

Chapter Ind 18

ALTERNATIVE ENERGY TAX CREDIT

<b>PART I—SCOPE PURPOSE AND DESIGN</b>	Ind 18.21 Equipment and system eligibility criteria
Ind 18.001 Scope	<b>PART IV—CERTIFICATION REQUIREMENTS FOR THE BUSINESS/CORPORATE AND INDIVIDUAL APPLICANT</b>
Ind 18.002 Purpose	Ind 18.30 Documentation
Ind 18.01 Health and safety	Ind 18.31 Optional approval of manufactured equipment
Ind 18.02 Design	
<b>PART II—DEFINITIONS</b>	
Ind 18.10 Definitions	
<b>PART III—ELIGIBILITY AND BENEFITS</b>	
Ind 18.20 General eligibility criteria	

**PART I—SCOPE, PURPOSE AND DESIGN**

**Ind 18.001 Scope.** The alternative energy system tax credit law's declaration of policy states that "it is in the interest of the state to use renewable, in-state sources of energy which do not pollute the environment and which diversify the supplies of energy now used in this state." It is the purpose of the law "that the expedient development of alternative sources of energy not now economically competitive should be fostered by providing temporary state financial incentives . . . which encourage the use of such sources."

(1) **DEPARTMENT DUTIES.** Section 71.09 (12), Stats., provides that the department of industry, labor and human relations, in consultation with the department of administration, established performance standards for alternative energy systems to:

- (a) *Energy.* Produce the maximum practical amount of energy.
- (b) *National standards.* Conform, where feasible, with national performance standards.
- (c) *Energy savings.* Produce present value energy savings which, within 25 years, pay for the present value cost of the design, construction, equipment and installation of the alternative energy system.
- (d) *Innovative systems.* Not hamper individual development of innovative alternative energy systems.

(2) **APPLICATION OF RULES.** All alternative energy systems, as defined in section Ind 18.10 (2), shall comply with the requirements of this chapter in order to qualify for tax benefits. Those systems for which a tax benefit is not sought need not comply with the requirements of this chapter.

**History:** Cr. Register, December, 1978, No. 276, eff. 1-1-79.

**Ind 18.002 Purpose.** The purpose of this chapter is to establish the criteria the department will use for certifying alternative energy systems for individual income or corporate/franchise income tax benefits, as specified in the law. Compliance with the criteria shall be demonstrated by the submission of the necessary documentation required by section

Register, December, 1978, No. 276  
Alternate Energy

Ind 18.30 and through detailed calculations or by the use of the appropriate application forms available through the department.

**History:** Cr. Register, December, 1978, No. 276, eff. 1-1-79.

**Ind 18.01 Health and safety.** This chapter is not a health and safety code or a design manual, but specifies minimum requirements for alternative energy systems applying for tax benefits. The requirements of this chapter do not relieve responsibility for compliance with any health or safety codes. Where conflict between requirements occur, health and safety requirements shall govern.

**Note:** All alternative energy systems may be subject to applicable portions of other Wisconsin administrative codes (i.e., chapters Ind 60-64—buildings and heating, ventilating and air conditioning code; chapters Ind 20-25—the uniform dwelling code; Vol. 2, Wisconsin state electrical code; H-62—design, construction, inspection, supervision and installation of plumbing; and related codes).

**History:** Cr. Register, December, 1978, No. 276, eff. 1-1-79.

**Ind 18.02 Design.** All alternative energy systems shall be designed using recognized engineering techniques and principles. Where feasible, alternative energy systems shall comply with national standards applicable to such systems.

**Note 1:** The department recommends conformance with the following standards: (1) "Intermediate Minimum Property Standards for Solar Heating and Domestic Hot Water Systems," HUD 4930.2; (2) "Interim Performance Criteria for Solar Heating and Combined Heating/Cooling Systems and Dwellings," National Bureau of Standards (NBS) Stock No. 003-003-01388; (3) "Interim Performance Criteria for Solar Heating and Cooling Systems in Commercial Buildings," National Bureau of Standards, NBSIR-76-1187 (above standards available from Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402); (4) "Uniform Solar Energy Code," 1976 (available from International Association of Plumbing and Mechanical Officials, 5032 Alhambra Ave., Los Angeles, California 90032); (5) "Heating and Air Conditioning Systems Installation Standards for One and Two-Family Dwellings and Multi-Family Housing Including Solar" (available from Sheet Metal and Air Conditioning Contractor's National Association, Inc., 8224 Old Courthouse Road, Tysons Corner, Vienna, Virginia 22180); (6) "Methods of Testing to Determine the Thermal Performance of Solar Collectors," ASHRAE 93-77; (7) "Methods of Testing Thermal Storage Devices Based on Thermal Performance," ASHRAE 94-77 (ASHRAE publications available from ASHRAE Publications Sales Department, 345 East 47th St., New York, N.Y. 10017).

**Note 2:** The department may expand this list and recommend new standards for solar, wind and waste conversion systems as they become available.

**History:** Cr. Register, December, 1978, No. 276, eff. 1-1-79.

## PART II—DEFINITIONS

**Ind 18.10 Definitions.** (1) **ACTIVE THERMAL SOLAR ENERGY SYSTEM.** An active thermal solar energy system is a system which uses mechanical equipment to collect, store and distribute solar thermal energy.

(2) **ALTERNATIVE ENERGY SYSTEM.** An alternative energy system is a solar energy system, waste conversion energy system, or a wind energy system that is used to supplement or replace a conventional energy system, exclusive of all equipment or components which would be present as part of a conventional energy system.

(3) **AUXILIARY.** An auxiliary is a conventional energy system, or component thereof, which supplies all of the energy required by the load that cannot be supplied by the alternative energy system.

Register, December, 1978, No. 276  
Alternate Energy

(4) **CONVENTIONAL ENERGY SYSTEM.** A conventional energy system is an energy system supplied with conventional fuels or energy derived from conventional fuels.

(5) **CONVENTIONAL FUELS.** A conventional fuel is any depletable fuel or energy resource exclusive of waste, such as coal, petroleum products, natural gas, propane, cord wood, or any fuel or energy purchased from a public or private utility.

(6) **DEPARTMENT.** The department is the department of industry, labor and human relations.

(7) **DESIGN LIFE.** The design life is the period during which an alternative energy system or component thereof is expected to perform its intended function and operate correctly without requiring replacement or major overhaul.

(8) **DISCOUNT RATE.** The discount rate is the estimated rate of return on the best alternative investment.

(9) **EQUIPMENT.** Equipment is a mechanical or electrical, as opposed to biological, device.

(10) **FUEL INFLATION RATE.** The fuel inflation rate is the estimated percentage increase in the cost of fuel, and includes the general economic inflation rate.

(11) **INFLATION-DISCOUNT FACTOR.** The inflation-discount factor is a factor which includes the fuel inflation and discount rates for a specified number of years into a single number. That number is used in determining the fuel savings over the design life of the alternative energy system.

(12) **LOAD.** A load is the energy requirements of a building, structure, device, system or process.

(13) **PASSIVE THERMAL SOLAR ENERGY SYSTEM.** A passive thermal solar energy system is a system which collects, stores and distributes solar thermal energy without the use of mechanical equipment.

(14) **PHOTOVOLTAIC SOLAR ENERGY SYSTEM.** A photovoltaic solar energy system is a solar energy system that converts radiant solar energy directly into electrical energy.

(15) **SOLAR ENERGY SYSTEM.** A solar energy system is the equipment (active thermal, passive thermal or photovoltaic) which converts and then transfers or stores solar energy into usable forms of energy for space heating or cooling, crop drying, electricity generation, hot-water heating, or swimming-pool heating.

(16) **WASTE.** Waste is the solid, liquid, or gas byproducts of a residential, institutional, commercial, industrial or agricultural process that may be used as, or processed to become a fuel.

(17) **WASTE CONVERSION ENERGY SYSTEM.** A waste conversion energy system is the equipment which converts wastes into usable forms of energy, but does not include conventional fuel consuming devices or solid fuel consuming devices for residential purposes.

(18) **WIND ENERGY SYSTEM.** A wind energy system is the equipment which converts and then transfers or stores energy from the wind into

usable forms of energy, but does not include vehicles which utilize wind power.

**History:** Cr. Register, December, 1978, No. 276, eff. 1-1-79.

### PART III—ELIGIBILITY AND BENEFITS

**Ind 18.20 General eligibility criteria.** All persons, businesses or corporations owning an alternative energy system and applying for a tax credit shall comply with the eligibility criteria specified in chapter 313, laws of 1977.

**Note 1:** Chapter 313, laws of 1977, created sections 20.835 (2) (e), 71.04 (16), 71.09 (12), 73.03 (14) and 79.25 (8m), Stats.

**Note 2:** Portions of chapter 313, laws of 1977, dealing with eligibility and tax benefits are outlined in Appendix A.

**History:** Cr. Register, December, 1978, No. 276, eff. 1-1-79.

**Ind 18.21 Equipment and system eligibility criteria.** The cost of equipment unique to the alternative energy system shall be eligible for tax benefits as follows:

(1) **EXISTING SYSTEMS.** If an existing conventional energy system is modified to allow it to utilize a nondepletable fuel or nondepletable energy resource, the cost of the modification and the cost of the equipment needed to produce the alternative fuel shall be eligible for tax benefits.

(2) **NEW SYSTEMS.** If new equipment normally used in a conventional energy system is employed in an alternative energy system and is supplied solely with a nondepletable fuel or nondepletable energy resource, the cost of that equipment shall be eligible for tax benefits.

**Note:** See Appendix B for a listing of devices, equipment, systems and applications which generally will not qualify for income tax benefits.

**History:** Cr. Register, December, 1978, No. 276, eff. 1-1-79.

### PART IV—CERTIFICATION REQUIREMENTS FOR THE BUSINESS/CORPORATE AND INDIVIDUAL APPLICANT

**Ind 18.30 Documentation.** All persons applying for a tax credit shall submit the following documentation:

(1) **ENERGY SAVINGS INFORMATION.** Information shall be submitted to the department demonstrating that the alternative energy system produces present value savings within a 25-year period.

(a) The following parameters shall be considered: the average annual load; the percent of the load supplied by the alternative energy system; the design life of the system; the conventional and auxiliary energy costs; and the first costs of the design, construction, equipment and installation of the system reduced by the tax benefits expected under s. 71.04 (16) or 71.09 (12), Stats., (as created by chapter 313, laws of 1977) plus any allowed federal tax benefits (as created by the Energy Tax Act of 1978 [P.L. 95-618]).

Register, December, 1978, No. 276  
Alternate Energy

(b) A discount rate of 7% for individuals, businesses or corporations, and the fuel inflation rates shown in Table 18.30 shall be used in the analysis.

**Note 1:** See Appendix C for an energy savings calculation and sample problem.

**Note 2:** The department has developed submittal forms which may be used to demonstrate compliance with this section. The forms may be obtained by writing to:

Department of Industry, Labor and Human Relations

Division of Safety and Buildings

P. O. Box 7989

Madison, Wisconsin 53707

**TABLE 18.30**

Type of Fuel	Fuel Inflation Rate
Gas	15%
Fuel oil, propane, LP gas	15%
Electricity	12%
Other	10%

(2) **SCHEMATIC DRAWING.** A schematic drawing illustrating how the system functions shall be submitted to the department. The drawing shall also illustrate all electrical and plumbing components including, but not limited to, the location of all electrical controls, switches, safety devices, and all fluid back-flow preventers, bypass valves, pressure and temperature relief valves, drain valves, the water main connection, expansion tanks and all other valves and connections in the system. The specific properties of the heat transfer fluid, such as type, toxicity and flammability, shall be documented.

(3) **PERFORMANCE AND DURABILITY INFORMATION.** The performance and durability of all manufactured alternative energy systems and major components shall be documented. Major components of alternative energy systems shall include, but are not limited to, solar collectors, heat exchangers, thermal energy storage devices, wind turbine generators, wind turbine support towers, electrical storage batteries, and methane gas generators. Such devices as pumps, valves and control mechanisms are not considered major components.

**Note:** This documentation requirement may be waived if the alternative energy system or major component has a manufacturer's approval number issued by the department in accordance with the requirements of s. Ind 18.31.

(a) **Performance.** The performance of the manufactured alternative energy system and major components shall be documented by design data, test results, the manufacturer's informational product bulletin or other substantiating evidence.

(b) **Durability.** The design life of manufactured alternative energy systems and major components shall be demonstrated to be at least one year. The materials, workmanship and corrosion resistance of the system or major components shall be proven to be durable and reliable for a minimum of one year of service use. Compliance shall be demonstrated by design data, test results, a product warranty, or other substantiating evidence.

1: **Exception.** Solar collectors shall have a minimum design life of 3 years. The materials, workmanship and corrosion resistance of a solar

collector shall be proven to be durable and reliable for a minimum of 3 years of service use.

(4) **ADDITIONAL DOCUMENTATION.** When requested, additional data pertaining to the design, construction, equipment, materials and component function shall be submitted to demonstrate compliance with the rules.

**History:** Cr. Register, December, 1978, No. 276, eff. 1-1-79.

**Ind 18.31 Optional approval of manufactured equipment.** A manufacturer of alternative energy systems or major components has the option of applying for a system or major component approval by the department. The department approval relieves the responsibility of the tax benefit applicant to document the performance and durability/reliability of the manufactured equipment.

**Note:** The department has developed an information sheet, including a list of accredited testing laboratories and certifying agencies, for those manufacturers wishing to obtain this optional approval. That information may be obtained by writing to:  
Materials Approval Engineer  
Department of Industry, Labor and Human Relations  
Division of Safety and Buildings  
P. O. Box 7969  
Madison, Wisconsin 53707

**History:** Cr. Register, December, 1978, No. 276, eff. 1-1-79.