consists of (PV) and in the (EU). In , the EUR2.6 billion European solar heating sectors consisted of small and medium-sized businesses, gener consists of (PV) and in the (EU). In , the EUR2.6 billion European solar heating sectors consisted of small and medium-sized businesses, generated 17.3 terawatt-hours (TWh) of energy, employed 33,500 workers, and created one new job for every 80 kW of added capacity. Solar energy, the fastest-growing energy source in the EU, saw an 82% cost reduction between and . Solar capacity expanded from 164.19 GW in to an estimated 259.99 GW by . In , four EU member states--Spain, Germany, Poland, and the Netherlands--ranked among the top 10 g The EU's solar energy capacity increased significantly from 164.19 GW in to 259.99 GW by , with employment in the sector growing from 466,000 workers in to 648,100 by the end of , representing a 39% increase. These developments are part of the plan, which targets over 320 GW of solar photovoltaic capacity by and nearly 600 GW by . The growth in jobs suggests the possibility of exceeding 1 million solar workers by , ahead of previous estimates for . In support of its solar energy strategy, the EU has implemented three key initiatives. Firstly, the European Solar Rooftops Initiative aims to increase solar installations on buildings. Secondly, the EU Large-Scale Skills Partnership targets the skills gap in the renewable sector. Lastly, the EU Solar PV Industry Alliance focuses on enhancing solar manufacturing capacity within the EU. In , with a total capacity of 17.2 (GW) were connected to the grid in Europe, less than in , when 22.4 GW had been installed. In terms of total installed capacity, according to EPIA's -report, Europe still led the way with more than 70 GW, or 69% of worldwide capacity, producing 85 of electricity annually. This energy volume is sufficient to power the supply needs of over 20 million households. In , solar photovoltaic continued its growth trend and Italy was the top market for the year, with 9.3 GW connected, followed by Germany (7.5 GW). These two markets were followed by France (1.7 GW) and the United Kingdom (784 MW). In terms of cumulative capacity, Germany with more than 24 GW, is the leading country in Europe, followed by Italy, with more than 12 GW. PV is now a significant part of Europe's electricity mix, producing 2% of the demand in the EU and roughly 4% of peak demand. In the EU's solar electricity production is evaluated as ca 44.8 TWh in with 51.4 GW installed capacity, up 98% on . In in the EU new installations were 21.5 GW. The solar power sh , the production of electricity from solar energy, is performed either directly, through photovoltaics, or indirectly, using (CSP). One advantage that CSP has is the ability to add thermal storage and provide power up to 24 hours a day. , in Spain, was the first to provide 24-hour power. There is considerable academic and commercial interest internationally in a new form of CSP, called STEM, for off-grid applications to produce 24-hour industrial scale power for mining sites and remote communities in Italy, other parts of Europe, Australia, Asia, North Africa and Latin America. STEM uses fluidised silica sand as a thermal storage and heat transfer medium for CSP systems. It has been developed by Salerno-based Magaldi Industries. The first commercial application of STEM will take place in Sicily from . Over the next 10 years the European solar thermal will grow on average at a rate of 15% per annum. According to the National Renewable Energy Action Plans the total solar thermal capacity

in the EU will be 102 GW in (while 14 GW in). In June , the European Parliament and Council adopted the Directive on the promotion of the use of energy from Renewable Energy Sources (RES). For the first time, heating and cooling accounting for half of the final energy demand will be covered by a European directive promoting renewable energies. The overall renewable target is legally binding but renewable mix is free. According to the delivered national plans the highest of solar heating markets during - will be in Italy, Germany, France, Spain, and in respect to the national target in and capacity increase. Top countries per capita will be , , , Italy, and . In some European countries the solar thermal market is still in its infancy. , , the , Sweden, and the United Kingdom have extremely low targets in their plans. , , , and have not included solar thermal in their national plans at all. Solar heating is the usage of solar energy to provide space or . Worldwide the use was 88 GWthermal in . Growth potential is enormous. The EU have been second after China in the installations. If all EU countries had used solar thermal as enthusiastically as the Austrians, the EU's installed capacity would have been 91 GWth (130 million m), far beyond the target of 100 million m by , set by the in . In solar heating in the EU was equivalent to more than 686,000 tons of oil. 's minimum target is to produce solar heating equivalent to 5,600,000 tons of oil (). A more ambitious, but feasible, target is 73 million tons of oil per year () - a lorry row spanning 1,5 times around the globe. Home SolarPower Europe is the award-winning link between policymakers and the solar PV value chain. Get to know the SolarPower Europe team working to transform the European energy system. How Europe is paying for its solar boom - DW - The EU has doubled its solar capacity in the last three years. How have subsidies made this possible, what support is still available, and what still needs to happen? Too Much of a Good Thing: Solar Overloads Europe's Electricity The rapid expansion of weather-dependent generation has made Europe's power grids vulnerable to voltage surges. After four record years, EU solar additions are now set to decline for the first Solar Energy Solutions: Powering Europe's Green RevolutionAs Europe's leading technology network, EUTECH is driving the solar energy transition. By fostering collaboration between solar energy companies, policymakers, and researchers, Europe's Solar Power Surge Puts Unprecedented Strain on Its GridEurope's Solar Power Surge Puts Unprecedented Strain on Its Grid The rise of renewables had led to thousands of instances of voltage exceeding allowed limits. A solar park in Werneuchen, Solar Power: The Smart Path to Europe's Energy IndependenceFrom wind farms dotting the North Sea to solar arrays across Mediterranean rooftops, renewable energy infrastructure is expanding at an extraordinary pace. In alone, European Europe's need for green electricity is blowing fusesTransmission system operators (TSO s), which run the regional or countrywide grids that bring power to DSO s, are frantically building high-tension lines, substations and interconnectors Solar energyThe EU has long been a front-runner in the roll-out of solar energy. Under the European Green Deal and the REPowerEU plan, solar power is a building block of the EU's transition to cleaner Home SolarPower Europe is the award-winning link between policymakers and the solar PV value chain. Get to know the SolarPower Europe team working to transform the

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