

Qualifying Products

- Performance tested and certified commercial and industrial motor-driven products
- Tests and labels by trade organizations
 - Hydraulic Institute (HI): Pump manufacturers
 - Air Movement and Control Association International (AMCA): commercial and industrial fan manufacturers
 - Compressed Air and Gas Institute (CAGI): air compressor manufacturers
 - National Electrical Manufacturers Association (NEMA): manufacturers of motors, drives, and other products

The Opportunity

- US Motor Market₁
 - 5.6 million units per year
 - Approximately 40 million connected horsepower
- Annual spending on C&I energy efficiency programs
 - \$274 million in 2015 on prescriptive programs₂
- US Department of Energy rulemaking
 - Pumps
 - Fans and Blowers
 - Air compressors

References:

1: *Motors and Drives*, February 2013

2: 2016 CEE Annual Industry Report

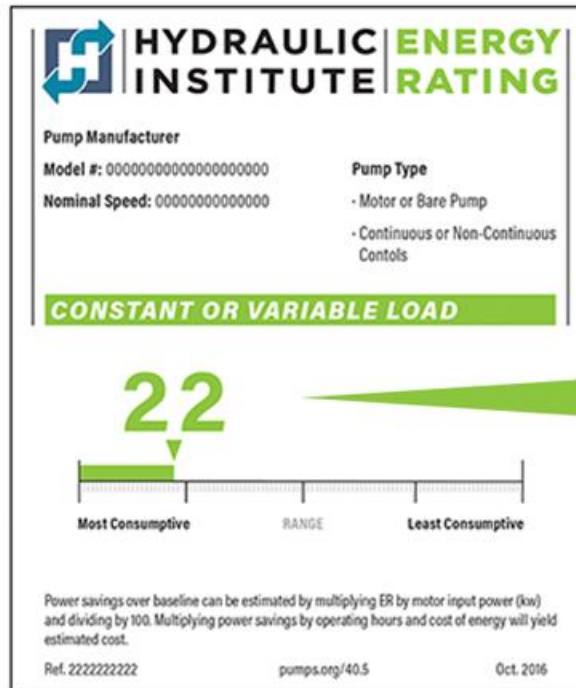
US DOE Rulemaking

- Pumps:
 - Clean water, 1-200 Hp, flow > 25 gpm, nominal speeds of 1800 and 3600 rpm.
 - Rulemaking complete. Compliance required 2020.
- Fans:
 - Test Procedure Standard (TPS) and Minimum Energy Performance Standards (MEPS)
 - ASRAC public negotiations concluded Sept. 2015
 - Release of TPS draft on hold
- Compressors
 - Rotary Positive, 1-200 Hp, 75-200 psig, 35-1250 CFM
 - Final rules published December 2016

ENERGY RATING PORTAL HOMEPAGE

The *HI Energy Rating (ER) Label* is designed to clearly indicate the power savings obtained from pump system upgrades and changes. The savings is calculated over the baseline established by the U.S. Department of Energy according to HI Performance Test Standards.

- Manufacturers use the *ER Label* to differentiate products by power consumption.
- Public Utilities and Power companies use the *ER Label* for incentive programs and rebates.



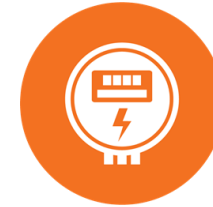
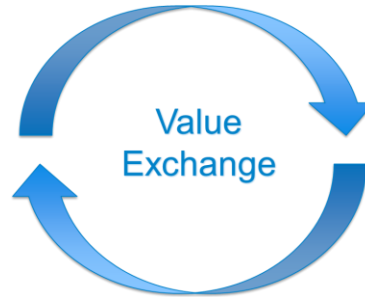
$$(ER / 100) \times \text{power} \times \text{hours} \times \text{rate } (\$/\text{kWh})$$

\$5000

The estimated annual savings

(assuming a 50hp motor running 4000 hours at \$0.15 kWh)

Value of an Online Marketplace



Manufacturers & Distributors
Relationship management
Product differentiation

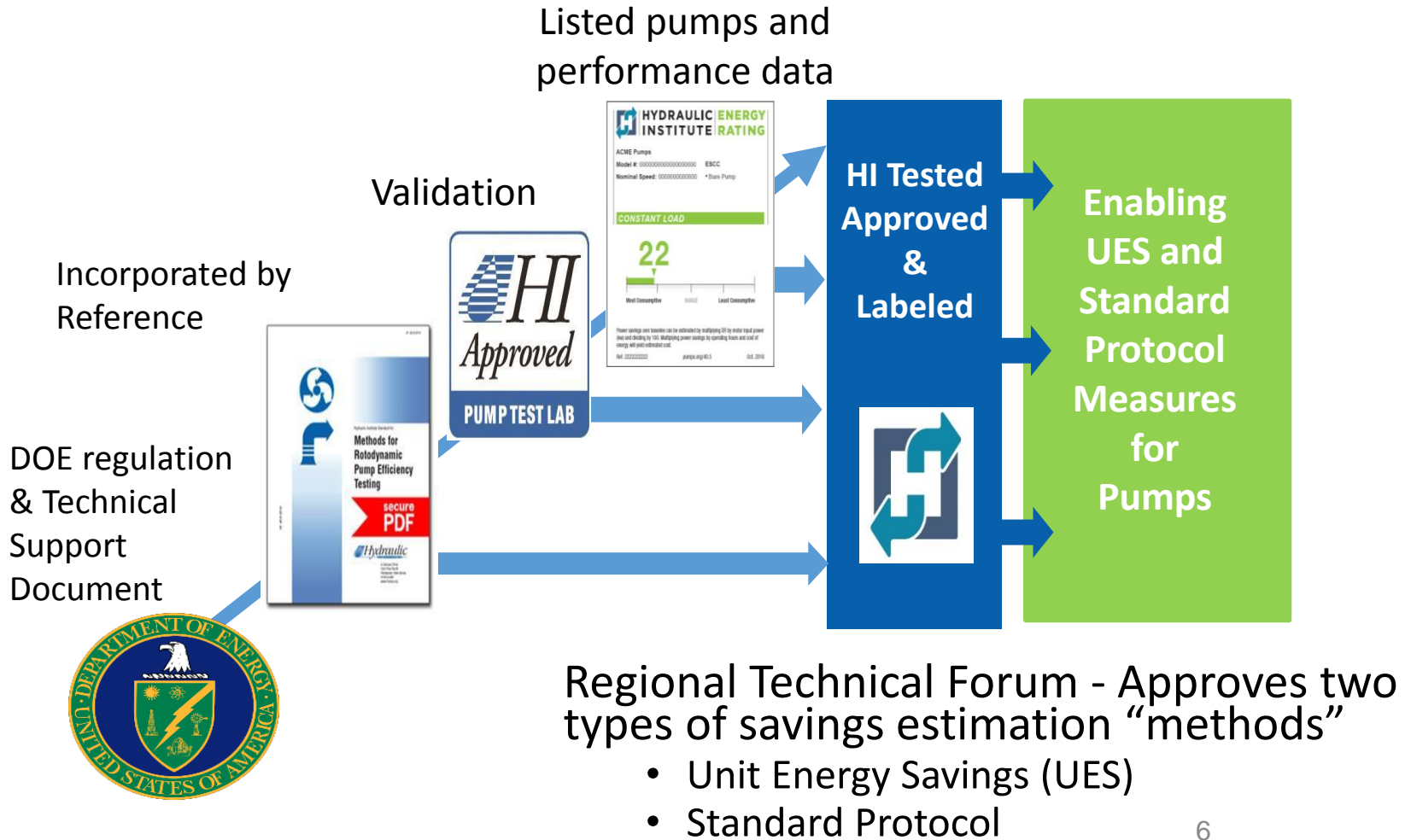
Energy Efficiency Programs
Access to new markets
Economies of scale

- ✓ Scale
- ✓ Simplified engagement
- ✓ Improved profitability

- ✓ Cost-effective savings
- ✓ Speed to market
- ✓ Market insights

**A platform to enable efficient exchange of value
between supply chain partners and program
administrators**

Development of Energy Efficiency Measures for Programs



AMCA Fan Efficiency Index

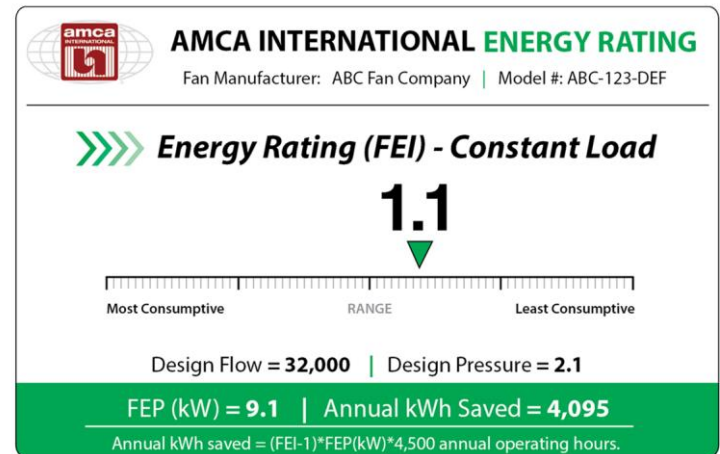


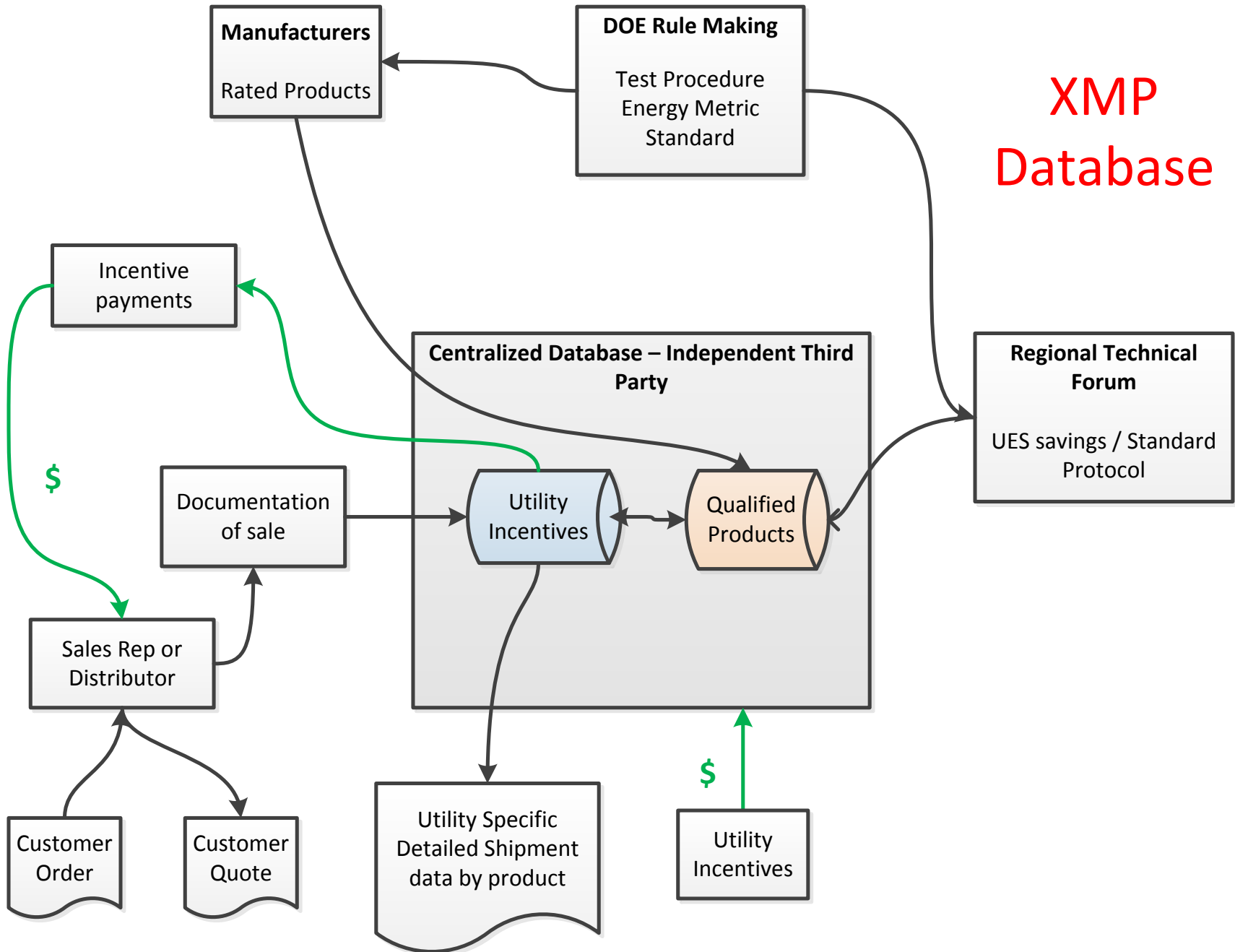
$$FEI = \frac{\text{Reference Fan Electrical Input Power}}{\text{Actual Electrical Input Power}}$$

$$FEI = \frac{FEP_{std}}{FEP_{rating}}$$

FEI is a dimensionless index

Note that the equations are gross simplifications of very complex equations and parameters





XMP Database

Manufacturers
Rated Products

DOE Rule Making
Test Procedure
Energy Metric
Standard

Regional Technical Forum
UES savings / Standard Protocol

Centralized Database – Independent Third Party

Incentive payments

Documentation of sale

Utility Incentives

Qualified Products

Sales Rep or Distributor

Utility Specific Detailed Shipment data by product

Utility Incentives

Customer Order

Customer Quote

\$

\$

On-Line Tools

HYDRAULIC INSTITUTE
ENERGY RATINGS PROGRAM

DOE Designation

- End Suction Frame Mount
- End Suction Close Coupled
- In-line
- Radial Split multistage vertical in-line diffuser casing
- Submersible Turbine

Load

- Constant Load
- Variable Load

Energy rating range

0 12 100

4 pumps found

There are 4 pumps in listed in the HI Energy Ratings program that fit the criteria you've specified above.

Ability to select:

- Pump types
- Constant or Variable Load configuration

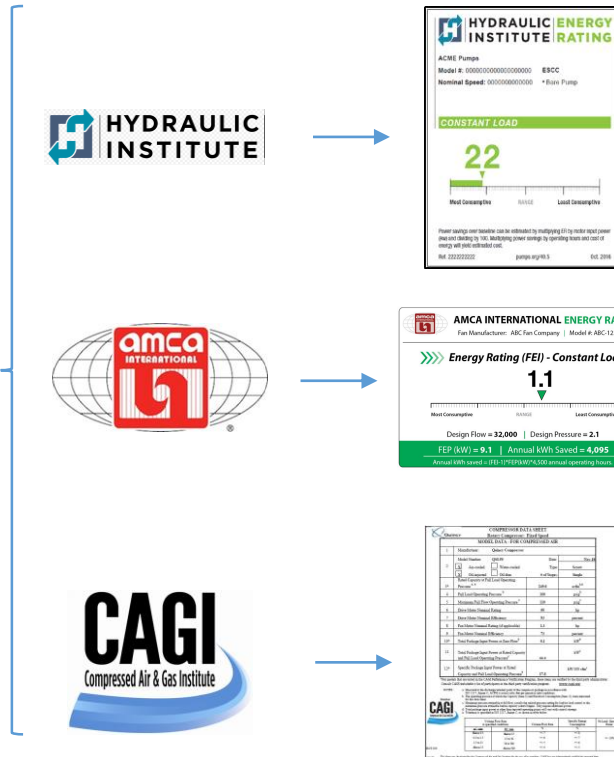
Sliding Energy Rating Range will help Utilities identify the number of pumps found in the market that meet their specific requirements.

Search parameters determine how many pumps are listed and available

Long Term Vision



Regional
Technical Forum



Mid-stream Platform



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Energy Efficiency Programs

Programs provide the following information:

- List of eligible products
- Details of incentives
- Total budget for incentives
- Program service territory

Working with the following Organizations:

- NEEA
- CEE
- BPA
- Duke Energy
- National Grid
- PG&E
- Xcel Energy