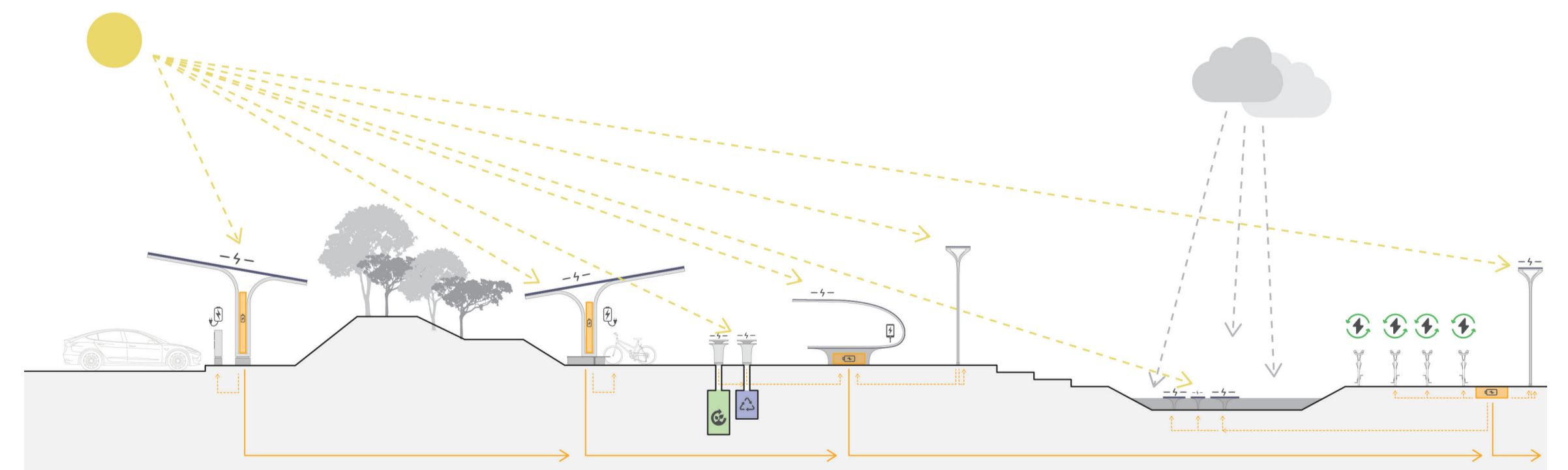


SOLAR PARK



Masterplan Distribution of Modules



Urban Section for Distributed Energy Resources

Focusing on Solar Power, the proposal presents a prototypical model for a distributed energy resource network which is interwoven within Spinelli-Park and presents wider opportunities for scalability within the urban fabric of Mannheim. The modular integration intentionally functions at an urban scale and offers both renewable energy generation and benefits to societal users such as recreation, exercise, waste management, public safety, device charging points, bike charging points and EV charging points. The renewable solar modules offer a sense of energy security for the city of Mannheim. Four prototypical 'modules' have been designed for the Spinelli-Park and arranged throughout the masterplan boundary with consideration to visitor flow, public safety, and convenience of access. The Modules present no obstruction to the Klimopass and support fresh air flow to the city. The modules follow a consistent design language, creating a unique and recognisable distributed energy resource

that become iconic Spinelli-Park and Mannheim, further location specific branding and way finding elements could be additionally implemented. All the modules are constructed from Engineered Timber, only using concrete where the modules meet the ground, providing resistance from rain and moisture at ground level. The use of Engineered Timber reduces the amount of embodied carbon within the construction, transportation and installation phases of the project and allows the modules to be prefabricated off site presenting efficiencies in construction, transportation, and installation. The use of Timber construction fits with the vision of the redevelopment of the Spinelli Barracks as an innovative and sustainable place of the future. The modular integration throughout the Spinelli-Park seeks to inspire the public about the beauty of renewable energy and bring a positive message about life in a post carbon future.

Energy Production Calculation of Masterplan Per Annum

Module	Quantity	Annual MWh
Solar Electric Vehicle Charging Module	29	213481
Solar Electric Bike Charging Module	35	257650
Solar Urban Experience Module		
- Lamppost	391	114143
- Bin	200	42816
- Bench	100	262734
Solar Cooled Hydro Module	200 m ²	19461800
Exercise Bikes	60	1576.8
Total:		20,362,085.77 MWh
Comparison:		
Enough to power 5,000 homes for a year.		
Enough to fully charge 407,250 Tesla's.		