the status quo:

- Operating, maintenance, and capital costs for dams.
- Economic challenges in key sectors, including energy and tourism.
- Litigation risk, which could result in dam removal without concomitant investment.

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2. \$2.2B will be invested in Tribal communities.
3. \$20 billion would likely be spent before breach of the dams.
4. \$21 billion would likely be spent on construction and infrastructure.
5. At least \$7.9 billion would likely be spent in the 9 counties closest to the LSR.

Economic Impact

6. \$21.1B would likely be spent on infrastructure, stimulating jobs and spending in the region.

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Questions?



THANK YOU

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