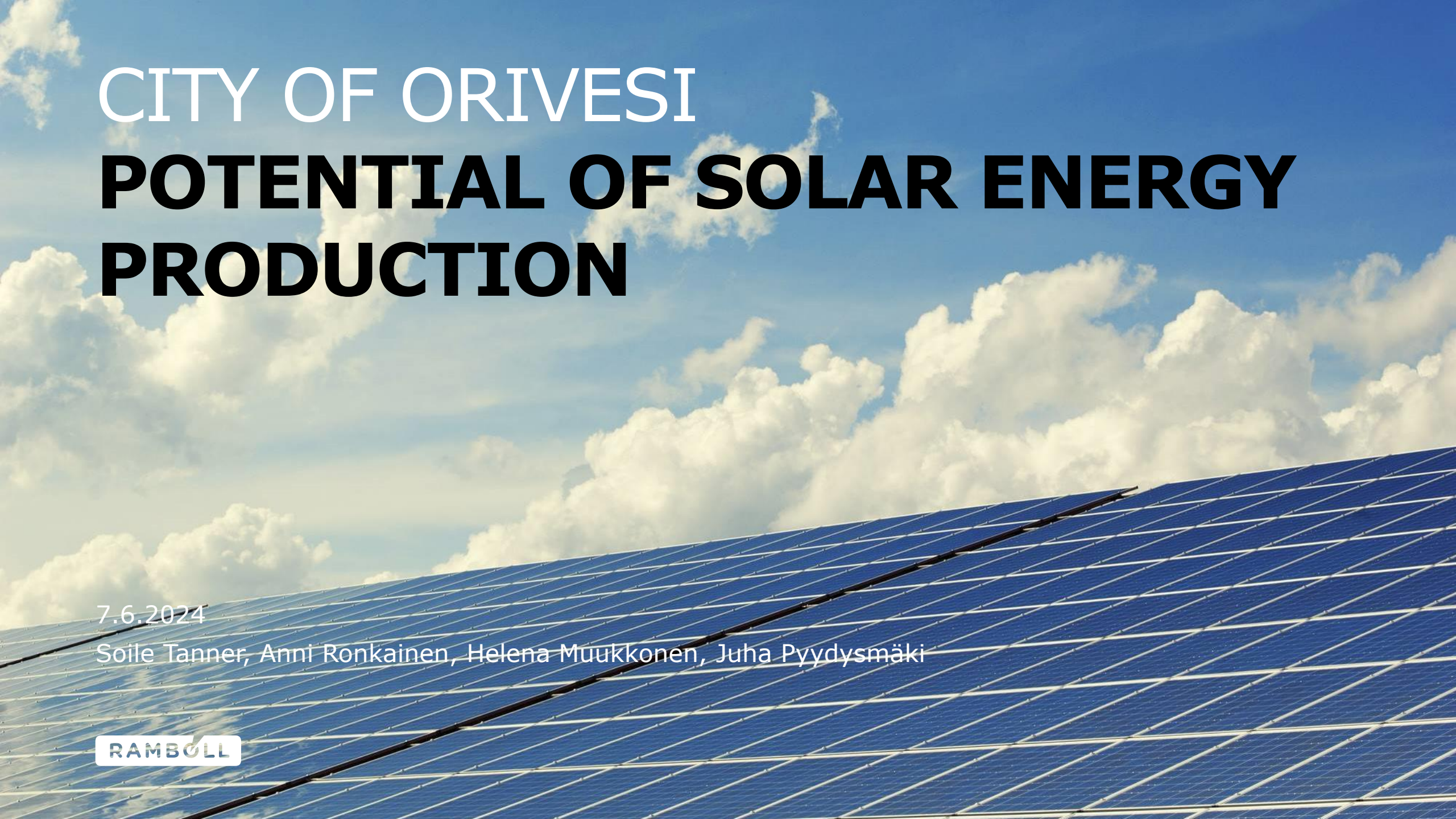

CITY OF ORIVESI
POTENTIAL OF SOLAR ENERGY PRODUCTION

7.6.2024

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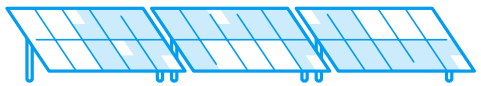
RAMBØLL

Background

- This study identified areas suitable for industrial-scale ground mounted solar energy production in Orivesi area.
  - Special attention was given to finding sites where the construction area for a solar power plant would be primarily located on land that is otherwise unused (e.g., former landfills, soil dumps, former and decommissioned quarry and mining areas, former peat production areas).
- The project utilizes funding from the Ministry of the Environment to promote investment projects for the green transition.
- Ramboll Finland Oy is conducted the study commissioned by the city of Orivesi. The study was carried out in 2023-2024.

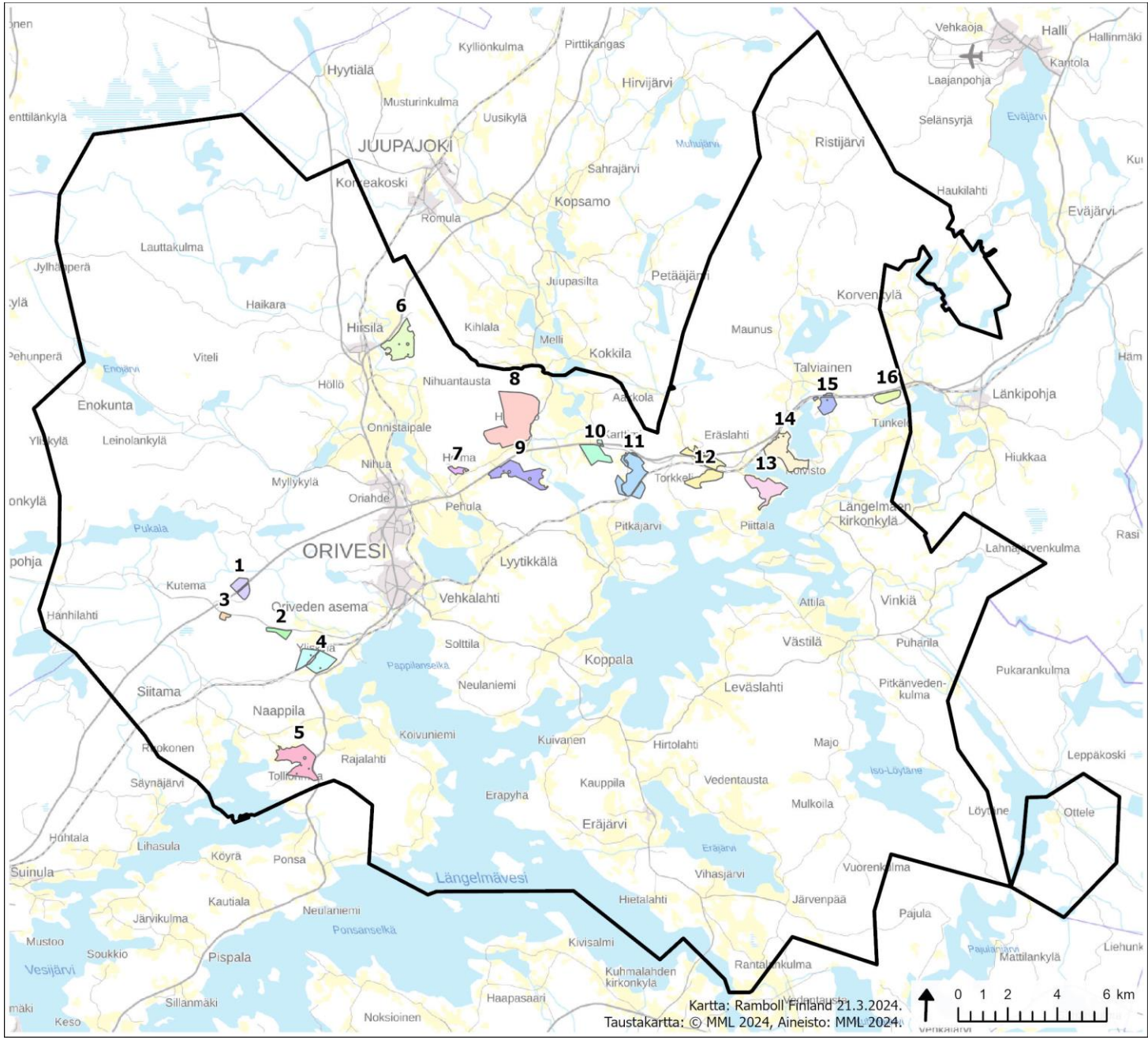
Methology and used materials in the study on the potential of solar energy production in Orivesi

- The study was conducted using cartographic and geospatial data analysis.
- Study included a No-Go assessment. In the No-Go assessment, areas unsuitable for solar power production in Orivesi were identified.
  - Areas deemed unsuitable for industrial-scale solar energy production included, among others, conservation and scenic areas, residential and holiday buildings, and areas located more than 10 km away from the 110kV electric grid.
- In identifying potential solar energy sites, the aim was to identify unused areas. This was achieved by identifying various so-called open areas in Orivesi and examining these areas, as well as their surroundings, from the perspective of solar energy placement opportunities. The identification of open areas was based on GIS analysis utilizing the National Land Survey of Finland's topographic database.
  - The analysis aimed to prioritize open areas other than forest land (clear-cut areas) or agricultural lands. However, in this study it was identified that such locations are very limited in Orivesi. For this reason, as the work progressed, the focus was sharpened such that the identified other sites were aimed to be selected and delineated in a way that avoided placing them entirely on forest lands, and instead, tried to utilize already open areas, such as fields and existing logging clearings.
  - The most significant open areas identified in Orivesi were agricultural lands. In addition, with the GIS data was identified extensive areas identified as "other open areas," which are mainly logging sites. Smaller and more scattered meadow and storage areas were also identified, as well as a single quarry area.
  - The identified open areas were combined with surrounding land to identify potential solar power areas. In identifying areas, priority was given to the utilization of open spaces. Therefore, the examination was not carried out following property boundaries.
- In the first phase 28 potential sites were identified for solar power production, with sizes ranging from 12 to 305 hectares.
- After cartographic and geospatial data analysis, the potential sites were reviewed together with the city of Orivesi. Data from the Digital and Population Data Services Agency was utilized in the review of the current status of residential buildings. The information represents the situation as of December 2023. It is important to note that the information regarding vacant properties may have changed.



Identified potential areas

- 16 areas were selected as potentially suitable areas for solar power production. The sizes of these areas ranged from 8.7 to 305 hectares, and distances to the 110 kV power line range from 0 to 4.4 km.
- Site visits and drone surveys were conducted for the most potential areas. A site profile was created for each of the most potential sites.
- The areas were divided into two groups:
  1. Areas identified for an industrial solar plant that do not contain significant amounts of forest or agricultural land (areas 1 & 2)
  2. Other areas identified as suitable for industrial solar plants (areas 3-16).



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