



As a global corporation, Nikon is committed to reducing greenhouse gas emissions, lessening our carbon footprint, and producing products, which are both eco- and human friendly. Nikon has all but eliminated the use of hazardous materials in production and in our products. By the end of March 2015, almost 100% of all optical glass was lead and arsenic free. All of the solder used in all of our products is also lead-free. They have also reduced the volume of product packaging and switched from non-sustainable packing materials to recyclable materials with less of an environmental impact.

Nikon Corporation is also striving to lessen the environmental impact of the non-manufacturing facilities. Every facility around the world, including the US headquarters, has a CSR liaison who works with the local constituents to enact the corporate philosophies. All Nikon facilities are working to find ways to reduce energy consumption, minimize waste production, and give back to their local communities.

### **Improving optical glass testing efficiency to reduce time from development to stable mass production by two-thirds**

Optical glass is used in a variety of products such as cameras and **microscopes**. When developing these lenses, small-scale tests of the optical glass must be performed to calibrate manufacturing parameters, and then large-scale tests to verify the feasibility of mass production. During the large-scale tests, uneven temperatures may occur inside the production equipment, requiring the process to be repeated from the small-scale test stage. This not only takes time and energy, but also generates a large amount of glass waste.

In response to this problem, Nikon drew on its expertise in quality engineering to develop a testing method that enables small-scale test results to be consistently replicated in large-scale tests. Applying this method has brought the time from product development stage to mass production down to less than a year - a third of



what it was before. Electricity consumption has also been cut by 170.7 megawatt hours (97.5 tons of CO<sub>2</sub> equivalent) and glass waste reduced by 15.6 tons (228.7 tons of CO<sub>2</sub> equivalent). As an added benefit, the new method has greatly reduced the number of product defects during mass production, further reducing glass waste by about 7.0 tons annually (102.9 tons of CO<sub>2</sub> equivalent).



**Environmental impact:  
CO<sub>2</sub> emissions reduced by  
approximately 429 tons annually**

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**Waste matter reduced by  
approximately 23 tons annually**

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**Test lead times shortened by  
About one-third**

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