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NISSAN WIND FARM SPINS INTO ACTION

The wind farm at Nissan Sunderland is now fully operational and has begun generating power for the plant.

Construction of the £2 million project began in September, when the first of six wind turbines was installed in the centre of the 750 acre site.

Now the switch-on has been successfully completed, and the turbines have begun generating what will amount to 5% of the car plant's annual energy requirement. They will also cut carbon dioxide emissions from power plants supplying the car factory by up to 10,000 tonnes/year.

Planning permission for the farm was granted by Sunderland City Council following a highly detailed feasibility study. This took into consideration the views and opinions of local residents, as well as ensuring that the farm fully complies with strict noise level guidelines.

Nissan's wind farm is enclosed entirely within an industrial area on low-lying ground, minimising impact on the local environment. Barmston Pond, a wetland habitat next to and maintained by the Sunderland plant, will remain undisturbed as a safe haven and feeding ground for indigenous and migratory birds.

The site is also home to a protected species of great crested newts, so before installation began, Nissan obtained a licence from DEFRA (Department for Environment, Food and Rural Affairs) and measures were taken to protect the newts' habitat both during and after the construction phase.

Nissan Senior Engineer, Graham Bagley, said: 'All six turbines are now turning and generating electricity for the plant. We're very pleased with the initial output.

'The farm is the first of its kind for any Nissan facility and is receiving great interest globally from within the Company.'



The introduction of this e-coating technology results in several advantages:

- Lowers VOC emissions that occur during basecoat painting at Mazda's plants in Japan by 32 tons per year, a reduction of 50 per cent.
- Reduces CO2 emissions during paint manufacture by 8.8 tons per year.
- Reduces by 10 per cent the volume of basecoat materials that are necessary compared to previously utilised painting methods.
- Improves rust protection through a more uniform thickness of paint film on the vehicle inner bodies.

Outline of the new e-coating technology

The electrodeposition painting process involves vehicle bodies being immersed in a paint tank, with an electrical current passing through the steel parts causing the paint to adhere to the metal surfaces.

Using an electrical charge facilitates an excellent paint-to-metal bond, and is generally used to help prevent corrosion on all body surfaces. However, with conventional paints, discrepancies in paint film thickness can result between the inside and outside body surfaces because it is difficult for electrical currents to reach all interior parts and form an even paint film on interior surfaces.

The newly developed e-coating has modified paint characteristics that raise the paint's electrical resistance, enabling the electrical current to reach inner surfaces more easily and reducing the amount of electricity used during painting. This provides sufficient paint thickness on inside surfaces and increases rust protection.

Optimal paint thickness is usually achieved on vehicle body outer surfaces because the electrical current flows more easily to exteriors than to internal areas. Prior to the introduction of the new e-coating system, excess paint accumulated on outer surfaces during conventional painting. With e-coating, the thickness is better regulated, allowing for a reduction in the total amount of paint necessary.