



Building Sustainable Economies





DEMD Mission

Provide the best possible technical and economic advice and services in assisting Indian mineral owners to achieve economic self-sufficiency by creating sustainable economies through the environmentally sound development of their energy and mineral resources.



DIVISION OF ENERGY AND MINERAL DEVELOPMENT

FLUID MINERALS

Team of professionals provides technical support, mineral assessments, economic analysis, lease negotiations and recommendations for all oil and natural gas energy resources.

SOLID MINERALS

Solid Minerals staff supports Tribes and allottees in assessing and developing their mineral and aggregate resources, resource evaluation and bringing resources into production and profitable joint ventures.

GEOTECHNICAL DATA SERVICES

Geotechnical Data Team maintains seismic datasets and provides data to oil and gas companies or other investors who are interested in exploration and developing new reserves on Indian lands.

NIOGEMS

NIOGEMS is a map-oriented computer software application for managing reservation oil and gas lease, well, production, and other energy/mineral resource data. Training and support are all provided at no cost.

RENEWABLE & DISTRIBUTED GENERATION

Renewable and distributed energy team is committed to helping Tribes formulate and implement energy development strategies, pre-feasibility studies, and consultation to best fit with their unique circumstances and long-term visions.

BUSINESS SERVICES

Business Services provides strategic and economic planning guidance and business structure. Grant Programs and Marketing services.

DEMD Branches provide the best technical assistance to federally recognized Tribes, including Alaska Native Villages to identify and implement opportunities to maximize their revenue stream and resource development.

DEMD's Philosophy for Sustainable Economic Development

❖ Resources are better viewed as tools, not the goals

- Energy, minerals, and other natural resources are one of the many tools for creating sustainable economies.
- Energy and minerals are one of the top sources of revenue in Indian Country. According to the DOI economic impact reports, revenue generated from energy and minerals are second only to gaming.
- Income from energy and mineral resource development can be leveraged to spur a broader portfolio of projects for building a sustainably economy.

Steps for building a development portfolio

1. Baseline Assessment

- Identify critical issues
- Set ***strategic*** goals (job growth, diversification, etc)

2. Evaluate energy and mineral resources

- Conduct feasibility studies

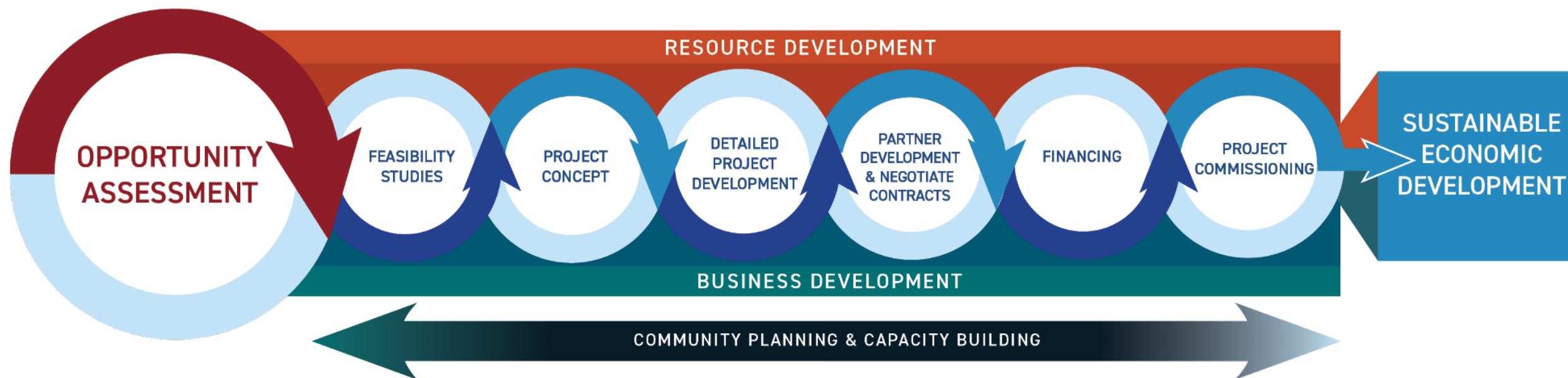
3. Identify business development opportunities

- Develop businesses that enable economic development
- Identify quick start opportunities (quick wins that start generating revenue)
- Evaluate future opportunities
- Build a long term portfolio strategy





DEMD's service model helps Tribe's Optimize Energy and Mineral Portfolios





DEMD's Approach to Tribal Technical Assistance

It employs an across-the-board utilization of DEMD staff's multiple skill sets. This technical assistance is hands on and proactive. It incorporates the full spectrum of services required to change resources into viable economic engines.

- ✦ Assessment of a resource's quality and quantity
- ✦ Feasibility Study- equipment needs, Capex/Opex calculations, financial analysis, business structure
- ✦ Marketing- local/regional sales forecasts, market forecasting, existing and future competition, branding assistance
- ✦ Financial- Financial statement creation and analysis, short/long term income streams, potential lenders, government grants, other potential sources of capital
- ✦ Loans-BIA/DOE/USDA/SBA Loan Guarantees, working with local/regional/national lending institutions
- ✦ Land Management-consolidation of Tribal lands, identification of desirable land acquisitions, fee to trust



Building Business Capacity

✦ Maximize the benefits resource development

- If done effectively, establishing the proper business environment can help tribes along their desired path to economic success and beyond.

✦ Business capacity considerations

- Developing legal infrastructure for business formation
- Establishing corporations
- Workforce training
- Developing permitting or land leasing regulations
- Adopting secured transaction codes
- Community development planning



Portfolio Business Formation

Illustrative Model

Economic Development Corp.

Utility Authority

Green Co.

Mining Co.

Hydro

Solar

Water

Broadband

Propane

Carbon
Credits

Biomass

Aggregates

Critical
Minerals



Portfolio Business Formation

Focus on the right business structure

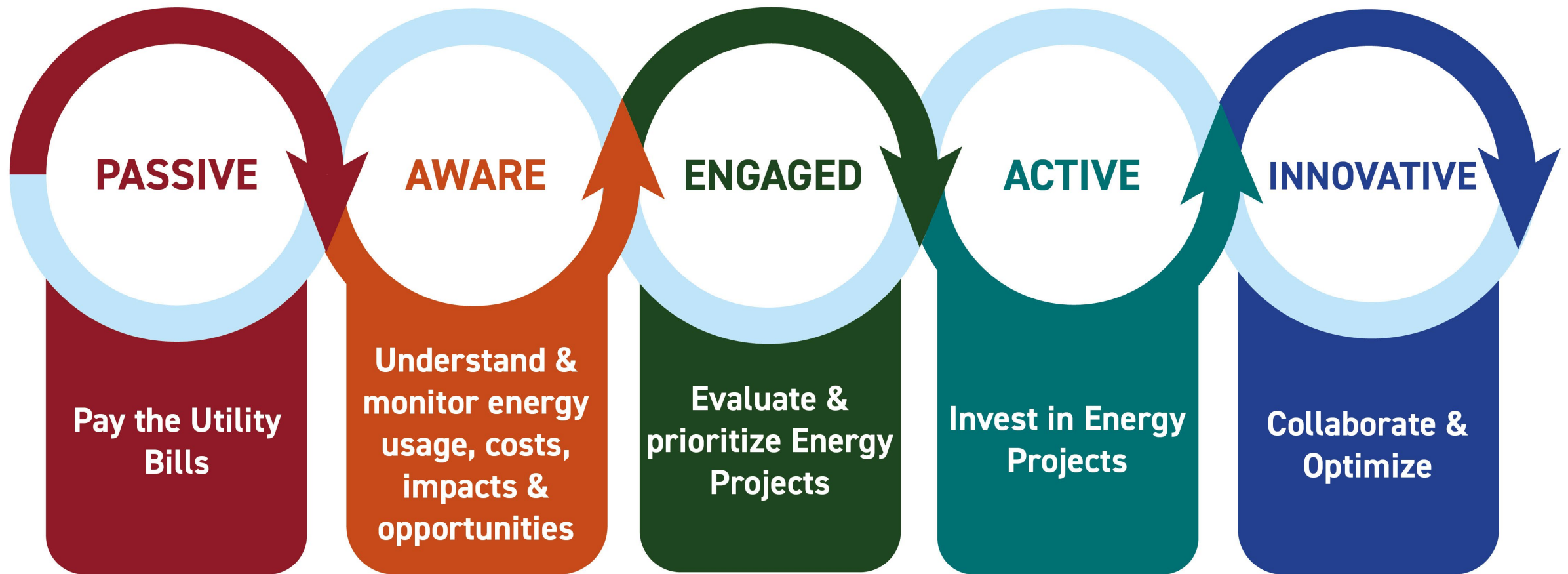
✦ Proper business structuring enables effective business management

- Separation of business and politics
- Creates business framework for financing new ventures
- Creates proper entity for contracting and isolating liability
- Maintain non-taxable status
- Keeps each company focused on their *specific mission*
 - Separate entity for each company. May organize under a corporate umbrella (Section 17)
 - Utility Co./Authority for Hydro Power, Solar Power, Water and Fuel
 - Green Co. for Carbon Credits
 - Mining Co. for aggregate processing, road construction & maintenance, trading
 - Broadband Co. for Data Mining, Internet access, etc.
 - Etc.



ENERGY DEVELOPMENT CAPACITY

Capacity Development Process

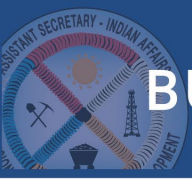


Source: Midwest Tribal Energy Resources Association (MTERA)



Why focus on Utility Development?

- ✦ Tribes spend on average \$2-\$3 million per year on electric power
 - Range of \$200k to \$20+ million for large casino/resort
- ✦ Extrapolated to all Federally recognized tribes this is a \$1-\$2 billion dollar annual market
- ✦ The Utility market on Tribal lands is largely owned, operated, and controlled by **third party incumbent utilities**
- ✦ Tribes are taking a more active role in managing these assets



BUSINESS SERVICES

THE TRIBAL ENERGY DEVELOPMENT CAPACITY (TEDC) GRANT PROGRAM HAS FUNDED NEARLY 30 TUA PROJECTS IN FY 2015 - FY 2019. THE BELOW INFORMATION IS A CASE STUDY FROM A FY 2015 TEDC PROJECT.

TRIBAL UTILITY AUTHORITY FEASIBILITY WORK

ANALYZE ENERGY INFRASTRUCTURE

REVIEW LEGAL & REGULATORY ISSUES

ASSESS BUSINESS ENTITY OPTIONS

FINANCIAL ANALYSIS



Examples for how optimized energy and mineral *portfolios* spur economic growth

Foundational Industries					Economic Development				
Source of Cash Flow, Infrastructure & Materials for Economic Development									
Power	Mineral Fluids, Gases, Steam	Mining	Broadband	Biomass	Construction	Materials Manufacturing	Farming	Tourism	Consumer Products
Solar	Hydrogen	Aggregate	Telecom	Forrest Mgmt.	Roads	Stone, Bricks	Table Food	Lodges	Furniture
Wind	EOR	Limestone	AI	Grassland Mgmt.	Industrail	Lumber	Feed	Casinos	Arts & Crafts
Hydro	Helium	Rare Earths	Data Center	Carbon Credits	Commercial	Plastics	Livestock	Hotels	Machine Parts
Natural Gas CC	Geothermal	Metals	IOT	Pellet Mfg.	Residential	Fertilizer	Hemp	Museums	Clothing
Cogen	Natural Gas	Quarry Stone	Bitcoin Mining	Hemp Waste		Metals Fabrication			Foods, Oils, etc.
Microgrids	Oil EOR - Net Zero					Textiles			Other

Example 1. Fluid Mineral Business Development

Strategy: Take over 100% ownership of an oil field

- ❖ Tribes can generate significant income & redesign oilfield operations to drive world class environmental stewardship goals: NetZero and safe operations
- ✚ Estimate Tribes can realize 4x more income assuming operations vs. lease
- ✚ DEMD Assistance
 - Advising Tribes on transition
 - Evaluating portfolio of complimentary projects

Example 2. Solid Mineral Business Development

Strategy: 100% Tribal ownership of Sand and Gravel

- ✦ Tribes can generate significant income, good paying jobs, and competitively supply local and regional markets
- ✦ Estimate up to two-thirds cost reduction in rural locations
- ✦ DEMD Assistance
 - Advising on start-up of aggregate business
 - Evaluating portfolio of complimentary projects
 - EMDP grant to assess future long-term potential for additional reserves

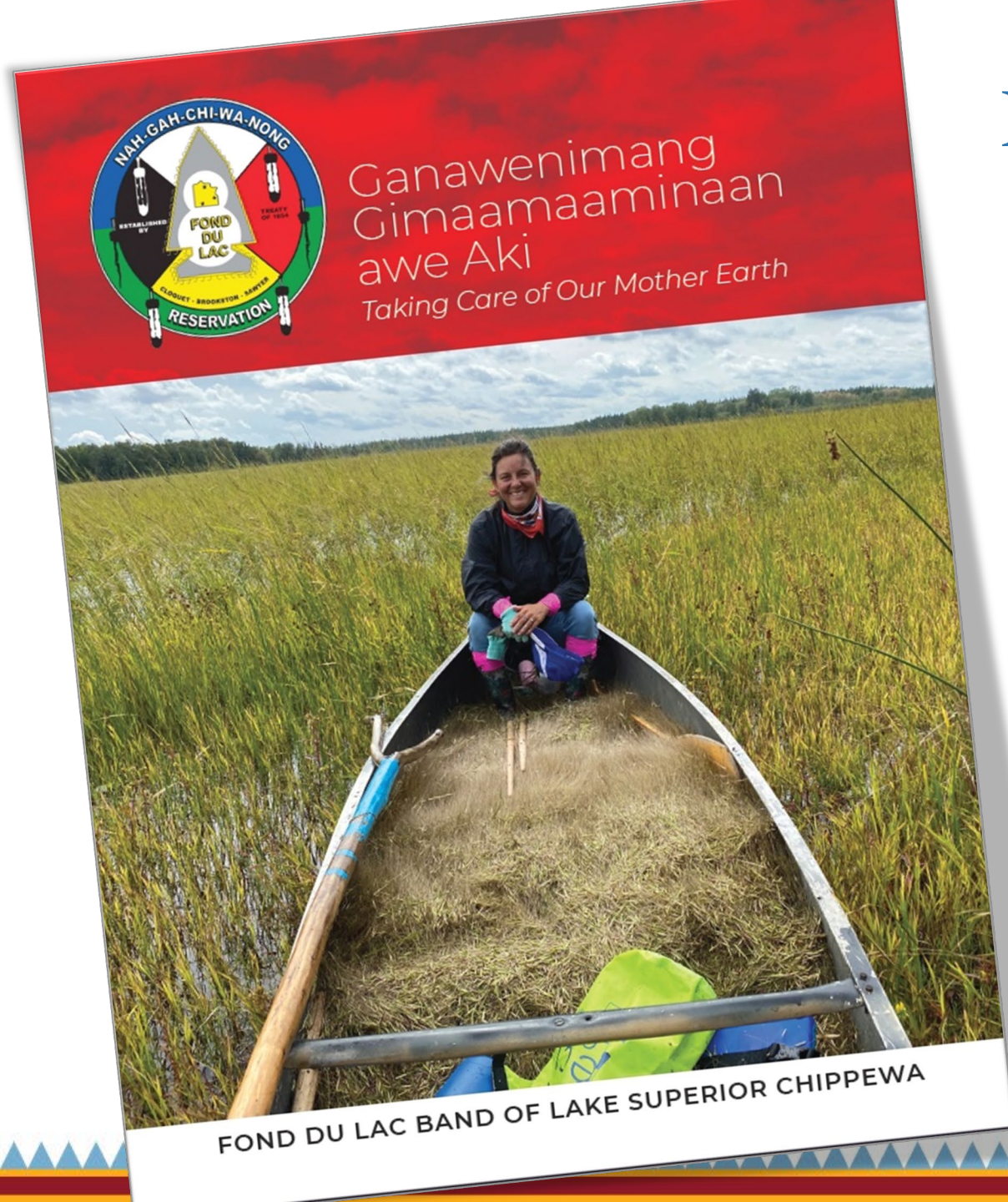
Example 3. Fond du Lac Band

✦ Energy Feasibility Studies with DEMD

- Wind
- Pellet Manufacturing
- Waste to Energy
- Natural gas
- Solar
- Biomass heating
- Microgrids
- Tribal Utility

✦ Grants had both direct and indirect influences on FDL accomplishments.

- Over \$350,000 in annual savings from solar and biomass projects.
- 9 MW of Tribal energy assets developed.



Energy Accomplishments (Generation and Management)

✦ Black Bear Casino Resort
Solar Array

✦ Biomass Heating

✦ Tribal Utility

✦ Other FDL work

- Energy Benchmarking
- Propone Service
- Residential Energy





No Cost Technical and Business Advisory for Tribes

Technical Assistance

- Resource Analysis
- Economic Analysis
- Technical Advisement
- Grant Assistance
- Project Planning
- Project Management
- Due Diligence
- And more

Develop Potential Partnerships

- Business Planning & Entity Formation
- Business Partnering, Deal Structuring & Evaluation

Project & Resource Mapping

- National Indian Oil & Gas Energy and Minerals Management System (NIOGEMS)
- Data On Financial, Realty, Geo-technical Information
- Leasing, Developing, and Managing Energy & Mineral Resources
- Mapped Ownership Tracts and Energy Leases

Marketing Assistance

- Marketing Collateral
- Tradeshow Graphics
- Design Assistance
- And more





DEMD Grants: TEDC & EMDP

To develop tribal economies and promote development that maximizes the economic impact of energy resources on tribal lands

Energy and Mineral Development Program (EMDP)

\$45.1MM
Requested
FY 2022

\$6.5MM
Awarded
FY 2020

82
Proposals
Received
FY 2022



Assess, evaluate and promote development of tribal energy and mineral resources.

Tribal Energy Development Capacity Program (TEDC)

\$7.8MM
Requested
FY 2022

\$1.6MM
Awarded
FY 2020

34
Proposals
Received
FY 2022

Develop tribal managerial, organizational, and technical capacity to maximize the economic impact of energy resource development on Indian land.



DIVISION OF ENERGY AND MINERAL DEVELOPMENT

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BUREAU OF INDIAN AFFAIRS
DIVISION OF ENERGY AND MINERAL DEVELOPMENT





Energy Industry at a Glance

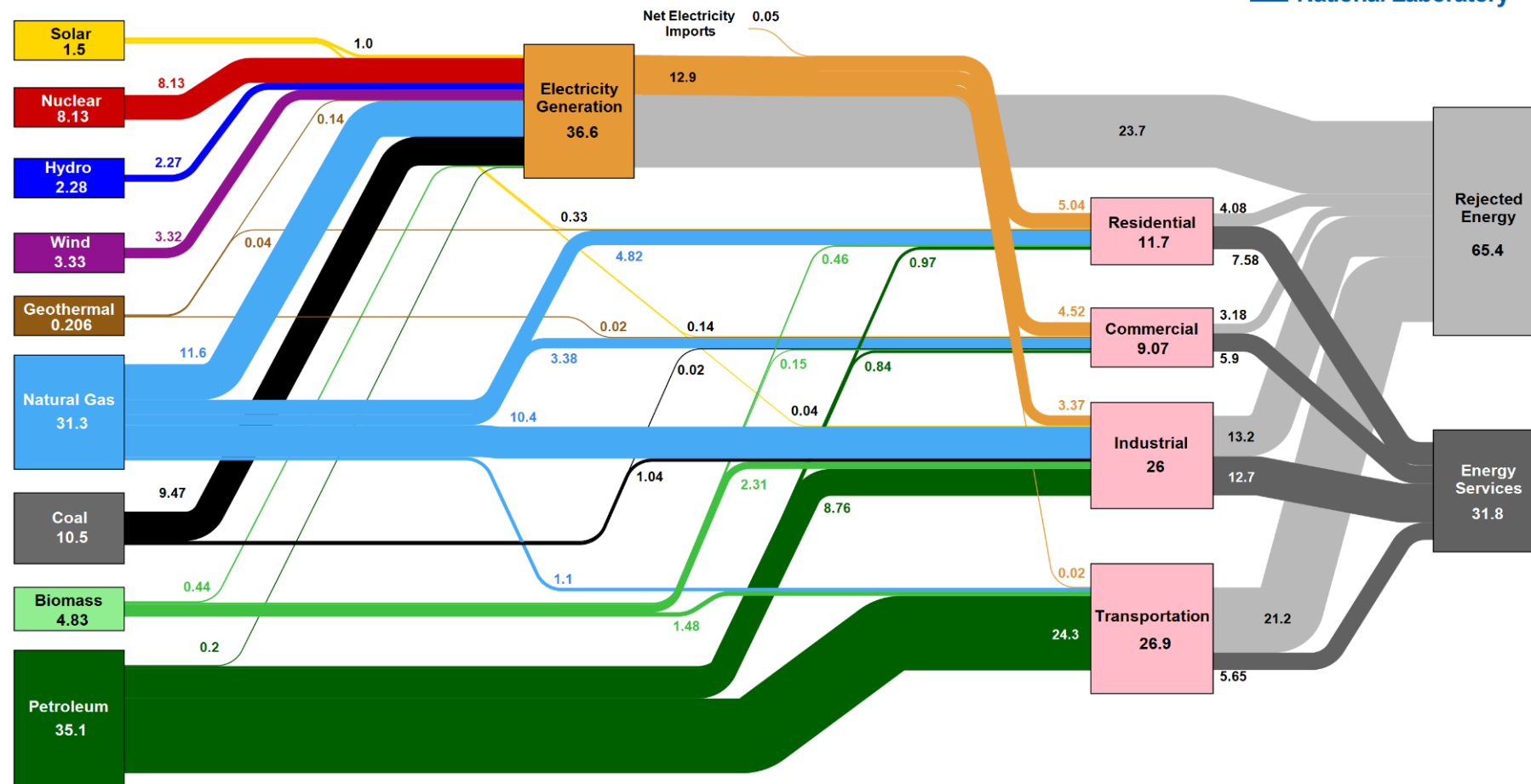
❖ Energy Transition

- ❖ More clean energy
- ❖ Electric vehicles, alternative fuel vehicles

❖ BIL Funding Opportunities over next 5 years

❖ Tribal Energy Leadership

Estimated U.S. Energy Consumption in 2021: 97.3 Quads



Source: LLNL March, 2022. Data is based on DOE/EIA MER (2021). If this information or a reproduction of it is used, credit must be given to the Lawrence Livermore National Laboratory and the Department of Energy, under whose auspices the work was performed. Distributed electricity represents only retail electricity sales and does not include self-generation. EIA reports consumption of renewable resources (i.e., hydro, wind, geothermal and solar) for electricity in BTU-equivalent values by assuming a typical fossil fuel plant heat rate. The efficiency of electricity production is calculated as the total retail electricity delivered divided by the primary energy input into electricity generation. End use efficiency is estimated as 65% for the residential sector, 65% for the commercial sector, 21% for the transportation sector and 49% for the industrial sector, which was updated in 2017 to reflect DOE's analysis of manufacturing. Totals may not equal sum of components due to independent rounding. LLNL-MI-410527