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Back on the Technology Track

With restored funding, the Texas Emissions Reduction Plan is gearing up to expand the grants available for technology advancements and cleaner-burning diesel vehicles.

Texas restores environmental fund to fuel clean air advancements

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With the Texas Emissions Reduction Plan (TERP) finally secure in its funding, the state is poised to boost technological developments that benefit the environment.

The TCEQ is the chief recipient of a technology fund that is expected to generate an average \$150 million a year through fiscal 2008. The fund is designed to improve air quality by means of economic incentives and new technologies.

Obtaining full funding for the TERP during the regular legislative session was essential to the state's plan for cleaner air. This incentives program was created in 2001 to help address ozone problems in key urban areas. But a legal challenge to the program's main revenue component cost the TERP all but 15 percent of its expected funding in the last biennium.

The Environmental Protection Agency (EPA) then warned that air cleanup plans for the Dallas-Fort Worth and Houston areas were in jeopardy unless the TERP were fully funded in 2003. Federal officials said either the TERP must be funded or an equivalent amount of emission reductions had to be identified.

The recent legislative appropriations enable the TERP to accelerate the issuance of grants to reduce diesel emissions and encourage technological innovations.



Heavy-duty construction equipment contributes to air pollution, especially the older models. Technology funds will be available to make diesel-powered equipment more efficient. / photo by Tommy Hultgren

The TERP is one of the main tools Texas is using to obtain federal approval of the State Implementation Plan (SIP) for cleaner air. To reach compliance with the federal Clean Air Act, the state is concentrating on reducing nitrogen oxides (NOx), a major contributor to the formation of ozone.

"With this level of reliable funding approved for the next two years, we will be able to meet the requirements for the SIP approval from EPA," said Commissioner R.B. "Ralph" Marquez. "The funding also places us in a position of selecting and funding some of the leading-edge technology. We are looking for advances in methods to curb harmful air emissions from mobile sources, such as diesel trucks and equipment."

The funds will target on-road and off-road vehicles and equipment powered by diesel fuel. EPA estimates that an older, dirtier diesel vehicle can emit almost 8 tons of air pollution each year.

Program Debuts

When authorized in 2001, the TERP was going to involve several state agencies. Primarily, the TCEQ and the Texas Council on Environmental Technology (TCET) would work in tandem: the TCEQ offering grants and rebates for phasing out older, inefficient diesel trucks and equipment, and the TCET helping emerging technologies comply with testing and verification requirements needed to reach the marketplace. The council's goal was to prove whether the new technologies provide customers the actual



Diesel-powered machines and vehicles do the heavy-lifting on construction projects, but they also emit air pollutants. A state program aims to curb those emissions. / photo by Tommy Hultgren

emission reductions, as advertised, and to help the producers reach the market as cost effectively as possible.

After the revenue setback, both agencies had to scale down plans. With the TCEQ's share of TERP funding cut from an annual \$133 million to \$20 million, the statewide rebate program was placed on hold. All available monies were issued as grants and only in the nonattainment areas of Dallas-Fort Worth and Houston. Both urban areas face intense pressure to reduce ozone and comply with federal clean air standards.

The TCEQ distributed grants to a variety of projects proposed by the public and private sectors. For example, the TERP assisted Dallas and Houston transit authorities in fitting buses with exhaust gas recirculating systems to lower NO_x emissions by 40-60 percent. Grants also are helping to fund installation of catalyzed mufflers on transit buses, which provide an upgraded system that requires ultralow-sulfur diesel fuel to reduce emissions. The TERP will contribute to those fuel purchases.

In the private sector, the TERP has assisted with purchases of new, cleaner-burning diesel equipment, such as excavators and graders; repowers of heavy-duty equipment (replacing old inefficient engines with new ones); retrofits that add emissions-reducing equipment to large equipment including backhoes and street sweepers; and demonstration projects to test the reliability and energy savings of vehicles run by fuel cells or alternative fuels.

In all, the TCEQ issued \$24.3 million in fiscal 2001-2002 to fund a total of 60 projects.

Also operating with reduced funds, the TCET issued grants totaling just under \$2 million. Some of the projects funded in 2002-2003 were:

- Development of technology to better detect gaseous leaks in industrial facilities.
- Emissions testing of hybrid diesel/electric pickups and trucks being considered for use in FedEx Express delivery fleets.
- Redesign of traditional brick kilns to address air pollution problems.
- Assessment of the development needs of air quality technology.

A Look Ahead

New revenues for the TERP programs will be generated by raising vehicle title fees--from \$13 to \$33 in counties designated as nonattainment for ozone and from \$13 to \$28 in other counties--and in surcharges applied to the lease or sale of some heavy-duty diesel equipment and vehicles.



Diesel-powered buses in Dallas and Houston are being retrofitted to reburn exhaust gases and to use a low-sulfur fuel that is less polluting. The improvements will help reduce emissions that contribute to each city's ozone levels./photo by Dallas Area Rapid Transit

With the restored funding, the TCEQ is planning to increase the number and size of grants and incentives that will be made available.

The agency has begun accepting grant applications under the old TERP guidelines, with a cutoff date of mid-September. Those applications will be reviewed and the grants awarded in October.

By late October, new program guidelines shaped by the recent legislation are expected to be approved, and a new round of grant applications will be accepted.

Those grants will be issued by December probably. For more information, visit www.tceq.state.tx.us/implementation/air/terp/, or call the TCEQ at 512/239-2272.

Meanwhile, the governor has used his line-item veto authority to eliminate the TCET as a stand-alone agency and to transfer its functions to the TCEQ. The technology grant program, which receives almost 10 percent of TERP funding, will continue to be available to support innovative technologies that are pivotal to the emissions-reduction program.

Grant Projects Under the TCEQ September 2001 to mid-May 2003

Sixty grants worth almost \$24.3 million had been issued, all for projects in the Dallas-Fort Worth and Houston areas, where ozone levels are highest. Much of the money went to purchase new, cleaner diesel engines or to retrofit existing engines with pollution-fighting equipment. At this level of funding, it will cost \$6,104 for each ton of nitrogen oxides (NO_x) that is eliminated. Estimates are NO_x output will be reduced by 3,975 tons.

	Dallas-Fort Worth	Houston-Galveston	Total
Number of activities funded	415	379	794
Projected NO _x reductions by 2007:			
-total tons	2,083.17	1,891.87	3,975.04
-tons per day	1.08*	1.47*	2.54

*rounded

Terms Important to the TERP

NO_x

Nitrogen oxides form when fuel is burned at high temperatures, as in a combustion process. The primary sources of this pollutant are motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn

fuels.

On-road equipment

Vehicles of more than 10,000 pounds that travel on city streets and state highways. Examples include delivery vans, school buses, garbage trucks, and dump trucks.

Off-road equipment

A diverse collection of engines, equipment, vehicles, and vessels--most of which are powered by diesel. This category includes such equipment as forklifts, cranes, road surfacing equipment, airport ground-support equipment, tugboats, and locomotives.

Repower

Replacing an old engine powering an on-road and off-road diesel with a new, used, or remanufactured engine, or with electric motors, drives, or fuel cells.

Retrofit

Converting an engine to run cleaner or to accept a cleaner fuel; replacing an older engine with a newer one.

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