

THE TRANSMISSION BUSINESS MODEL

TOGETHER WE ENERGIZE THE PACIFIC NORTHWEST

Transmission Value Proposition

Operating a Safe, Secure, and High Performing Grid

Enabling Economic Growth in the Region

Supporting a Clean Energy Future and Evolving Grid

Through Safety and Excellence

Long-Term Sustainability

Empower people and value culture
Integrated and efficient processes
Innovation and continuous improvement

Infrastructure

Implement operational improvements
Value and risk-based asset management
Advance investments and strengthen resilience

Products and Services

Support market evolution
Drive regional planning
Modernize products and services

A Dependable and Responsive Partner, Fostering a Safe and Positive Culture



Safety

Trustworthy Stewardship

Collaborative Relationships

Operational Excellence

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## **Letter from the Transmission Services Senior Vice President: Embracing the Future**

As I reflect on the path we've traveled since release of the last Transmission Business Model six years ago, I am reminded of the fundamental principles that guide us at the Bonneville Power Administration: providing the best value for our customers and constituents and delivering a robust, open-access transmission system. These principles have long shaped our purpose and aspirations, and they remain as vital as ever.

The landscape in which BPA operates continues to evolve, driven by powerful changes that influence our strategic decisions. To navigate this new energy environment, we must respond thoughtfully and proactively. While the Transmission Business Model represents a blueprint for how Transmission Services creates, delivers, and captures value and interactions with the region, it also expresses our plan for reaching a future vision. We have created this update to communicate Transmission's forward-looking framework aimed at achieving long-term goals through planning, adaptability, and innovation.

I'm pleased to introduce you to the latest iteration of our Transmission Business Model, Version 5.0, which builds upon the foundation of our previous versions while embracing the future with renewed vigor. This version of the Transmission Business Model continues our commitment to cost consciousness and fiscal discipline, key principles that have guided our strategic investments and operational efficiencies.

In this updated model, we recognize the drivers of change – the challenges of our industry – that shape our journey.

**A clean energy future:** We are driven by society's goals to reduce greenhouse gas emissions and expand clean energy, pushing us toward a sustainable future. Regulatory changes, major load growth, and new generation types are redefining the power supply landscape.

**Industry and commercial challenges:** The landscape demands our attention as regional priorities turn toward navigating increasing competitive forces, supply chain challenges, mounting inflationary pressures, and changing economic factors, all of which affect how our service is valued.

**Reliability exposure:** In an era of rising cyber and physical threats, wildfires, and more frequent and severe extreme weather events, we're committed to safeguarding our critical infrastructure. Managing resource limitations, labor and material costs, and enhancing asset management are integral to our strategy.

In the face of these challenges, Transmission Services maintains a committed and coordinated response.

Investing in people for organizational success: Our employees are the cornerstone of our success, and we are committed to their well-being. Our people-centric approach, recruitment efforts, and continuous improvement initiatives reflect our dedication to cultivating a resilient and engaged workforce.

Safety is paramount: Safety is not just a priority, it is a core value at BPA. We emphasize both physical and psychological safety, empowering our employees to voice concerns and fostering a culture where safety is everyone's responsibility. The Transmission Business Model and our 2024-2028 Strategic Plan provide a roadmap for becoming the safest utility in North America. We emphasize a comprehensive approach to safety via a culture of collaboration, continuous improvement, compliance, and metrics.

Adapting to a changing environment: In an ever-evolving landscape, we embrace innovation and leadership development to navigate change effectively. Our goal is to cultivate a workforce capable of thriving amid shifting circumstances.

Promoting diversity, equity, inclusion, and accessibility: We believe that innovation thrives in diverse, inclusive, and collaborative environments. By fostering a culture of inclusivity, we aim to create a positive and supportive workspace.

### **Introduction of the Evolving Grid**

Our Transmission Business Model 5.0 also accounts for the evolving grid landscape. As the region moves toward a carbon-neutral future, we must expand our transmission network to meet the region's growing demands. Challenges include customer responsiveness, asset security, load growth management, resource integration, increased transmission congestion, and operational demands.

### **Dedication to Long-Term Sustainability**

This new Transmission Business Model reflects our commitment to safety, sustainability, and continuous improvement. By addressing these changes, embracing our challenges, and adopting a proactive stance, we are poised to shape a brighter, more sustainable future.

I invite you to explore the themes and commitments expressed in this business model. It sheds light on the needs and interests influencing our strategic direction and offers insights into our proactive responses. Together, we'll continue to deliver the best value for our customers and constituents, while ensuring the reliability and stability of our transmission system.



Richard L. Shaheen, P.E.  
Senior Vice President, Transmission Services

# 1. Transmission Business Model: Since 2016

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In the summer of 2016, a Transmission-led team performed an assessment of the Transmission Business Model – the way Transmission Services creates, delivers, and captures value for BPA’s customers and the region. The landscape Transmission operates in, industry challenges, and potential implications for BPA and its customers took center focus in the analysis. Particularly, the analysis identified the following factors as critical drivers of change in the world of transmission: the existence of dynamic, uncertain and quickly changing energy environment; diverse customers with complex needs; and capital and expense pressures.

In the years after the release of Version 4 of the Transmission Business Model in 2018, the factors driving change remain valid but have evolved. The Transmission Business Model did not seek to make the challenges identified go away but to be responsive to them. With the fifth iteration of the Transmission Business Model, Transmission is ready to look deeper into the implications and effects of these drivers.

## Frontlines: Emerging Areas of Uncertainty

Three areas stand out as key drivers of the future for Transmission:

- **The clean energy future:** Broad state policy and legislative movements towards clean energy, potentially competing environmental drivers, population growth in the Pacific Northwest, the growth in electrification, and infrastructure development will drive a more complex environment.
- **Industry and commercial challenges:** Changing economic factors, deepening competitive forces, cross-industry supply chain challenges, financial resiliency, credit ratings, market dynamics, and rising inflationary pressures are setting the regional agenda, influencing how stakeholders value BPA and its transmission services.
- **Reliability exposure:** Physical and cyber security, multiple market integrations, wildfire, resource shortages, siting challenges, and the increasing complexity and aging of assets put significant pressure on grid reliability.

Each of these drivers create opportunities for transmission to deliver value.

## Goals in Focus

Transmission Services can successfully deliver value by focusing closely on where and how the organization makes investments in its business. The Transmission Business Model has three focus areas identified as being key to the future of Transmission’s business:

- **Long-term sustainability:** Transmission’s investments in this area embed a culture of innovation and continuous improvement. The emphasis on empowering people and culture, coupled with integrated and efficient processes, aligns with the need to adapt to a complex environment driven by clean energy policies, population growth, and electrification. Furthermore, innovation and continuous improvement are crucial in navigating the complexities of infrastructure development and environmental challenges. By prioritizing strategic directions and resource allocation, BPA ensures its resilience and adaptability in a rapidly evolving energy landscape and ensures its ability to sustain this value for the region.
- **Infrastructure:** In response to industry and commercial challenges and reliability exposure drivers, BPA's focus on infrastructure through asset management and strategic investments is key. This approach directly addresses economic factors, competitive forces, and supply chain challenges by managing costs and performance efficiently. Strengthening operational improvements, risk-based asset management, and investments in infrastructure resilience are particularly relevant in the context of reliability concerns like cybersecurity threats, wildfires, and aging assets. BPA's commitment to modernizing the transmission grid and enhancing market operations through this focus area demonstrates a proactive stance in maintaining reliability and sustainability, while also accommodating the dynamic nature of the market and regional economic pressures.
- **Products and services:** The focus on Transmission products and services aligns with the clean energy future by meeting the evolving needs of customers in a sustainable and efficient manner. As outlined in its strategic plan, BPA realizes its ability to pursue carbon-free power and grid modernization by what it offers the markets it serves. In other words, responsive offerings ensure that BPA remains relevant to diverse customer needs and maintains financial health. In response to the growing requests of customers, Transmission is committed to enhancing the grid through investments, ensuring not only the resilience and adaptability of BPA’s infrastructure, but also the sustainability of the agency’s financial health. The emphasis on regional planning highlights BPA’s strategic approach to proactive transmission planning and showcases Transmission’s holistic approach to delivering solutions that are sustainable, efficient, and aligned with the shifting dynamics of the energy landscape.

These three focus areas are Transmission’s comprehensive response to the change and uncertainty faced by the region, demonstrating a forward-thinking and strategic approach to the future of transmission. The emphasis on sustainability, infrastructure, and customer-centric products and services ensures adaptability and resilience in an increasingly complex and dynamic energy environment.

**Leveraging Transmission’s Value Chain**

A response to the drivers that account for the threats to Transmission’s goals requires a coordinated approach across the value chain. Areas of the business will be uniquely called upon in the following ways:

Leverage	Enlist	Invest
Areas with a demonstrated capability that can be deployed to lead implementation of responses	Key partners that have contributing roles to be included in the change at every step along the way	Targets for investment where change is needed internally in order to best respond externally

For a detailed discussion of the envisioned responses and specific value chain areas, please see Chapter 6 - Business Model Focus Areas.

## 2. The Agency Strategy

In 2023, BPA published its 2024-2028 strategic plan. This next section will dive into how the agency strategy aligns well with the aforementioned drivers of change before examining how the Transmission Business Model complements and reinforces it.

### The Agency Strategy: A Roadmap for Transformation

The agency strategy serves as a comprehensive roadmap that guides BPA toward achieving its mission of providing reliable and sustainable energy solutions. This strategy is not merely a document but a dynamic framework, embodying the workforce’s commitment to addressing the challenges catalyzed by the drivers of change.



### A Common Alignment

#### Clean Energy Future

The agency strategy encompasses a range of goals and objectives aligned with the clean energy future. These include strengthening resource planning, developing diverse power options, evaluating and integrating nonfederal resources, enhancing system flexibility, and supporting regional carbon reduction efforts. These objectives resonate with Transmission’s commitment to helping the region transition to clean energy sources and sustainability.



## **Industry and Commercial Challenges**

The agency strategy also addresses industry and commercial challenges through goals and objectives that focus on maintaining cost-management discipline, ensuring financial resiliency, enhancing transparency and stakeholder engagement, and exploring opportunities to optimize the rate-setting process. These actions are essential for navigating market competition effectively and managing financial risks.

## **Reliability Exposure**

To meet the demands of reliability exposure, the agency strategy focuses on improving asset management data and system capabilities, implementing operational improvements, and developing cost-effective and efficient systems. Undertaking these actions is vital for transmission asset resiliency and grid reliability, especially in high-impact events such as wildfire and physical or cyber attacks, as well as for modernization.

## **The Alignment with the Transmission Business Model**

As we address these changes through our agency strategy, it is crucial to highlight the alignment with the Transmission Business Model. Whether it is proactively constructing transmission lines, enhancing wildfire resilience, or helping customers explore opportunities to meet sustainability goals, our efforts are closely coordinated. The Transmission Business Model plays a pivotal role in executing these strategies, ensuring that our responses are effective and efficient.

The agency strategy not only recognizes these challenges but actively engages with them, seeking to transform them into opportunities. By fostering this alignment between the agency strategy and the Transmission Business Model, BPA is poised to lead in clean energy, reliability, and public service, reinforcing our commitment to a sustainable and resilient future.

### 3. Context for Transmission Services

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BPA has a rich history that is deeply rooted in its statutes, which include the Bonneville Project Act, the Pacific Northwest Consumer Power Preference Act, the Federal Columbia River Transmission System Act, and the Pacific Northwest Electric Power Planning and Conservation Act. Since its inception in 1937, BPA has built, operated, and maintained a reliable transmission system to deliver power to its customers.

BPA offers transmission services to its customers under generally applicable terms and conditions. In 1996, the Federal Energy Regulatory Commission (FERC) issued Orders No. 888 and 889. Under Order No. 888, FERC required public utilities, as defined by the Federal Power Act, to provide open-access transmission service on a basis comparable to the transmission service they provide themselves using standard, non-discriminatory terms and conditions for transmission service. The standard terms and conditions were contained in the *pro forma* Open Access Transmission Tariff. Every public utility that owned, controlled or operated facilities used for transmitting electric energy in interstate commerce was required to adopt and file a tariff with FERC. FERC also created “reciprocity” safe harbor status as an incentive for non-public utilities like BPA to voluntarily adopt open access and the *pro forma* tariff. FERC stated that if non-public utilities offered open-access transmission service, public utilities must offer them open access in return.

Under Order No. 889, FERC required public utilities to adopt Standards of Conduct to separate their transmission operations and reliability functions from their wholesale marketing/merchant functions and to establish an Open Access Same-time Information System known as “OASIS.” The system acts as a portal for public utilities to post their tariffs for customers to find.

Although not required by FERC or statute, BPA voluntarily adopted an open-access transmission tariff with certain modifications, established an OASIS, and adopted standards of conduct in 1996. These decisions were based on several directives or assumptions, including, but not limited to:

- BPA would separate its transmission function from its power function.
- A 1995 Department of Energy memo suggested that power marketing administrations, including BPA, support FERC’s effort for national open access.
- Additional assumptions stated in BPA’s 1995 business plan.
- BPA could meet its statutory obligations under the open access transmission provisions.

BPA submitted its tariff to FERC and received reciprocity safe harbor status.

In 2007, FERC revisited its open access transmission policies and issued Order No. 890. Like FERC's prior orders, BPA was not required to adopt FERC's *pro forma* revisions to its tariff. Nevertheless, BPA attempted to do so and made several submissions to FERC requesting approval under the reciprocity safe harbor process. The submissions adopted most FERC Order 890 requirements but included some alternative proposals. In 2013, FERC approved BPA's tariff in part but declined to grant BPA reciprocity safe harbor status because of BPA's alternative proposals.

In 2014, BPA focused on critical areas where there were perceived tensions or conflicts between BPA's statutory obligations and its obligations under its tariff that required greater clarity, resolution, and direction. The dialogue centered on BPA's ability to fulfill its mission and meet its multiple statutory obligations as the industry evolved and external forces continued to affect BPA's traditional business model (2015 Strategic Intent Paper). In the 2015 Strategic Intent Paper, BPA concluded that it would continue to offer non-discriminatory transmission service through the BPA tariff and aspire to meet the spirit and letter of the FERC's *pro forma* tariff by implementing a comprehensive BPA tariff compliance program.

In 2016, BPA opened a stakeholder dialogue with respect to the future of its tariff and indicated its intent to no longer seek reciprocity safe harbor status from FERC. BPA communicated with stakeholders that the safe harbor process was no longer a tenable approach for making changes to the BPA tariff and that the agency would instead make changes through a regional public process.

In January 2018, BPA informed the region that the public process employed for tariff changes would follow the procedural requirements of Section 212(1)(2)(A) of the Federal Power Act (Section 212). BPA also reaffirmed its commitment to offering transmission service under its tariff based on FERC's *pro forma* tariff to the extent possible in its 2018-2023 Strategic Plan. BPA proposed new terms and conditions for transmission service in the TC-20 tariff terms and conditions proceedings.

BPA started considering Energy Imbalance Market (EIM) participation in the winter of 2018. In September 2021, BPA issued a letter indicating it would join the market in spring 2022. The agency successfully went live in the market in May 2022.

BPA's participation in the EIM provides valuable experience as the agency helps shape additional markets, such as day-ahead markets, being considered throughout the region and beyond. While day-ahead markets offer additional upside and risk, they would also integrate with real-time markets like EIM to inform this balance of risks and opportunities. BPA has been and will continue to participate in discussions about the structure and governance of new markets.

## 4. Transmission’s People and Culture

Millions of people rely on the Bonneville Power Administration to deliver on its mission every day. And the BPA workforce delivers, embodying an aspirational culture marked by safety, collaboration, trustworthy stewardship, and operational excellence. We come together, no matter the circumstances, to meet the needs of our customers and power the Northwest, taking pride in our mission and the quality of our work.

In this dynamic energy industry, our customers’ needs are ever-changing, and so are the demands on our workforce. As the pace of change accelerates, our customers are relying on us more than ever to anticipate their needs and respond with a sense of urgency so that they can meet the demands of their own customers. We will rise to this challenge while carrying on the agency’s legacy of affordable, reliable, and clean power. We will do that through our people and culture, which are grounded in innovation, learning, and adaptability.

Culture is not the soft stuff. It is the real, human side of how work gets done. It is about how we make decisions, how we communicate, collaborate, how we behave, and how we recognize employees and create value. It’s about an employee’s day-to-day experience with their work, team, and organization, where everyone feels safe to bring their authentic self to work. It is how we work together, our behaviors, what we model and demonstrate each day to create value to the business, for our people, and towards our mission.

Each BPA employee is unique, contributing to our shared culture. We support each other and foster a work environment that values new ideas, feedback, and inclusivity. Our goal is to cultivate a culture that maximizes our potential, ensuring everyone feels safe, valued, and connected to our mission.

Aligned with our 2024-2028 Strategic Plan, BPA's Invest in People goal highlights safety and encourages open communication. We are committed to attracting, retaining, and developing a diverse, resilient workforce through flexible policies. This approach, emphasizing diversity, equity, inclusion, and accessibility, sparks innovation and collaboration. Our investment in our community ensures we meet our Transmission Business Model and strategic objectives.

### Aspirational Culture

We provide a safe, positive and inclusive work environment

We take pride in our mission and a job well done

We support and look out for each other

We innovate, learn and adapt for the future

## 5. Transmission Value Proposition

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The Transmission Business Model combines Transmission’s rich legacy of talent, expertise, innovation, and technology with an understanding of customers’ changing needs. Transmission will ensure business certainty and stability for customers by offering products, services, and standardized options under a comprehensive open access transmission tariff modeled to the extent possible after FERC’s *pro forma* tariff. Transmission will aggressively pursue cost savings, efficiency, and revenue creation opportunities. Delivering energy to load in a safe, reliable, and environmentally conscientious manner will continue to be foundational.

Transmission believes that all of these commitments are paramount to being a **dependable and responsive business partner** with our customers.

In keeping with BPA’s 2024-2028 strategic goals, the key tenets of the Transmission Business Model’s Value Proposition and their connection to the agency key strategic priorities are the following:

- Operating a safe, secure, and high-performing grid;
- Enabling economic growth in the region; and
- Supporting a clean energy future and evolving grid.

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### ***Operating a Safe, Secure, and High-Performing Grid***

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Transmission will maximize grid availability, utilization, and reliability through using best practice processes, tools, and capabilities. Transmission will also strengthen the security of its physical and cyber assets. This commitment is part of Transmission’s strategic investment in projects designed to enhance the robustness and resilience of the federal power and transmission systems against high-impact events like extreme weather and cyber threats. Such improvements in resilience will enable Transmission to market grid capabilities and flexibilities to benefit customers and the region. Our commitment to fiscal discipline is strengthened by resources that are utilized effectively, long-term costs are carefully considered, and benefits to the region are maximized.

Additionally, Transmission will incentivize and partner with its customers to strategically pair resources, thus enhancing grid utilization in line with our commitment to sustainability and resilience. Transmission will also explore commercial and operational partnerships around resource adequacy and evolving markets to further ensure a reliable, high-performing and secure grid for transmission customers and the region.

## ***Enabling Economic Growth in the Region***

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BPA’s transmission system is critical to enabling economic growth in the Pacific Northwest, and the agency is reinforcing this infrastructure to withstand the emerging challenges posed by climate change and security threats. To support the broader economic development goals of the region, Transmission Services will provide transmission system information to identify incentives and inform customer decisions regarding resource and load siting, planning, and transmission service options. The organization will make investments in its transmission system as appropriate for the resource and load service needs of its customers, with an eye towards enhancing resilience. Transmission will also work to provide customers with transparent cost allocation information for system expansion needs, ensuring that sustainability and adaptability are factored into future plans. This will ensure that each investment in transmission infrastructure is made with cost effectiveness and sustainability in mind. Furthermore, Transmission will work with organizations and communities in the Pacific Northwest to support economic growth, including the use of new programs and technologies,<sup>1</sup> to strategically build and expand access to BPA’s Transmission Services infrastructure and ensure it remains robust in the face of physical and cybersecurity challenges.

## ***Supporting a Clean Energy Future and Evolving Grid***

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The Transmission Business Model expresses Transmission’s commitment to supporting a clean energy future. As the region embarks on an ambitious journey to carbon-free generation, federal power and the largest transmission system in the area will support the transition. By modernizing its grid and actively participating in initiatives like the Western Energy Imbalance Market, BPA is not only enhancing reliability and resilience but also enabling the integration of new, carbon-free resources. Transmission is committed to facilitating customers’ transition to carbon neutrality and clean alternatives to fossil fuel generation as its customers steer towards the most significant regulatory changes in generations. While supporting a clean energy future, we maintain cost consciousness as a priority, ensuring that our investments deliver long-term value and support sustainable economic benefits. Transmission prioritizes sustainability, regional coordination, and collaboration with stakeholders and renewable energy providers to efficiently integrate wind, solar, hydropower and other resources into BPA’s transmission network. Transmission’s commitment to building climate-resilient infrastructure helps customers meet the challenges posed by environmental changes.

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<sup>1</sup> E.g., DER, electric vehicles, storage, etc.

## 6. Business Model Focus Areas

The Transmission Value Proposition will be delivered through three business model focus areas: **Long-term sustainability, infrastructure, and products and services.**

### Long-Term Sustainability

Empowering People and Culture • Integrated and Efficient Processes • Innovation and Continuous Improvement

Transmission will commit to a culture of innovation and continuous improvement by enhancing analytics and processes to sustain the Transmission Value Proposition. People are the foundation of Transmission's ability to deliver on the Transmission Value Proposition, and it is vital to Transmission's long-term sustainability that the organization embed enhanced critical thinking across the organization.

Transmission recognizes that resources and staff capacity are not limitless. It is essential that the organization strategically prioritize current and future work to achieve the goals of the Transmission Business Model.

### Long-Term Sustainability and the Agency Strategy

In the pursuit of the Transmission Business Model's long-term sustainability, Transmission Services has outlined three key transmission directions that are critically linked with the 2024-2028 Strategic Plan:

- **Empowering people and culture**
- **Integrated and efficient processes**
- **Innovation and continuous improvement.**

Transmission's dedication to streamlining processes, utilizing data for informed decisions, and fostering innovation aligns seamlessly with the agency's strategic vision for the future. The transmission directions for long-term sustainability also underpin BPA's role in supporting a clean energy landscape, a reliable and resilient grid, and sustainable business practices.

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## Empowering People and Culture

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### Transmission Direction

Transmission has a dynamic workforce that meets the evolving demands of the energy industry with unwavering commitment and agility. At the core of Transmission's operational philosophy is a culture characterized by shared values, collaboration, and a relentless focus on mission, vision, and values in action.

As the energy landscape rapidly changes, Transmission recognizes the imperative to innovate and adapt, not only to sustain but to enhance its legacy of providing affordable, reliable, and clean power. The 2024-2028 Strategic Plan underscores the commitment to nurture a thriving workforce—fostering an environment where every employee feels safe, valued, and connected to both the mission and each other. Through deliberate efforts in diversity, equity, inclusion, and accessibility, Transmission is investing in its people and culture to ensure that the organization and its customers continue to flourish.

### Required Changes:

- Champion a culture of diversity, equity, inclusion, and accessibility from recruitment through to retirement to create a more resilient and innovative workforce.
- Expand efforts in diverse applicant outreach to bolster BPA's commitment to diversity and community representation.
- Strengthen psychological safety and physical well-being by endorsing an environment that encourages and values voicing concerns.
- Enhance retention and attraction of talent by implementing flexible policies, focusing on skill development, and fostering a supportive work environment.
- Integrate continuous learning and adaptation as fundamental competencies for all employees to maintain and grow BPA's industry leadership.

### Examples of Success:

- **Employee retention and development:** Measured by rates of applications, internal career advancements, promotions, and longevity, indicating a strong culture of employee development.
- **Effective flexible policies:** Demonstrated by employee participation in flexible work arrangements and positive feedback, reflecting a better work-life balance and higher job satisfaction.
- **Diverse and inclusive workforce:** Reflected in a balanced demographic representation within the workforce and high scores in employee engagement surveys, indicating a welcoming and inclusive workplace culture.
- **Innovation driven by diversity:** Evidenced by the successful implementation of a significant number of high-quality innovative initiatives born from diverse and inclusive team collaborations that contribute to organizational growth and development.



## **Integrated and Efficient Processes**

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### **Transmission Direction**

Transmission will integrate and align key activities across the organization and BPA through defined and streamlined processes and governance that enable efficiency, responsiveness, and certainty of schedule.

Transmission will mature and integrate its business process management across all primary activities in the Transmission value chain to ensure clear and transparent requirements and processes for transmission planning, federal and nonfederal power resource designation, queuing, and network operating rules.

### **Required Changes:**

- Integrate and align key activities within Transmission and across BPA through streamlined processes and governance to enhance efficiency, responsiveness, and schedule certainty.
- Implement a comprehensive business process management system across all primary activities to ensure clarity and transparency in requirements and processes for transmission planning.
- Develop a robust framework for assessing the efficiency and effectiveness of integrated processes, allowing for evidence-supported improvements.
- Regularly assess and update governance structures to adapt to evolving needs and challenges within the organization and the broader industry landscape.
- Establish a Business Process Management Council that will define process management standards and a maturity roadmap. The council will focus on clear and consistent processes and decision-making across the Transmission organization.

### **Examples of Success:**

- Develop a framework for process integration, accommodating customer inputs as appropriate, as well as for monitoring and measurement controls.

### **Notable Accomplishments:**

- Transmission has established policy, organizational, and manager accountabilities; process mapping; benchmarking of industry best-practices; and performance metrics.

## Innovation and Continuous Improvement

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### Transmission Direction

Transmission will promote leadership culture in innovation and continuous improvement, emphasizing both strategic agility and focused execution to ensure BPA's long-term competitiveness. As a team, Transmission will demonstrate the courage to change, commit to giving its best, and capture success through grit and persistence. Transmission will encourage innovation and continuous improvement of every team member's skillsets.

Transmission will also take aggressive steps to manage the rising costs of operating the transmission system. This commitment to cost management and continuous improvement affirms our principle of fiscal discipline, ensuring that we remain competitive and innovative while controlling costs.

Transmission will continuously focus on providing increased value to the region by fusing innovation and continuous improvement.

### Required Changes:

- Cultivate a culture of innovation and continuous improvement by providing regular training and resources to staff to enhance critical thinking skills across the organization.
- Foster leadership in innovation and continuous improvement, emphasizing the importance of both strategic agility and focused execution to support BPA's long-term competitiveness.
- Encourage and reward employees who demonstrate the courage to initiate and embrace change, fostering a culture of adaptability and innovation.
- Regularly assess the effectiveness of innovation and continuous improvement initiatives and adjust as needed to maximize their impacts.
- Collaborate with industry peers and experts to exchange best practices and innovative ideas, creating a supportive ecosystem for continuous improvement in the region.
- Leverage technology and automation to streamline processes and enhance operational efficiency, reducing manual workload and costs.
- Create a culture of improvement within Transmission, including around day-to-day tasks, that works both top down as well as bottom up.
- Establish and operationalize a framework to monitor and analyze the changing industry and competitiveness factors that could drive future Transmission strategic direction. (See Appendix 2.)

### Examples of Success:

- Operational redundancy of proficiencies between control centers.

**Notable Accomplishments:**

- Developed and implemented a transmission grid continuous improvement program so BPA has a central way to analyze events and set milestones to mitigate the outcome of the event with root-cause analysis as necessary.
- Invested in both innovation and continuous improvement focused on safety and emergency preparedness as exemplified by the Public Safety Power Shutoff procedure and Wildfire Mitigation Plan.
- Created a process for event analysis, lessons learned, and corrective action plans across Transmission for whenever there is a significant issue on the system.
- Revamped clearance and permitting process for access to energized facilities.

The Transmission Value Proposition will be delivered through three business model focus areas: **Long-Term Sustainability, Infrastructure, and Products and Services.**

## Infrastructure

Implement Operational Improvements • Value and Risk-Based Asset Management • Advance Investments and Strengthen Resilience

The Transmission Value Proposition informs strategic investments in our assets.

Transmission will focus on a rigorous asset management approach that will allow better management of costs and performance, ultimately seeking the goal of administering an industry-leading asset management program.

### Infrastructure and the Agency Strategy

The Transmission Business Model's investment in infrastructure closely aligns with BPA's 2024-2028 Strategic Plan. This connection is evident across three focus-area outcomes for transmission infrastructure:

- **Implement operational improvements**
- **Value and risk-based asset management**
- **Advance investments and strengthen resilience**

Each Transmission focus area complements BPA's commitment in the agency strategic plan to modernizing the transmission grid and enhancing market operations. By leveraging advanced tools, strategic investments, and prioritizing asset management based on value and risk, Transmission ensures reliability, sustainability, and the delivery of clean energy, reinforcing BPA's dedication to delivering value to the region in the evolving energy landscape.

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## Implement Operational Improvements

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### Transmission Direction

Transmission will integrate tools and analyses of system capabilities to maximize the reliable and efficient use of the transmission system. This will be accomplished by enhancements in three areas: automation, accuracy, and visibility. These tools and processes are key improvements necessary for the modernization of the federal transmission system.

Grid modernization includes aggressively identifying and developing transmission expansion projects to support regional demand. Emphasis on integrating novel approaches to address the sharp rise in generation interconnection requests will transform the way BPA operates and support a more dynamic and responsive grid system.

To strengthen system resilience and reliability, Transmission will focus on improving situational awareness for wildfires, cyber threats, and severe weather. Preparing for and recovering from high-impact events, promoting continuous and secure transmission services, is paramount for Transmission.

Instrumental to enhancing operational efficiency is maximizing the capacity of the existing grid through operational studies, visualization tools, congestion management, and other operational improvements. The integration of significant upgrades to the automatic generation control system will improve the flexibility and stability of the system, aligning with the broader objective of reliable and efficient transmission operations.

In line with these strategies, automating processes minimizes the potential for error and makes more efficient use of resources. BPA will accomplish greater system accuracy through incorporation of real-time data and analysis into the calculation of system limitations. Enhanced visibility and control of loads, resources, and flows (including market flows) will allow for more accurate, effective, and reliable management of the transmission system. These enhancements embody our commitment to fiscal discipline, with every dollar invested yielding benefit for reliability and the efficiency of our transmission system.

### Five Years In – Leverage Point

Leveraging the “operate” link in the value chain will keep “implement operational improvements” a clear strength in Transmission’s business.

**Links in the Value Chain to Leverage:** Operate

**Required Changes:**

- Data management efficiency: Shift from chasing data to having accessible sources of records, improving data management efficiency.
- Cybersecurity: Strengthen cybersecurity incident and response capabilities to protect critical infrastructure and maintain operational resilience.
- Scenario modeling: Implement modeling and simulation scenarios to link investment decisions with performance outcomes, optimizing resource allocation.
- Visualization and operations: Enhance visualization tools and operations automation to streamline data management and improve operational efficiency.
- Incorporate appropriate risk thresholds and improve the accuracy of identified system limitations.
- Create better visibility of system conditions and limitations.
- Implement tools and processes to prevent and mitigate adverse system conditions.
- Adopt an enterprise architecture approach to align related processes and systems.

**Examples of Success:**

- Active role with NERC/WECC standards.
- Advance cybersecurity incident detection and responsiveness.
- Accessible source of records.
- Modeling simulation scenarios linking investment and performance.
- Visualization and operations automation.
- Develop improved generation and load forecasts.
- Implement advanced applications such as voltage stability analysis.
- Advance synchrophasor technology.
- Develop plans that utilize flow-limiting controls on the system.
- Improve dispatcher displays.
- Aligned planning and operational network models.

**Notable Accomplishments:**

- Grid modernization initiative: Launched and implemented a grid modernization initiative that enabled BPA to join the Western Energy Imbalance Market, laying the foundation for future market developments. This includes operational and reliability benefits leveraged through participation in the market.
- Automatic generation control system upgrades: Invested in significant upgrades to the automatic generation control system, improving the flexibility of the federal hydropower system while preserving grid stability.
- Wildfire mitigation and resilience plans: Advanced goals for safe and reliable service through the development and enhancement of the Wildfire Mitigation Plan and Climate Vulnerability Assessment and Resilience Plan, aiming to protect public safety and ensure the reliable delivery of electricity.
- Strategic asset management: Adopted a risk-based decision-making approach with the development of Strategic Asset Management Plans for each asset category. Plans are

linked to the Integrated Program Review process for better capital spending forecasts, improving the strategic planning and prioritization of future investments.

- Energy efficiency and system use maximization: Achieved additional energy efficiency and improved the ability to calculate and market available transfer capability, enabling more efficient use of the existing transmission system.
- Automated remedial action schemes (RAS).
- Implemented the Coordinated Transmission Agreement with the California Independent System Operator.

## Value and Risk-Based Asset Management

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### Transmission Direction

Transmission will optimize asset lifecycle and maintenance processes to meet both risk- and value-based objectives revolving around safety, reliability, availability, and delivering economic value to the region. Adopting utility best practices and driving operational excellence will drive this direction and inform capital investment requirements. Our focus on asset lifecycle optimization and maintenance processes is an extension of our commitment to fiscal discipline, and to delivering economic value.

Transmission seeks to accomplish the following:

- Understanding the criticality, health, and risks of transmission assets.
- Establishing risk-based asset performance objectives.
- Using leading analytical methods to prioritize maintenance activities and capital investments for safe, reliable asset performance.
- Right-sized investments in assets.

### Five Years In – Investment Opportunity

“Value and risk-based asset management” has pressures exerted on it from both “industry and commercial challenges” and “reliability exposure.” Investments in the “design/build” and “planning activities” will be critical for keeping core transmission capabilities in position to serve the region. For example, Transmission’s criticality, health and risk approach has helped the organization to be more agile in the face of changing drivers and made it easier to incorporate identified challenges into prioritization as the framework already existed.

**Links in the Value Chain to Invest in:** Design/build, plan

### Required Changes:

- Invest in design/build and planning activities to enhance core capabilities in optimizing asset lifecycle and maintenance processes.
- Proactively engage in upstream conversations with land developers to assess capacity needs by region, providing constraint and siting signals to customers to facilitate efficient grid development.
- Leverage the existing criticality, health, and risk approach to enhance agility in responding to changing market dynamics.
- Implement leading analytical methods to prioritize maintenance activities and capital investments, aligning with risk- and value-based objectives for safe and reliable asset performance.



- Conduct program investment scenario analysis to assess the impact of potential investments on risk- and value-based asset management objectives, optimizing resource allocation.
- Define economic value, including the methodologies and specific metrics. This includes the identification of metric owners and corresponding governance structures and resultant policies.
- Improve and grow analytical skills. A key milestone towards creating or aligning with utility best practices is the ability to target, manage and use better data for finance, operations, asset management, and customer information.
- Establish organizational and program risk thresholds and tolerances.
- Align planning and operational network models and assumptions.
- Increase organizational agility to identify and incorporate asset lifecycle risk factors.

**Examples of Success:**

- Moving upstream in conversations with land developers.
- Regional capacity needs are identified that send constraint and siting signals to customers.
- Linking investment and performance.
- Modernizing grid assets.
- Condition and performance basis for maintenance.
- Asset lifecycle risk evaluation.
- Program investment scenario analysis.
- Aligned planning and operational network models.

**Notable Accomplishments:**

- Maintenance is prioritized by compliance requirements, predictability of failure, and risk factors to maximize system reliability at a responsible cost.
- Outage needs are coordinated as far in advance as possible and are managed to specific criteria to allow their procedure with continual assessment and communication of probability/likelihood.
- Defined critical parts of the transmission system, integrated these needs into asset management, and defined enabling processes.

## Advance investments and strengthen resilience

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### Transmission Direction

In alignment with BPA's goal of supporting a clean energy future, Transmission is focused on driving the resilience of its physical and cybersecurity assets. Transmission aims to continue bolstering the federal transmission system against extreme weather events, cybersecurity threats, and other high-impact challenges. Central to this effort is the integration of new energy sources, with an emphasis on enhancing grid reliability and seamlessly incorporating wind, solar, and hydropower resources.

By leveraging strategic partnerships and investments in transmission infrastructure, Transmission seeks to optimize grid performance and support the Pacific Northwest's economic growth, all while prioritizing sustainable practices and transparent stakeholder collaboration. This includes developing tools to improve situational awareness for wildfires, cyber threats, and severe weather, and hardening facilities and communications systems to enable continued operations through high-impact events.

As part of this change, Transmission is strengthening its commitment to security and sustainability through targeted investments in cybersecurity, infrastructure resilience, and advanced planning for resource optimization. Investment in significant upgrades to its automatic generation control system is a key aspect of this approach that enhances the flexibility and reliability of the transmission system.

Transmission's initiatives are designed to improve reliability, reduce the incidence of grid disruptions, and expand renewable energy integration, contributing to a robust, adaptable, and economically supportive transmission system. Efforts will involve aggressively identifying and developing transmission expansion projects to support customers' clean energy goals and planning substantial transmission expansion investments. These investments are pivotal in supporting a future-oriented, resilient, and high-performing grid that aligns with the region's priority of a clean energy future.

### Required Changes:

- **Cybersecurity resilience:** Strengthen cybersecurity measures to protect critical infrastructure.
- **Collaboration for sustainability:** Engage in proactive collaboration with regional stakeholders to address sustainability challenges.
- **Enhanced transmission planning:** Establish a framework for proactive transmission planning to support portfolio development.
- **Resource optimization:** Optimize resource allocation by aligning transmission planning with customers' renewable energy targets.

- **Infrastructure investment:** Align investment strategies with regional planning priorities, focusing on infrastructure enhancements.
- **Scenario modeling:** Implement modeling and simulation scenarios to link investment decisions with performance outcomes.
- **Leverage the size and scale advantage of Transmission:** Drive economies of scale and enhance grid flexibility and resilience.

#### Examples of Success:

- **Improved grid reliability and resilience:** Transmission sees enhanced grid reliability and resilience.
- **Cybersecurity incident response time:** Transmission sees a measurable decrease in the time it takes to detect, respond to, and recover from cybersecurity incidents.
- **Infrastructure upgrade projects completion:** Transmission accomplishes timely completion of infrastructure projects, particularly those enhancing grid resilience to combat high-impact events like severe weather or wildfires. Projects should be on time and within budget, indicating effective infrastructure investment planning.
- **Collaborative initiatives with stakeholders:** Transmission establishes the tracking of joint sustainability projects with regional stakeholders. Success in this area could also manifest as regional agreements or partnerships focused on sustainability goals.
- **Operational efficiency gains:** Transmission sees tangible improvements in operational efficiency, such as a reduction in transmission losses, or enhanced capacity due to improved asset management and the use of advanced analytics for maintenance and investment strategies.
- **Economic benefits of scale in battery operations:** Transmission sees evidence that the scale of battery operations has led to cost savings, improved grid services – such as frequency regulation or load leveling – or created additional revenue streams, indicating successful leveraging of transmission scale advantages.

The Transmission Value Proposition will be delivered through three business model focus areas: **Long-Term Sustainability, Infrastructure, and Products and Services.**

## Products and Services

Support market evolution • Drive regional planning • Modernize products and Services

A central requirement to delivering the envisioned value of the Transmission Business Model is a portfolio of standardized Transmission products and services that address customer needs. BPA will offer those products and services at various levels of cost and benefit.

### Products and Services and the Agency Strategy

BPA's commitment to clean energy and sustainability, as articulated in its 2024-2028 Strategic Plan, crucially connects with the Transmission Business Model's focus area outcome of providing standardized options. BPA's pursuit of modernizing the transmission grid aligns with Transmission's drive to standardize products and services to enhance efficiency. Well designed and standardized products are crucial components for meeting diverse customer needs. The alignment of the strategic plan and the Transmission Business Model underscores BPA's holistic approach to advancing sustainability and delivering transmission solutions in the evolving energy landscape. Lastly, the strategic plan's connection with "drive regional planning" underscores BPA's commitment to proactive transmission planning and reflects BPA's strategic direction to deliver value in a dynamic energy landscape.

## Support Market Evolution

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### Transmission Direction

The future of transmission is being redefined, and BPA sees its role shifting from providing market access to being a platform for market evolution, underpinning financial robustness, cost management, and efficient service delivery. BPA will provide regional leadership in the exploration of new markets, positioning itself as a catalyst for energy market evolution, while enabling broader public policy goals and customers' renewable energy aspirations and.

Transmission's approach is to promote continuous innovation to adapt to changing market dynamics and customer preferences. This involves leveraging BPA's experience in the Western Energy Imbalance Market and providing regional leadership in more interconnected system operations. Through coordinated planning, BPA will not only adhere to but also set new industry benchmarks, reflecting a balance between value and costs at various service levels.

Emphasizing investment in significant upgrades, BPA commits to innovative solutions for complex market dynamics.

### Five Years In – Leverage Point

The pressures created by Industry and Commercial Challenges can be managed by balancing value across offerings.

**Links in the Value Chain to Leverage:** Sales, customer management

### Required Changes:

- Continuous value capture: Establish a culture of continuous innovation, where the price profiles are regularly reviewed and adjusted to meet changing market dynamics and customer preferences.
- Coordinated planning: Implement coordinated planning processes that incorporate pricing strategies, ensuring efficient and responsive delivery of services.
- Market management: Implement revenue-focused tools, particularly in sales and customer management, to support decision-making and unlock value.
- Risk-value balance: Assess and appropriately balance the level of risk associated with each product against its price, ensuring customers receive fair pricing.
- 
- Define value and attributes of each product and update cost allocation approach to ensure products are priced and segmented appropriately.
- Develop a standard product menu, considering metrics for competitiveness and economic value of different parts of the transmission system.

**Examples of Success:**

- Incorporation of revenue-focused tools to support decision making and unlock value.

**Notable Accomplishments:**

- Leveraged the Western Energy Imbalance Market experience to enhance market flexibility and efficiency.
- Implementing significant upgrades to the automatic generation control system, improving grid stability and operational efficiency.

## Drive Regional Planning

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### Transmission Direction

Transmission will conduct detailed transmission planning through proactive, collaborative, repeatable, and documented processes. This will allow the organization to standardize and support the distinct attributes of its portfolio of products.<sup>2</sup> Transmission will also develop and implement policies and procedures for regional planning that incentivize grid optimization and efficient regional resource development.

Transmission will continue to partner with the region to increase visibility of forecasted loads, resources, and customer needs, and share planning information to facilitate customer load and resource siting decisions. With the successful implementation of a regional planning Organization (NorthernGrid), there is significant capability to continue leveraging this body to enhance regional planning, identify infrastructure benefits, and inform potential investments.

### Five Years In – Invest

Regional planning capabilities play an essential role in Transmission’s response to the ever-evolving energy landscape. The approach will involve leveraging key partners and making strategic investments where needed. By doing so, Transmission can better target its asset investments, bolster operational efficiency, and harmonize customer needs, ultimately ensuring a resilient, sustainable, and customer-centric energy future.

### Links in the Value Chain to Invest in: Plan

#### Required Changes:

- Regional collaboration: Strengthen partnerships with regional stakeholders to increase visibility into forecasted loads, resources, and customer needs, facilitating informed load and resource siting decisions.
- Information sharing: Enhance information-sharing mechanisms to provide stakeholders with access to planning data, fostering transparency and collaboration.
- Continual process improvement: Build on a culture of continuous improvement in transmission planning, regularly reviewing and updating processes to adapt to changing regional needs and market dynamics.
- Continue to develop and implement policies and procedures for regional planning that incentivize grid optimization.
- Continue to enhance regional planning that incorporates innovative approaches within defined bands of reliability.

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<sup>2</sup> i.e., Network, Point-to-Point, Ancillary Services, Telecommunications Products, etc.

- Continue to develop innovative plans of service that embrace modern technology and solutions.

**Examples of Success:**

- Establish a consistent, timely, and repeatable queue management process.
- Augment or replace Long-Term Available Transfer Capability (ATC) posting with more accurate system availability information.

**Notable Accomplishments:**

- Successfully implemented the NorthernGrid regional planning organization, enhancing collaboration and visibility in regional planning and infrastructure benefits.
- Developed and executed policies and procedures for regional planning, incentivizing grid optimization and efficient regional resource development.
- Strategically invested in regional planning capabilities to better align asset investments with the evolving energy landscape, improving operational efficiency and customer-centric service.



## Modernize products and Services

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### Transmission Direction

In the dynamic landscape of 21st century transmission, where customer requirements are evolving more quickly than ever before, it is vital to address the diverse and sometimes conflicting needs with innovative solutions. Flexibility, service level, scheduling certainty, and resource mix are key customer considerations. Through the Transmission Business Model, Transmission seeks to meet customer needs through a *pro forma* portfolio that evolves with markets and other landscape changes.

This involves providing a suite of standardized, streamlined offerings that adhere to, or set industry best practices. Actions will include reforming generation interconnection procedures to support unprecedented demand for new resources, and offerings that will harmonize with BPA's Open Access Transmission Tariff, drawing from both FERC's *pro forma* structure and emerging industry norms, assuring non-discriminatory access.

Transmission is sharpening its focus on investments needed to improve foundational internal business systems and processes. Ultimately, Transmission will work hard to maintain service excellence while fostering sustainability and *pro forma* tariff provisions.

While navigating these changes, BPA will position itself to consider moving beyond a day-ahead market. BPA commits to a transparent, collaborative transition for its customers. This balanced approach aims to maintain the integrity of standard practices while embracing the complexities of an evolving energy landscape and supporting a sustainable, efficient future.

### Five Years In – Leverage Point

Industry and commercial challenges will directly confront Transmission's commitment to providing standardized options. Active management will be required to ensure Transmission's offerings remain relevant while conditions continue to evolve.

**Links in the Value Chain to Leverage:** Sales, customer management

### Required Changes:

- **Collaboration for Sustainability:** Engage in proactive collaboration with regional stakeholders, regulatory bodies, and industry peers to jointly address sustainability challenges and respond to customers' transition to a carbon-neutral energy future.
- **Market intelligence:** Further leverage Transmission's Marketing and Evaluation team in monitoring market trends and identifying opportunities for revenue generation.
- **Demand forecasting:** Enhance demand and capacity forecasting capabilities to optimize resource allocation and ensure efficient grid operations.

**Examples of Success:**

- Harmonizing customer needs.
- Aligning load and resource forecasting processes with expansion processes, so customers growth needs are met in a timely manner.

**Notable Accomplishments:**

- Aligned with *pro forma* firm products (e.g., unlimited hourly firm).
- Transmission losses are consistent with industry best practices.
- Adopted a predictable and transparent 212 tariff change process.

## 7. Appendix A – Detailed Context for Transmission Services

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BPA has a very rich history that is deeply rooted in statute.

In 1937, the Bonneville Project Act created BPA and directed it to market federally produced hydroelectric power to customers, giving preference and priority in power sales to public bodies and cooperatives. The act authorized BPA to construct, own, and operate transmission facilities to deliver federal power at cost. BPA’s marketing and delivery of federal power was bundled, with cost-based rates recovering both the costs of the federal power and the federal transmission system used to deliver the power to customers. For three decades, BPA and its customers benefited from hydro and transmission systems that had surplus energy and capacity.

In 1964, as a condition to building inter-regional interties, Congress passed the Pacific Northwest Consumer Power Preference Act. The Preference Act guaranteed customers in the Pacific Northwest first call on electric energy and capacity. Section 6 of the act provides that capacity in federal transmission lines, “which is not required for the transmission of Federal energy,” shall be made available as a carrier for transmission of other electric energy between the Pacific Northwest, Canada, or any other area outside the Pacific Northwest. Section 6 also specifies that no contract for the transmission of non-federal energy on a firm basis shall be affected by any increase, subsequent to the execution of such contract, in the requirements for transmission of federal energy or other electric energy.

By the late 1960s, BPA anticipated limits to the Federal Columbia River Power System and issued Notices of Insufficiency to investor-owned utilities in 1967; then, to preference customers in 1977. To respond to the need for additional power (energy and capacity), the region’s utilities began to plan to add new generation, mainly nuclear plants. Investment in transmission was also needed to serve the region’s needs.

In 1974, Congress passed the Federal Columbia River Transmission System Act that required BPA to be self-financing and vested the administrator with broad authority to construct transmission and integrate and transmit both federal and non-federal power. The impetus for the act was to support the development of the Hydro Thermal Power Program, whereby regional utilities would invest in the development and construction of non-federal thermal generation, and BPA would construct the transmission system to interconnect such resources. By being free of the congressional appropriation process, the expectation was BPA would be able to construct transmission on a more efficient and expedient basis to integrate and transmit electric power from existing or additional federal or non-federal generating units, meet the service needs of its customers, provide interregional facilities, or maintain the electrical stability and electrical reliability of the federal system, among other responsibilities. The Transmission System Act also required BPA to make surplus transmission capacity (capacity not needed to

transmit electric power generated or acquired by the United States) available to all utilities on a fair and non-discriminatory basis.

In 1980, Congress passed the Pacific Northwest Electric Power Planning and Conservation Act. Under that act, BPA was authorized to acquire resources on a long-term basis to meet the net load requirements of regional utilities (if requested), mitigate impacts to fish and wildlife, implement the Residential Exchange Program, and acquire energy conservation as a resource to meet load, among other duties. BPA was also directed to offer long-term power sales contracts to its regional customers. Congress also reaffirmed the preference and priority to public bodies and cooperatives at all times in the marketing or disposition of federal power.

In the 1990s, the energy regulatory landscape in the nation began to change dramatically. Congress passed the Energy Policy Act in 1992 to create open access transmission and prevent undue discrimination. This Act gave the Federal Energy Regulatory Commission (FERC) the authority to order non-public transmitting utilities like BPA to provide transmission or interconnection service under certain limited circumstances.

In 1996, FERC restructured the electric industry by issuing Order Nos. 888 and 889. Under Order No. 888, FERC required public utilities (i.e., FERC jurisdictional utilities) to provide open-access transmission service on a comparable basis to the transmission service they provide themselves. FERC did this by creating the *pro forma* open access transmission tariff as the standard non-discriminatory terms and conditions for transmission service. FERC required every public utility that owns, controls, or operates facilities used for transmitting electric energy in interstate commerce adopt and file the *pro forma* tariff with FERC.

Under the *pro forma* tariff, FERC required public utilities to do the following:

1. To award transmission capacity on a first-come, first-served basis; and
2. To offer two types of transmission service: (1) Point-to-point, or “PTP,” which is transmission sold from point A to point B; and (2) Network, or “NT,” service, which is designed to be comparable to a transmission provider’s use of its own transmission network to serve its native load and requires the transmission provider to include the NT customer’s resource and load forecasts (projected over a minimum ten-year period) in its long-term planning horizon.

Under Order No. 889, FERC required public utilities to adopt Standards of Conduct to separate their transmission operations and reliability functions from their wholesale marketing/merchant functions and to establish an Open Access Same-time Information System known as “OASIS” to act as a portal for public utilities to post their tariffs for customers to find.

BPA is not a public utility subject to FERC’s jurisdiction under sections 205 and 206 of the Federal Power Act. Accordingly, BPA is not legally required to comply with FERC’s Order Nos. 888 or 889. However, in Order No. 888, FERC created an incentive for non-public utilities like

BPA to voluntarily adopt open access and the *pro forma* tariff. FERC stated that if non-public utilities offer open access transmission service, public utilities must offer them access in return. This concept is known as reciprocity. Although not required by FERC, BPA decided to adopt an open-access transmission tariff with certain modifications in 1996. BPA also established an OASIS, adopted standards of conduct, and overhauled its general terms and conditions to match others in the industry. These decisions were based on several directives or assumptions, including, but not limited to the following:

- BPA would separate its transmission function from its power function;
- A 1995 Department of Energy memo supporting FERC's effort for national open access that suggested power marketing administrations, including BPA, to support it;
- BPA could meet its statutory obligations under the open access transmission provisions; and
- Additional assumptions stated in BPA's 1995 business plan.

In 1996, BPA functionally separated into distinct power and transmission business lines and physically separated both businesses. However, this split was driven by assumptions about the industry's future that did not come to fruition: The region did not establish a Regional Transmission Organization or Independent System Operator. The split thus resulted in unnecessary redundancies in administrative systems and processes that did not involve standards-of-conduct-restricted transmission information and merchant function employees.

In response to sentiments aimed at anti-manipulation of gas prices, heightened fears about grid reliability, and a desire for compliance with FERC regulations, Congress passed the Energy Policy Act of 2005. This act expanded FERC jurisdiction under the Federal Power Act with respect to mandatory reliability standards and the provision of open-access transmission service by unregulated transmitting utilities such as BPA. Specifically, it added section 215, regarding mandatory transmission reliability standards that apply to BPA and other utilities, and section 211A, which gave FERC the authority to require, by rule or order, unregulated transmitting utilities such as BPA to provide transmission service at rates comparable to those the utility charges itself, and on terms and conditions (not relating to rates) that are comparable to those it offers itself and that are not unduly discriminatory or preferential.

BPA is committed to offering transmission service under its tariff based on FERC's *pro forma* tariff. BPA will consider changes to its tariff only if the changes are prudent based on the needs of our stakeholders, the reliable and efficient operation of the FCRTS, or BPA's statutory responsibilities.

In 2007, FERC revisited its open-access transmission policies and issued Order No. 890 to ensure that transmission services under the *pro forma* tariff are provided on a basis that is just, reasonable, and not unduly discriminatory. Like FERC's prior orders, BPA was not required to adopt FERC's *pro forma* revisions to its tariff. Nevertheless, BPA attempted to do so and made a submission to FERC requesting approval under the safe harbor process that included alternative proposals in certain areas but that adopted most FERC Order No. 890 requirements. FERC did not approve, and after several more attempts to obtain safe harbor status, in 2013, FERC approved BPA's tariff in part, but declined to grant BPA safe harbor status because of BPA's alternative proposals.

In 2014, BPA focused on critical areas where there were perceived tensions or conflicts between BPA's obligations to its customers and its obligations under its open-access transmission tariff that required greater clarity, resolution, and direction. The dialogue centered on BPA's ability to fulfill its mission and meet its multiple statutory obligations as the industry evolves and external forces continue to affect BPA's traditional business model (2015 Strategic Intent Paper).<sup>3</sup>BPA concluded that it would continue to offer non-discriminatory transmission service through the BPA tariff. BPA also concluded that it would aspire to meet the spirit and letter of the FERC's *pro forma* tariff by implementing a comprehensive BPA tariff compliance program.

In 2016, BPA opened a stakeholder dialogue with respect to the future of its open-access transmission tariff and indicated its intent to no longer seek reciprocity safe harbor status from FERC. BPA communicated with stakeholders that it believed the safe harbor process is no longer a tenable approach for making changes to the BPA tariff and that BPA would instead make changes through a regional public process. In January 2018, BPA informed the region that the public process it would employ for tariff changes would follow the procedural requirements of Section 212(1)(2)(A) of the Federal Power Act (Section 212). In addition, BPA committed to offering transmission service under its tariff based on FERC's *pro forma* tariff where possible, keeping with the direction of the BPA 2018-2023 Strategic Plan, and set forth criteria under which BPA would consider differences from the *pro forma* tariff. This *pro forma* strategic guidance stated that BPA would consider differences from the FERC *pro forma* tariff if the differences are based on at least one of the following:

- BPA's statutory and legal obligations, authorities, or responsibilities.
- The reliable and efficient operation of the federal system.
- Preventing significant harm or providing significant benefit to BPA's mission or the region.
- The FERC *pro forma* tariff is lagging behind industry best practice, including instances of BPA setting the industry best practice.

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<sup>3</sup> Clarifying BPA Obligations Strategic Intent Paper – 1/29/15. This paper was the result of 6-9 months of meetings followed up on with this writing.

In 2017, BPA affirmed the policy direction in the Strategic Intent Paper and further elaborates on that policy direction in this Transmission Business Model document.

## 8. Appendix B – The Transmission Mission<sup>4</sup>

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Transmission excellence is a top priority for us as a Transmission organization in delivering our mission. It is our vision for delivering the multiple objectives Transmission is accountable for: the Federal Columbia River Transmission System, supporting BPA’s strategic plan, delivering on the Transmission Strategies, continuing the excellent legacy of transmission reliability and service to the region, and repaying the federal investment. How Transmission continues to position itself as the region’s first choice for transmission service in the future is central to BPA’s current focus on delivering on our public responsibilities through a commercially successful business. (See the BPA 2024-2028 Strategic Plan.)

As part of the overall agency strategy, we are updating the Transmission Business Model – how we create, deliver and capture value – for Transmission with a predominant focus on how we serve our customers’ needs. An inextricable part of this business model is the integration and deepened understanding of our tariff responsibilities across the agency. As such, it is an opportunity to think holistically about our business and its long-term health and viability in the region. It will require us to anticipate, respond to, and lead change that is necessary to stay focused on reliability while capturing commercial benefit for the region that is consistent with statutory obligations.

“It will require us to anticipate, respond to and lead change that is necessary to stay focused on reliability while capturing commercial benefit for the region, consistent with statutory obligations.”

In the summer of 2016, a lead team started reassessing the Transmission Business Model – the way we create, deliver, and capture value for our customers and the region. We reviewed the landscape we operate in, drivers acting upon it and potential implications for BPA and its customers. Important conclusions of the reassessment include the following:

- Transmission exists in an increasingly dynamic, uncertain, and quickly changing environment. The industry continues to experience immense changes in traditional operational, marketing, and planning practices. These include environmental legislation, Regional Transmission Organization and day-ahead market discussions, physical and cybersecurity risks, wildfire impacts, rapidly declining costs of renewable generation resources, oversupply of energy within the region, increased amount of negative market prices, transactive energy and movement towards smart-grids, customer impacts from local and state regulatory clean energy

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<sup>4</sup> Transmission Quarterly Report - SVP Message – Q1 2016



requirements for carbon free dates, and an evolving regulatory environment responding to retail customer self-supply and distributed energy.

- We have diverse customers with complex needs, some of which may be at odds with each other under our current products and services portfolio. Our customers and the Western Interconnection's 38 balancing areas have more individualized needs in order to respond to market opportunities/disruptions, such as new regulations, technologies, and generation supply choices.
- We are facing capital and expense pressures, increasing supply challenges, and our system is aging and becoming more constrained. Similar to our customers, the cost of doing business<sup>5</sup> continues to increase over time; base as well as non-traditional growth driven by data centers are placing significant load on parts of the system not built for this kind of expansion. In addition, the majority of our infrastructure is over 50 years old, which requires additional maintenance and/or replacement at a time when debt service already makes up approximately 50% of the transmission rate.

These observations demand a responsive and modern approach to the way we position ourselves commercially (create value) and how we align as an operationally excellent Transmission organization (deliver value).

Additionally, changing conditions and customer needs will require us to adapt and evolve in order to achieve our mission. This includes having a clear value proposition and associated business model with a deep commitment to transparency and collaboration. In addition, the Transmission Business Model supports BPA's Strategic Plan and builds on the agency's four values: safety, trustworthy stewardship, collaborative relationships, and operational excellence.

### **The Enhanced Customer Experience**

At the heart of Transmission's mission is the dedication to operating a safe, secure, and high-performing grid, which is crucial for enabling the Pacific Northwest's economic growth and supporting the region's move to a clean energy future. To achieve this, we prioritize understanding and meeting the individualized needs of our diverse customer base. This commitment is in our proactive approach to partnership, where we adapt with agility and innovation to the evolving landscape. Through careful management of our products with our customers in mind, we ensure that each interaction with BPA is a testament to our reliability and responsiveness. This approach aligns with our strategic objectives, ensuring that we remain a dependable business partner in a dynamic environment.

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<sup>5</sup> For example, increased costs include inflationary pressures on labor, increasing compliance obligations, and additional mitigation due to increased cyber security risks.

In recognition of the importance of meaningful engagement, we commit to involving our customers proactively. This engagement informs our decisions with the needs and perspectives of those we serve. Moreover, we strive to facilitate our customers' navigation through our processes, allowing them to achieve their business objectives efficiently. Our focus on providing accurate and timely information, including operational details, contracts, and billing, is integral to this effort. We are dedicated to resolving concerns swiftly, ensuring that our customers always have a clear and comprehensive understanding of our processes and expectations, whether it involves securing Generation Interconnection or Transmission Service Requests.

The enhanced customer experience is not just about meeting immediate needs but also about providing clarity and visibility into our operations. This involves transparent communication about our approach to asset management, maintenance, and business processes. Metrics for reliability, cost, risk, compliance, safety, and other key factors are shared openly, fostering trust and understanding. Our aim is to make BPA synonymous with dependability and responsiveness, where customers have clear visibility into inventory availability, incentives for participation, and a thorough understanding of our operational strategies. By integrating these principles into our Transmission mission, we ensure that our commitment to our customers is as robust and forward-thinking as our commitment to operational excellence and strategic growth.

For our mission to be realized through the customer experience, we must embed these principles deeply into our mindsets and culture and bring a holistic, customer-focused approach that resonates with our core values of safety, trustworthy stewardship, collaborative relationships, and operational excellence.

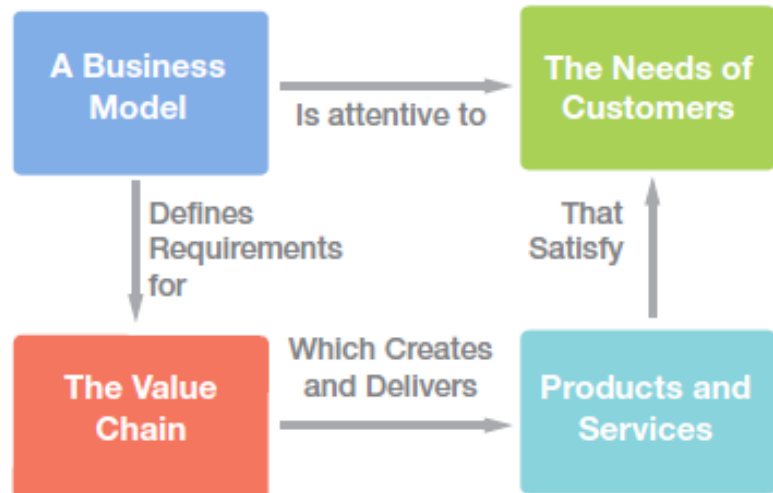
## 9. Appendix C - Business Model Framework

BPA Transmission adopted a methodology to define the **Transmission Value Proposition**, which clearly identifies the advantages customers receive by doing business with us. Once articulated, we were able to craft the associated business model to deliver the Value Proposition.

There are four key elements that make up the basic system of all businesses.

An assessment of these areas conveys an understanding of a **business model** that describes how an organization creates, delivers, and captures value, either economically, socially or culturally.<sup>6</sup> It is attentive to the **needs of customers**, which are what customers value, how they

might achieve value, and what stands in their way.<sup>7</sup> Customers' needs are satisfied by **products and services**, which are anything that can be offered to a market for attention, acquisition, use, or consumption that might satisfy a want or need. They include physical objects, services, persons, places, organization and ideas.<sup>8</sup> These are created and delivered by a **value chain**, which is a set of activities calibrated to deliver valuable products or services for the market to accomplish its business model.<sup>9</sup>



A key component to a transmission provider's business model is the administration of a tariff. When FERC created the *pro forma* tariff in 1996, its purpose was to standardize the terms and conditions for transmission service to ensure public utilities would offer transmission service on a comparable and not unduly discriminatory or preferential basis. Although FERC's *pro forma* tariff is not imposed on BPA, the agency believes that there is value in adopting the FERC *pro forma* tariff for our transmission services to the extent possible. In addition, it is a critical step to achieving this vision and in executing the agency's 2024-2028 Strategic Plan. Through this tariff, Transmission Services offers open-access transmission service that is consistent with industry products, services, and standards.

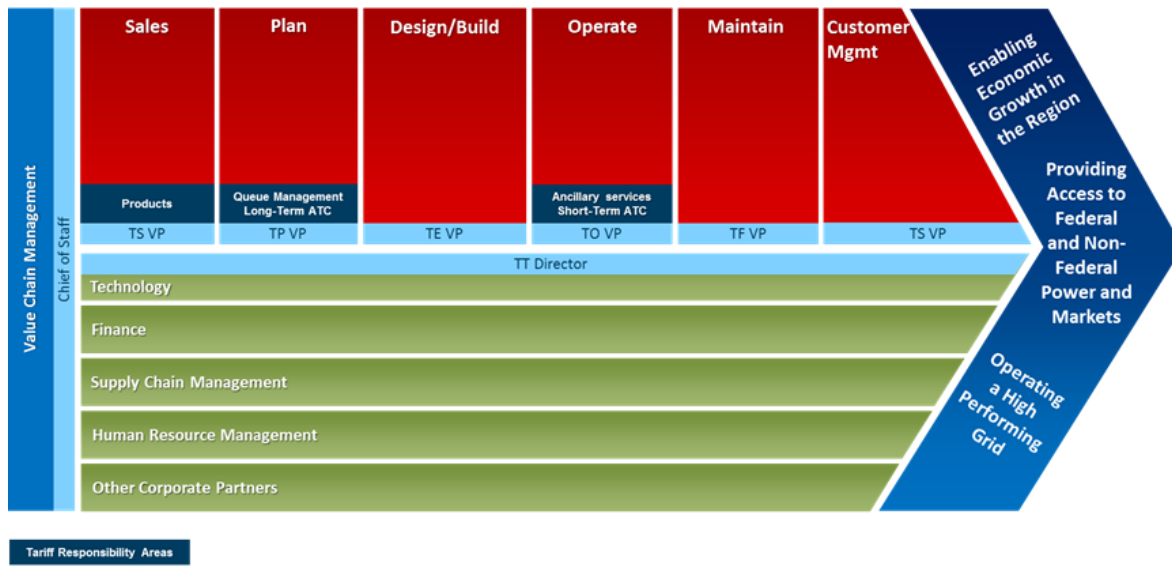
The value chain below illustrates the necessary throughput of major functions, as well as the responsible lead vice president, in order to run a transmission business.

<sup>6</sup> **Yves Pigneur**, *Université de Lausanne*

<sup>7</sup> **Frances X. Frei**, *Harvard Business School*

<sup>8</sup> **Philip Kotler**, *Kellogg School of Management*

<sup>9</sup> **Michael Porter**, *Harvard Business School*



This diagram is useful for understanding the entire business system with the required primary and supporting functions. However, it does not show the integration, cross-pollination, and teamwork expected and required from all staff, managers and vice presidents to achieve and sustain the Transmission Business Model.

By applying the above framework, we have defined the Transmission Value Proposition and the associated business model focus areas in the next chapter.

### Integrated Solutions with Important Differences

The Transmission Business Model explains how Transmission makes money, who it serves, and what areas the leadership will focus on in years to come. Getting there requires cycles of strategic planning, so that it is current in an ever-changing world. Understanding these differences in both the motivation and function of a strategy and a business model will help clarify measures of success and management of resources.

Strategy	Business Model
Directly asserts change across an entire enterprise	Describes the creation, delivery and capture of value
Is bounded by a specific timeframe	Is operated over timelines determined by the markets it creates and serves
Once its goals and objectives are met, the strategy will be considered finished	Requires constant management attention to create and sustain the value it envisions

## 10. Appendix D – Competitiveness Framework

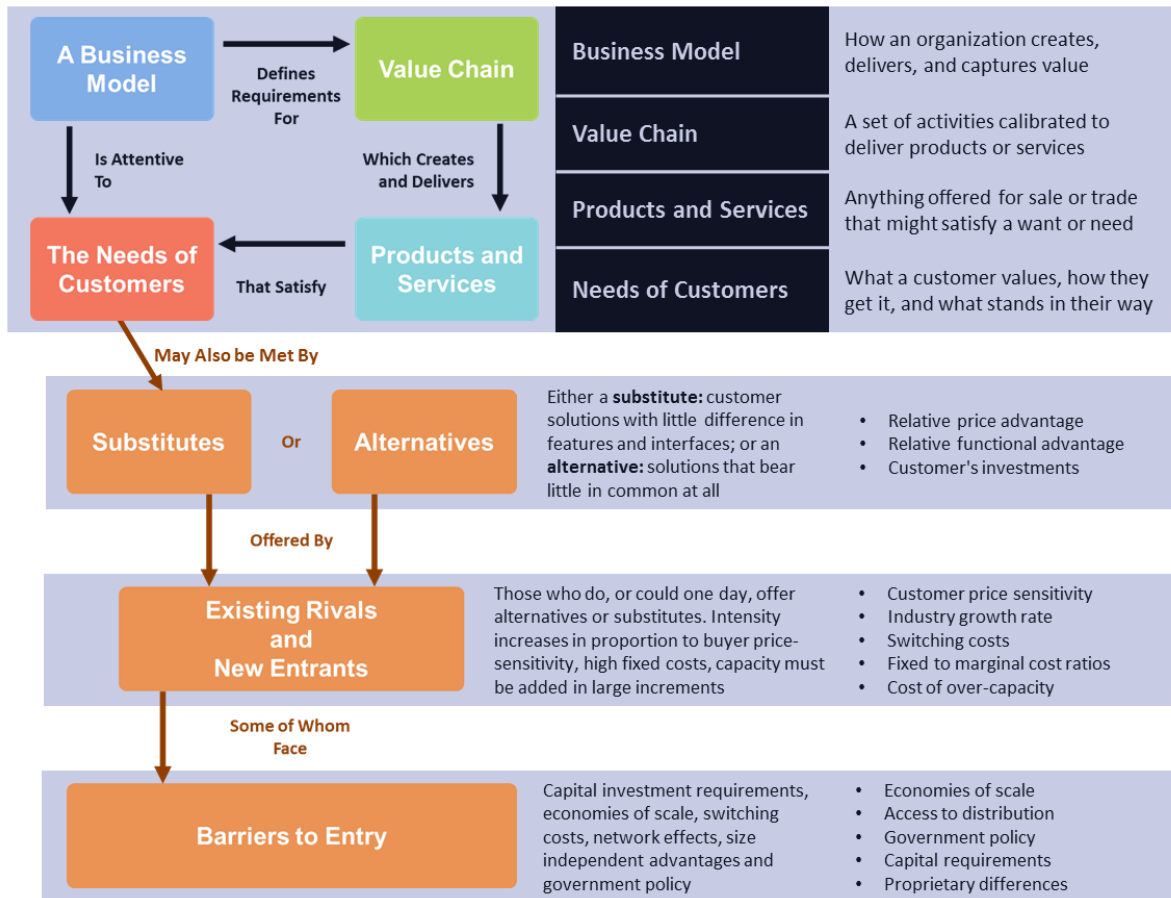
### Competitive Analysis: Rivalry

#### Competitive Context

As the Transmission of Tomorrow matures, an understanding of the competitive situation will be required in the design of its business model. Rather than a one-off project, competitive analysis is an enduring capability of the enterprise, to be operated routinely, informing value propositions, products, and financial performance

#### Industry Rivalry

Value Propositions and products appeal to customer needs. To remain competitive, know who else may seek to satisfy these needs, and how



# Competitive Analysis: Industry Structure

## Industry Structure

An understanding of industry structure will make clear which participants are capturing the most economic benefit, and who exerts the most power. The analysis begins with an understanding of *your* customers and suppliers. It is then important to continue this analysis to the suppliers of your suppliers; the customers of your customers, so on. Ultimately determining where the margins are most favorable and sources of power most concentrated

**Value Chain: Enterprise**  
A set of activities calibrated to deliver products or services

**Value Chain: Industry**  
The entire process of transforming raw materials to final consumption and disposal by the end consumer

A value chain for the enterprise is composed of three key elements: Primary Activities, Support Activities and the Target Value, usually expressed as the remaining margin after costs are netted from revenue

- **Primary Activities:** directly contribute to the creation, sale and support of a product
- **Support Activities:** provide necessary support to the primary activities, but do not directly relate to products

**Supplier**

A supplier is best understood as a source of costs, external to the enterprise. In this analysis you are not as interested in *all* of your inputs, but primarily in your *purchased* inputs

- **Bargaining Power:** will regularly increase prices and insist on more favorable terms
- **Forward Integration:** suppliers may develop the capability to serve your customers directly

**Customer**

Customers, also called buyers, are those entities that directly provide revenue to you for your products and services. They can be both intermediary or retail customers

- **Price Sensitivity:** over time, customers will demand more value at current/lower prices
- **Backward Integration:** technology and financial imperatives enable/force customers to *insource* or replace you