Operations & Finance

EEP 12

UTA

Initiative

Utilize environmental impact in operational and financial decision-making

LEAD: **Corporate & Foundation Relations** and **Office of the Chief Financial Officer**
with support from the Office of Sustainability

Definition

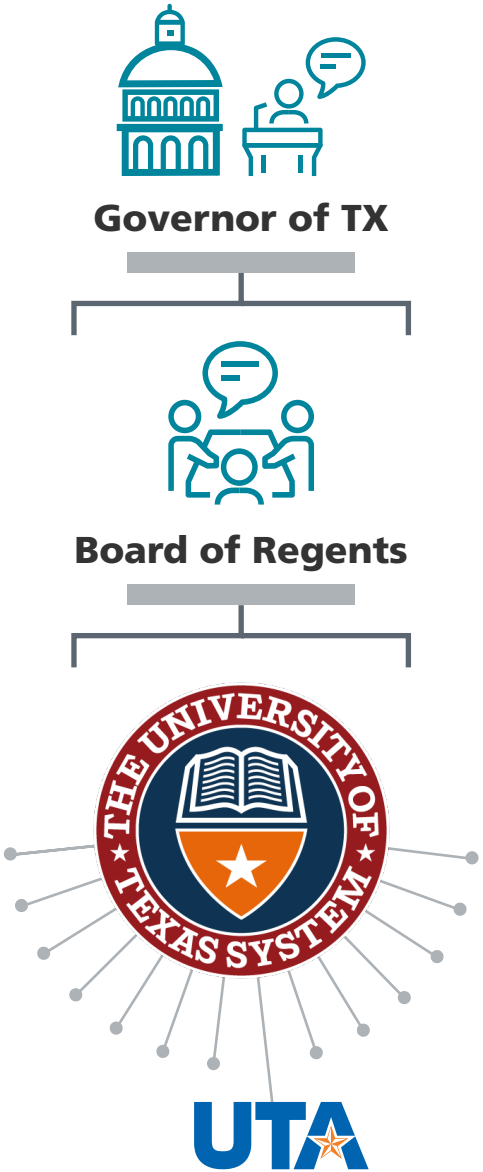
In operations and finance, strategies are directed towards minimizing the ecological impact of new construction, adopting green financial practices, and developing a zero net carbon plan for the campus. This involves exploring renewable energy options, improving water efficiency, and establishing a hub for interdisciplinary sustainability research.

Resilience Co-benefits

- Shrinks Carbon Footprint
- Grows Green Jobs & Opportunities
- Decreases Utility Costs
- Enhances Environmental Quality
- Increases Energy Efficiency
- Establishes UTA as a Regional Leader

System Context and Implementation Framework

The University of Texas at Arlington operates within the UT System's network of institutions, governed by a Board of Regents appointed by the Governor of Texas. This governance structure creates multiple layers of oversight and accountability, with the Board answering to the Texas Legislature while providing strategic direction for system institutions. Individual UT institutions have historically demonstrated remarkable capacity for innovation when backed by sound financial and operational planning — as evidenced by UT Austin's achievement in operating its own power generation since 1929 and reinvesting over $150 million in energy savings into system improvements.



The Infrastructure Investment Challenge

The path toward infrastructure modernization at UTA intersects with decades of institutional approaches to related investment and operational budgeting. Most of UTA's core energy infrastructure dates to the original campus construction, with improvements typically handled through facilities maintenance budgets rather than treated as major capital investments. This historical approach has created a specific challenge: transformative energy projects must compete with routine operational needs under traditional budget cycles that may not fully capture their long-term value.

Current Decision-Making Framework

Capital projects at UTA currently follow standard higher education financial evaluation processes, primarily focusing on initial costs and direct operational savings. This traditional framework often struggles to capture several important factors:

- Long-term resilience benefits that extend beyond typical budget cycles
- Future energy cost volatility and risk mitigation value
- Operational efficiency improvements and maintenance cost reductions
- Enhanced research capabilities and competitive advantages
- Student and faculty recruitment benefits
- Environmental impact and regulatory compliance considerations

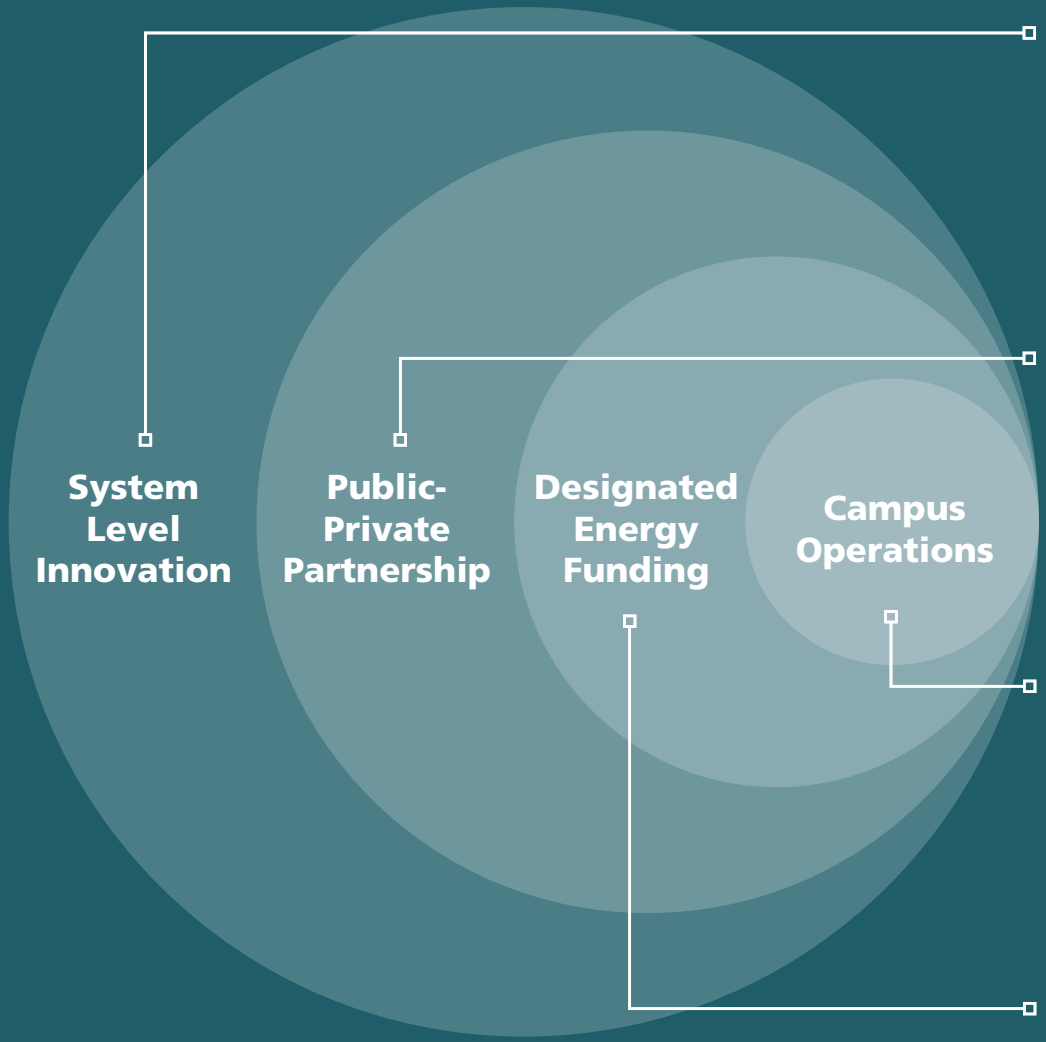
Reconceptualizing Infrastructure Investment

The primary opportunity lies in reconceptualizing infrastructure modernization projects as investments rather than operational expenses.

Strategic Implementation in a Layered System

The path forward requires navigation of multiple institutional layers, each offering distinct opportunities:

- Campus-Level Operations
- Designated Energy Funding
- Public-Private Partnership
- System Level Innovation



- Integration with UT System sustainability initiatives
- Development of cross-institution learning networks
- Creation of shared resource pools

- Exploration of innovative project funding structures
- Development of shared-savings agreements
- Creation of technology demonstration partnerships

- Implementation of Life Cycle Cost Analysis for renovation and retrofit decisions
- Development of building-level efficiency metrics
- Creation of operational improvement tracking systems

- Establishment of energy-specific investment pools
- Development of reinvestment mechanisms for captured savings
- Creation of performance-based funding criteria

Energy-Specific Investment Strategies

UTA can create dedicated funding pathways for energy improvements through several mechanisms. Power Purchase Agreements (PPAs) offer a particularly promising approach, allowing the University to secure renewable energy while minimizing upfront costs. These agreements typically span 15-25 years, providing long-term price stability and simplified budgeting. The University can leverage PPAs not only for renewable energy procurement but also for on-site generation and storage systems.

Utility partnerships represent another significant opportunity. The Texas utilities market offers substantial rebates and incentives for energy efficiency improvements and peak demand reduction. These programs can offset initial project costs while providing ongoing operational savings. For example, demand response programs could generate revenue while supporting grid stability—a win-win that aligns with both financial and resilience goals.

Federal funding presents an expanding opportunity, particularly for transformative technologies like heat pump systems and grid modernization. Recent federal infrastructure legislation has created numerous grant programs specifically targeting higher education institutions. UTA can position itself to capture these opportunities by developing a robust project pipeline and maintaining detailed energy consumption data to support grant applications.

Creating a Centralized Energy Fund

Separating Energy Investment from General Operations

A fundamental shift in UTA's approach involves creating a distinct framework for energy investments, separate from routine operations and maintenance budgets. This separation allows for:

- More accurate tracking of energy-related costs and savings
- Longer investment horizons aligned with infrastructure lifecycles
- Reinvestment of documented savings into future improvements
- Better positioning grant funding opportunities
- Enhanced ability to demonstrate project success

The creation of an Energy Investment Fund, distinct from general O&M allocations, would provide dedicated resources for efficiency improvements while protecting routine maintenance budgets. This fund could be initially seeded through a combination of utility savings, rebates, and strategic allocations, then sustained through documented cost reductions from completed projects.

Improving Data for Continued Cost-Benefit Analysis

Resource Management Systems

Effective infrastructure modernization requires robust systems for tracking and managing resources. The University can implement:

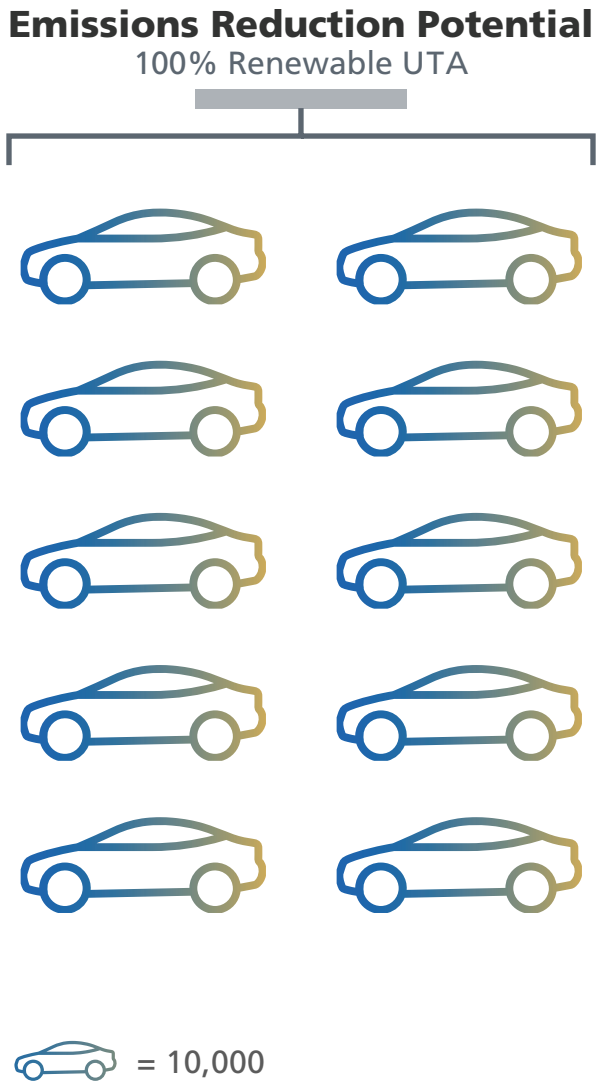
- Real-time energy monitoring and verification systems
- Standardized inventory management protocols
- Digital tracking systems for maintenance and repairs
- Automated building systems optimization
- Comprehensive waste reduction programs

These systems should incorporate visual management principles, making resource use and conservation opportunities immediately apparent to staff and building occupants. Simple visual cues can help maintain organized storage areas, reduce unnecessary purchases, and highlight opportunities for efficiency improvements.

Sustainable Power Purchasing Across the UT System

The adoption of green power purchasing represents a crucial opportunity for emissions reduction at Texas universities. Analysis of current state-wide grid emissions rates reveals that electrical purchasing accounts for more than 60% of UTA's emissions profile, excluding scope 3 emissions. A transition to 100% renewable power procurement would yield substantial environmental benefits, with an estimated reduction of 48,052 metric tons of CO2 – equivalent to removing over 10,000 vehicles from the road. While renewable energy currently carries a price premium, making demand reduction strategies essential, the Texas energy market shows promising trends.

Renewable energy sources represent the fastest-growing segment of utility generation in the state, with projections indicating they will constitute a significant majority of the grid by 2040. This opportunity becomes even more compelling when considering the University of Texas System's centralized power purchasing agreements. By leveraging the collective purchasing power of all UT institutions, the system can negotiate more favorable renewable energy rates through economies of scale. This system-wide approach not only enhances cost efficiency but also amplifies the environmental impact – as each additional participating institution increases both the negotiating power for better rates and the cumulative positive environmental effect across Texas.



Including a Price on Resilience

The University of Texas at Arlington's 2025 Sustainability Report introduces a transformative internal carbon pricing initiative designed to revolutionize campus sustainability funding.

Through a comprehensive departmental energy and resilience fee structure, academic and administrative units will contribute 3-5% of their energy costs to a dedicated funding pool, with charges calculated based on specific energy consumption patterns and space utilization metrics. This self-sustaining financial mechanism will exclusively support critical climate resilience and sustainability projects, including renewable energy installations, energy-efficient HVAC upgrades, building envelope improvements, and smart energy management systems. Under the supervision of UTA's Facilities Management department and guided by a diverse sustainability committee, the program ensures transparent fund allocation and strategic project selection while fostering energy consciousness across campus. The initiative demonstrates UTA's commitment to addressing climate challenges through innovative solutions, establishing a foundation for long-term sustainability while creating immediate positive impacts on campus operations and the broader community. Initial assessments and department-specific energy audits will commence in Summer 2025, with the first fee collections scheduled for the 2025-2026 academic year, marking the beginning of a new era in university sustainability financing.

Public-Private Partnerships for Major Improvements

A public-private partnership (P3) or energy service agreement (ESA) could revolutionize UTA's central plant and distribution infrastructure by enabling comprehensive system modernization without upfront capital costs. Under this model, a private energy service company would finance and implement upgrades to the university's aging central plants, including new high-efficiency chillers, boilers, and advanced control systems. The scope would extend to modernizing the campus's underground piping distribution network, replacing deteriorating pipes with better-insulated systems that reduce energy losses and maintenance costs. The private partner would make these substantial investments – often reaching into tens of millions of dollars for central plant projects – and recover costs through guaranteed energy savings over a 15-20 year period. UTA would continue paying its current utility costs, with the efficiency gains from the new equipment covering the investment costs and the ESCO's return. This arrangement is particularly attractive for central plant upgrades because these systems offer significant efficiency improvement potential but often require large capital investments that are difficult to fund through traditional university budgets. The private partner would also maintain the new equipment throughout the contract period, ensuring optimal performance and relieving the university's facilities team of this burden. This approach allows UTA to modernize its core energy infrastructure, reduce its carbon footprint, and improve system reliability while maintaining financial flexibility and leveraging private sector expertise in large-scale energy system optimization.

Financing the Infrastructure Modernization

As described in the Energy Infrastructure chapter, the EEP will happen in three phases across a period of 15 years. The following describes the financing strategy for each of these phases, starting with initial steps for building an energy fund and capturing savings, through the stabilization of the fund and a focus on growth, to the university ultimately benefiting from a healthy green fund.

FINANCING STRATEGY | PHASE 1

2025-2030

- Capital formation of energy fund
- Targeted efficiency projects in existing campus
- Identify ITC and grant opportunities
- Infrastructure studies for thermal expansion
- Establish PPA with UT Systems
- Establish energy & resilience overhead costs
- Establish targeted philanthropy

FINANCING STRATEGY | PHASE 2

2030-2040

- Phased construction
- Grid expansion
- System commissioning
- Operations commence on expanded loops
- Permitting and environmental studies

FINANCING STRATEGY | PHASE 3

2040 - Forward

- Full portfolio operation
- Revenue generation
- Asset optimization/enhancement of aged technologies

Implementation Strategies

Immediate Actions

Timeline: 0-2 Years

- Establish separate energy investment tracking systems
- Implement comprehensive building-level metering
- Develop staff training programs for new systems
- Create standard LCCA templates and procedures
- Begin pursuit of available utility rebates and incentives

Near-Term Development

Timeline: 2-5 Years

- Create dedicated Energy Investment Fund
- Implement comprehensive resource management systems
- Develop public-private partnership frameworks
- Expand grant pursuit capabilities
- Establish energy savings reinvestment protocols

Long-Term Integration

Timeline: 5+ Years

- Fully separate energy investment from O&M budgets
- Implement comprehensive energy management system
- Develop innovative funding mechanisms
- Create cross-institution learning networks
- Establish UTA as a regional leader in sustainable operations

This comprehensive approach ensures that both financial and operational systems evolve to support UTA's infrastructure modernization goals while maintaining effective day-to-day operations. The framework provides flexibility to adapt to changing technologies and opportunities while maintaining focus on the University's long-term sustainability objectives.

Identify opportunities to improve water conservation and efficiency

ACTION ITEMS 3

- Research small-scale water treatment options
- Establish rainwater catchment systems for irrigation
- Minimize environmental impact of Landscape Management by focusing on xeriscaping

Utilize a shadow cost of carbon in accounting practices and energy pricing

ACTION ITEMS 3

- Start tracking and reporting construction and demolition waste to establish a baseline
- Develop best practices guidelines
- Refer to LEED O+M scorecard for building operations and maintenance improvement

Reinforce a culture of social and environmental responsibility through UTA's financial investments

ACTION ITEMS 2

- Form a sub-committee of the Executive Budget Committee focused on investor responsibility, addressing the topics of sustainability and social responsibilities as it relates to university investments
- Include students, faculty, and non-academic staff as members of the Committee on Investor Responsibility to ensure proper representation of each group

Utilize green financial practices as a bridge to achieve stronger campus sustainability

ACTION ITEMS 3

- Evaluate carbon emissions trading programs
- Establish an Energy Revolving Fund
- Utilize LCCA to implement on-campus sustainability measures