



The Energy Efficiency and Conservation Act

*Navigating Republic Act No. 11285 with WESTCO (DOE Certified ESCO)
In partnership with PAMAV Training Institute (DOE Recognized Training Institute)*



The Legislative Framework

Republic Act 11285, the Energy Efficiency and Conservation Act, is a legislative framework designed and enacted to ensure the **prudent and strategic use of energy resources in the Philippines.**

Organizations consuming **50,000 kWh or more annually** are legally classified as Designated Establishments (DEs) and are required to:

- Conduct periodic energy audits
- Submit annual energy reports to the Department of Energy
- Implement energy efficiency and conservation programs



Compliance is mandatory but more importantly, it is a **major financial opportunity.**

Many facilities achieve up to **30% reduction in utility costs** after implementing audit recommendations.





Technical Assessment: Determining DE Status

If your business consumes more than 50,000 kWh of energy annually, you are legally required by the Energy Efficiency and Conservation Act (RA 11285) to submit annual reports and conduct energy audits.

Staying compliant starts with one number: your Annual Total Energy Consumption. Here is the straight-up way to compute it:



The Calculation Formula

To get your final number, you must combine your fuel use and your electricity use into a single unit (kWh).

TAEC = Total Annual Fuel Consumption + Total Annual Electricity Consumption



Total Annual Fuel Consumption

Gather all receipts for petroleum products (Diesel, Gasoline, LPG) consumed from January 1 to December 31.

1. Take the total liters (or kg for LPG) used for the year.
2. Multiply by the DOE Standard Conversion Factors to get the kWh equivalent.

Example: Total Liters of Diesel X 10.61 = Total kWh.



Total Annual Electricity Consumption

Gather all utility bills (e.g., Meralco, Visayan Electric, etc.) from January 1 to December 31.

1. Sum up the Actual kWh consumed for all 12 months.
2. Do not include "Demand Charge" or "Taxes"—only the energy (kWh) consumed.



The Compliance Thresholds

The new DE Typology is the following:

Commercial and Transport Sector

Other DE: Below 50,000 kwh

Type 1: 50,000kwh to 500,000kwh annual consumption

Type 2: 500,001 kwh - 4,000,000kwh annual consumption

Type 3: 4,000,001kwh and above annual consumption

Industrial Sector

Other DE: Below 50,000kwh

Type 1: 50,000kwh to 1,000,000kwh

Type 2: 1,000,001kwh to 8,000,000 kwh

Type 3: 8,000,001 kwh and above

Why Energy Audits Are a Strategic Investment

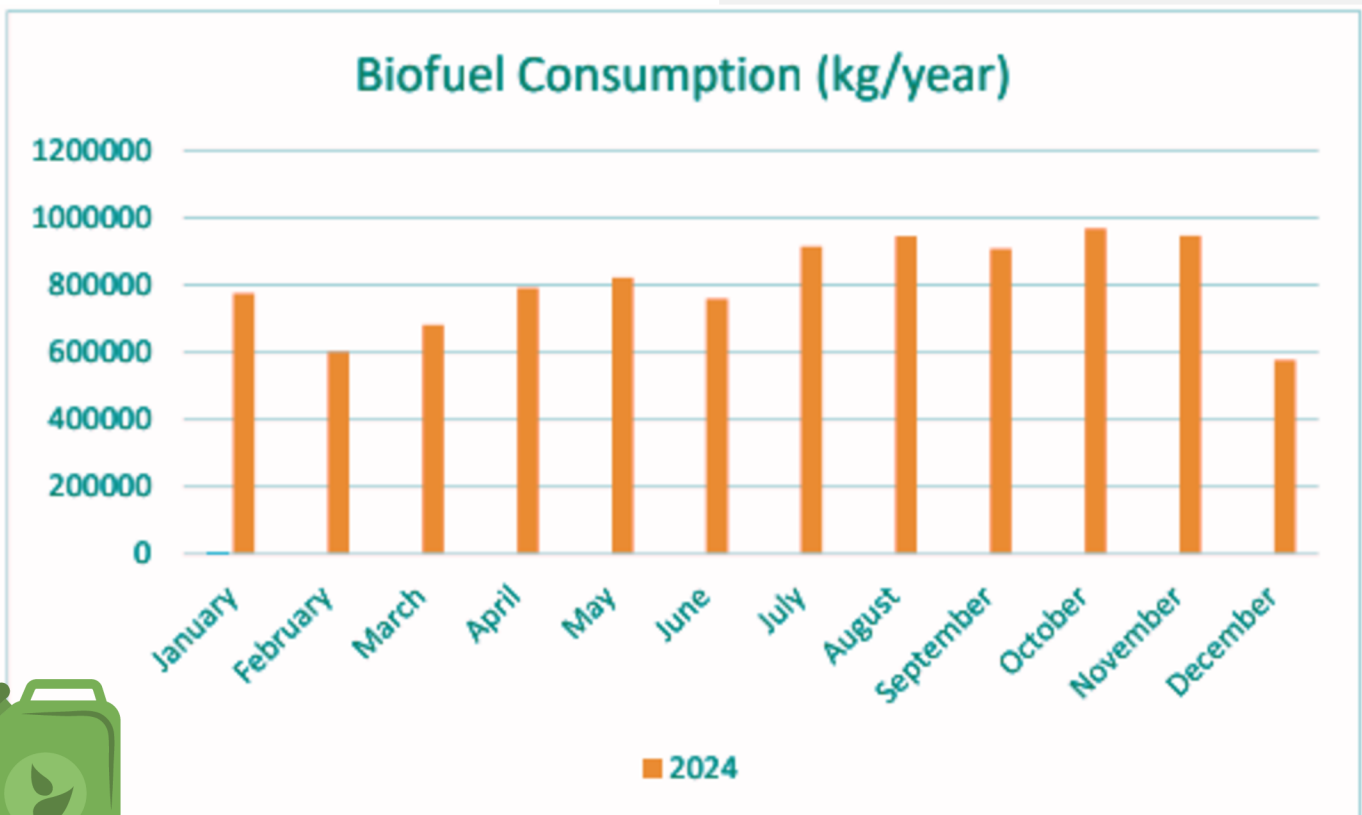
Energy is one of the **largest controllable operating expenses** in commercial, industrial, and government facilities.

Our completed projects show that organizations typically achieve:

- 8–15% savings for government facilities
- 10–25% savings for industrial facilities
- Payback periods of only **1–3 years**

Energy audits are no longer just compliance requirements — they are **profit-generating projects**.

See chart for example:



Biofuel consumption for the year 2024 as shown in bar graph.





Proven Results from Actual WESTCO Projects



I. Industrial Manufacturing Facility



a.) Level 2 Energy Audit – Type 2 Designated Establishment

Annual Energy Use: 5.4 Million kWh

Audit Type: ASHRAE Level 2

Key Inefficiencies Identified

- Poor power factor and reactive power losses
- Inefficient air compressor operation
- Non-inverter cooling systems
- Lighting without automation controls



c) Measurable Results

57,087 kWh saved annually
P570,876 yearly cost savings
Payback period: 2.91 years

This demonstrates how targeted improvements deliver **fast ROI and long-term operational savings.**



b) Implemented Solutions

Energy Conservation Measure	Annual Savings
LED Retrofit	2,394 kWh
Inverter AC Upgrade	13,334 kWh
Compressor VFD Retrofit	5,049 kWh
Static VAR Generator Installation	36,310 kWh



II. Government University – GEMP Project



a.) Energy Performance Assessment Results

- Building Energy Efficiency Index: **125 kWh/m²/year**
- ASEAN benchmark: 160 kWh/m²/year

Already highly efficient yet further improvements were identified.



b.) Additional Savings Potential

- Installation of occupancy sensors
- Improved AC scheduling
- Enhanced monitoring and reporting



c.) Projected additional savings: 8% reduction in electricity consumption

This shows how even efficient buildings still have **hidden savings opportunities**.



III. Government Facility



Compliance & Performance Results

- Achieved **100% DOE GEMP rating**
- Reduced fuel consumption through monitoring and optimization
- Annual electricity consumption stabilized and optimized



Future Savings Opportunity

- Replacement of remaining non-inverter AC units
- Lighting automation and smart monitoring
- Solar PV and Energy Management System integration



Potential savings:

Up to **15% electricity reduction (~P200,000 annually)**



A.) The WESTCO 5-Step Energy Audit Lifecycle

Our data-driven methodology ensures measurable results:



1. Data Aggregation & Baseline Analysis

We analyze historical utility data to establish energy performance benchmarks.



2. Physical Asset Inspection

Detailed inspection of HVAC, lighting, motors, and electrical systems.



3. Diagnostic Analysis

Advanced modelling identifies:

- Phantom loads
- Inefficient duty cycles
- Power quality issues
- Operational inefficiencies



4. Strategic Implementation

We recommend high-impact Energy Conservation Measures (ECMs).



5. Continuous Monitoring & Verification

Real-time monitoring validates savings and sustains performance.

Operational inefficiencies can account for **up to 30% of energy waste** in buildings.





B. Compliance + Savings + Capability Building

WESTCO delivers **end-to-end energy management:**



a. Compliance

- DOE-recognized ESCO services
- RA11285 reporting and documentation
- GEMP support for government agencies



b. Savings

- Measurable ROI and cost reduction
- Equipment life extension
- Reduced carbon footprint



c. Capability Development

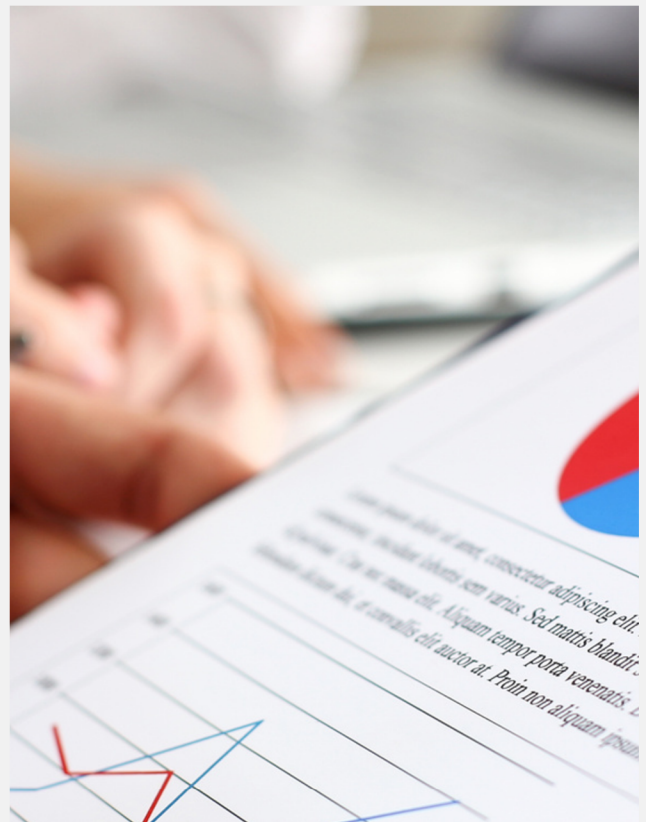
Through PAMAVTECH Training Institute:

- Energy management training
- EEC awareness programs
- Internal capability building



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C. Secure Your Compliance and Start Saving

Energy efficiency is no longer optional — it is a **legal requirement and a business advantage.**

Partner with WESTCO and PAMAV to:

- ✓ Achieve DOE compliance
- ✓ Reduce operating costs
- ✓ Improve sustainability performance
- ✓ Build long-term energy management capability

Contact us today to start your Energy Efficiency Journey.





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- Lecturer of Energy Management Courses such as Certification Courses for Energy Manager and Energy Auditor at PAMAV Training Institute & Technology Center
- Certified Energy Manager at WESTCO Electrical & Equipment Corp
- Certified Energy Auditor at WESTCO Electrical & Equipment Corp
- Former University Researcher at Jose Rizal University
- Former Energy Research and Program Development Engineer and Program Manager at Meralco Power Academy
- An Electronics Engineer with a Specialization in Mechatronics Systems and Instrumentation & Process Control
- Graduate of Master of Engineering major in Electrical Engineering at Technological University of the Philippines
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