

## **Swiss Tradition of Quality Lives On in Photovoltaics**

DuPont™ Tedlar® PVF film-based backsheets perform flawlessly in one of Europe's oldest solar arrays

One of the oldest operating photovoltaic installations in Europe is located in Saint-Imier, Switzerland. Two centuries ago, the region was at the heart of the prosperous Swiss watchmaking industry. Large watchmaking factories were built and a watchmaking school was founded here. Today, energy technology and micromechanics play as large a role in the region's economy as watchmaking did in the 19th century.



## Mountainside solar

The Mont-Soleil solar array in the Bernese Jura was installed in February 1992. It has 10,560 crystalline silicon panels spread over 20,000 square meters at an altitude of 1,300 meters above sea level and reaches a nominal power of 600 kWp. In 25 years of operation, this solar array has injected more than 10 gigawatt hours

of electricity into the grid. The panels are Siemens M55 models with double-sided DuPont™ Tedlar® polyvinyl fluoride (PVF) film-based TPT backsheets. Their southern exposure and 50° tilt maximize electricity production during the winter months and help shed snow.



The solar panels at Mont-Soleil face south and are angled at 50° to maximize electricity during the winter months and to help shed snow.

## Sustained, reliable service

Today, the Mont-Soleil solar array still produces a staggering 93% of its initial power and has suffered only minor visual degradation, including slight ethylene vinyl acetate (EVA) yellowing and edge delamination. The installation faced heavy snowfalls in 2011 that reached as high as the fourth panel row (the installation is eight panels high). Although the structure bent in places, only 30 panels have been broken throughout the life of the installation.

The panels had to be reliable and durable in a mountainous region that experiences high thermal cycling between day and night, and between seasons. The site has recorded up to an 84°C temperature difference between day and night (60°C during daytime operation, dropping to -24°C during the night).

Solar panels are expected to function for 25 years or more with minimum maintenance. The specification of proven, time-tested materials—particularly the panel's backsheet protection—are key to achieving this result.

The main characteristic of Tedlar® PVF film is its superior resistance to UV radiation and temperature extremes. The high softening point temperature and lower coefficient of thermal expansion (CTE) of Tedlar® decrease the risk of adhesion loss that can result in backsheet cracks, blisters and delamination under high thermal stress environments.



**After 25 years of operation, the DuPont™ Tedlar® PVF film-based TPT backsheets on solar panels at the Mont-Soleil solar array remain in pristine condition.**



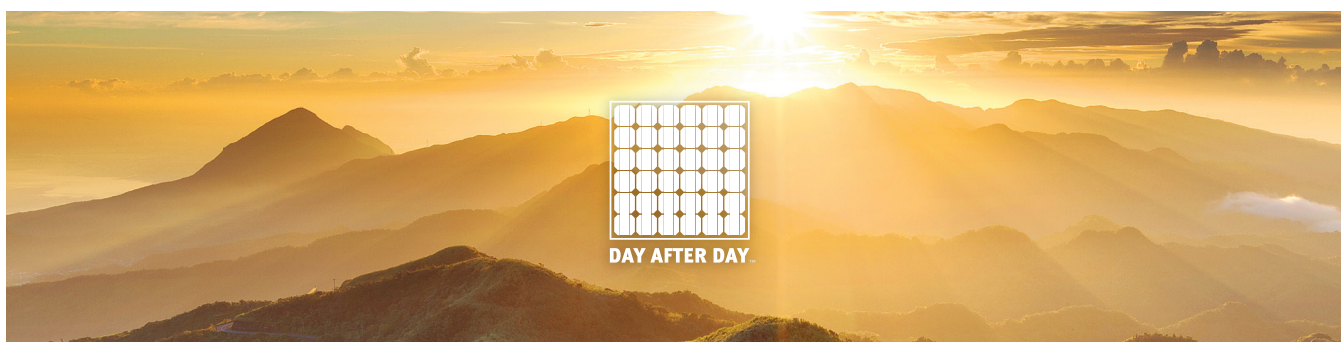
## Leaders in solar technology

Since 1991, the Mont-Soleil Company has been one of the most important Swiss competence centers for applied research in the field of photovoltaics. Mont-Soleil plays an important role in the development of solar technology through collaboration with other institutions such as the École Polytechnique de Lausanne and the engineering schools of Saint-Imier and Berthoud. At the international level, it collaborates with the International Energy Agency (IEA) and supports the photovoltaic program.

DuPont is the leading supplier of specialty materials to the solar industry. More than half of the world's 900 million solar panels have DuPont materials in them. For more than 40 years, DuPont innovations have led the solar industry forward. Today, the world looks to DuPont for photovoltaic materials that deliver proven power and lasting value, day after day.



**The Mont-Soleil solar array has powered 200 households since 1992 and the panels still look as good as new.**



### Day After Day

For more than 40 years, DuPont has been an industry leader in the research and manufacture of high-performance materials for photovoltaic panels. DuPont manufactures Tedlar® PVE, a film for panel backsheets that has been proven over 30+ years to deliver long module lifetimes, and Solamet® photovoltaic metallization paste materials, which optimize efficiency and yield for today's solar cell designs.

Our materials have been repeatedly verified by field-testing to perform over time—which means reliable investment returns for you, and a supply of clean energy the world can count on into the future.

Whatever your material needs, you can count on quality DuPont Photovoltaic Solutions to deliver the performance, efficiency and value you require, day after day after day.

**To learn more about DuPont Photovoltaic Solutions, visit [photovoltaics.dupont.com](http://photovoltaics.dupont.com)**