

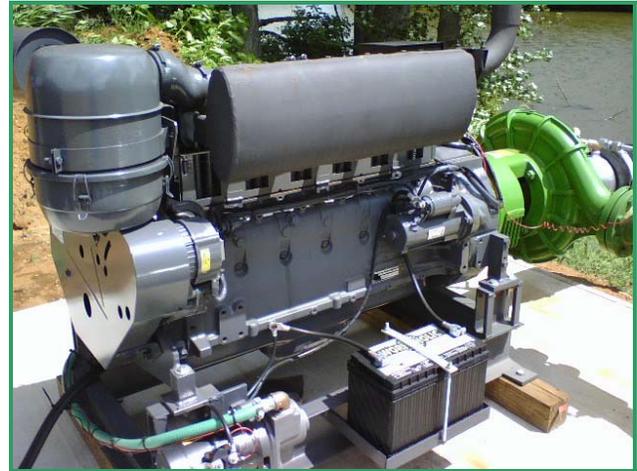
Engine Replacement for Irrigation Pumps

Conservation Activity Job Sheet (NJAir03)

New Jersey's air quality is classified in the non-attainment category for particulate matter (PM), nitrous oxides (NOx) and other ozone precursors. Older diesel and gasoline engines used on farms to pump irrigation water contribute a significant amount of these pollutants, as shown in various studies from the Environmental Protection Agency (EPA).

The EPA has recently set increasingly stringent emission standards for off-road engines, including irrigation pump engines; standards that go into effect for different size and type engines over a period of years. These new emission standards (Table 1) will reduce harmful air pollution and help states meet the National Ambient Air Quality Standards, as required by the Clean Air Act.

The replacement of older engines, which emit high levels of NOx and PM from the exhaust, with new certified diesel engines will substantially reduce the emissions of NOx and PM into the air.



NRCS will provide program payments through the Environmental Quality Incentives Program (EQIP) to qualified agricultural producers for the purchase of new diesel engines. Engines must replace existing stationary or portable* irrigation pumps. The program is open to all growers, regardless of farm size or commodity(s) grown.

Program Specifics

- The engine to be replaced must be a currently functioning stationary or portable* (non-self propelled) engine used for pumping irrigation water.
- Engines up to 150 HP are eligible for payment (see Table 2).
- Replacement engines must meet current EPA Tier standards for new diesel motors (see Table 1).
- Replacement engines or motors must be within 25 percent of existing engine's horsepower rating.
- The contracted payment will be for the existing engine's horsepower rating (not a higher payment for sizing up; e.g. going from a 95 HP to a 115 HP is allowable under the 25% rule above, but the payment will be for the <100 HP engine).
- The replaced engine cannot be sold. The engine must be taken to a scrap yard and a receipt indicating the complete engine destruction must be completed and returned to the NRCS before payment can be dispersed.
- Fueling and/or electric infrastructure is not eligible for payment.

** Portable non-self propelled power unit utilized for irrigation water movement. Non-self propelled units are further defined as those systems without a drive train to move unit.*

Table 1: EPA Engine Tier Requirements (off-road and small marine)

Engine Power	Tier	Year	Eligible?	CO	PM
kW < 8 (hp < 11)	Tier 2	2005	No	8.0 (6.0)	0.8 (0.6)
	Tier 4	2008	Yes	8.0 (6.0)	0.4 ^a (0.3)
8 ≤ kW < 19 (11 ≤ hp < 25)	Tier 2	2005	No	6.6 (4.9)	0.8 (0.6)
	Tier 4	2008	Yes	6.6 (4.9)	0.4 (0.3)
19 ≤ kW < 37 (25 ≤ hp < 50)	Tier 2	2004	No	5.5 (4.1)	0.6 (0.45)
	Tier 4	2008	Yes	5.5 (4.1)	0.3 (0.22)
37 ≤ kW < 75 (50 ≤ hp < 100)	Tier 2	2004	No	5.0 (3.7)	0.4 (0.3)
	Tier 3	2008	Yes	5.0 (3.7)	
75 ≤ kW < 130 (100 ≤ hp < 175)	Tier 3	2007	Yes	5.0 (3.7)	
	Tier 4	2012-14	N/A		.02



Documentation Required: Receipt documenting the purchase of a new diesel motor; AND certification that the purchased product meets the appropriate Tier standard; AND signed receipt indicating destruction of the replaced engine.

Table 2: 2008 Payment Rates

Engine	Tier	Payment
25 ≤ hp < 50	Tier 4	\$3,500
50 ≤ hp < 100	Tier 3	\$5,100
100 ≤ hp < 150	Tier 3	\$8,400