



## AESC Review Note 1

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### Smart Energy Transition in Seoul

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#### **Introduction:**

To facilitate the smart energy transition, the Seoul Energy Corporation (SEC) was established in 2017, which aims to promote the “One Less Nuclear Power Plant” policy, expand the use of renewable energy and upgrade the energy management system. The literature discussed the energy policy, visions and targets adopted by the Seoul Metropolitan Government. It sincerely hopes to reduce greenhouse gas emission and achieve long-term sustainability.

## **1. Smart Energy Transition in Seoul**

Seoul is a fast-growing city that has a high-level dependence on energy sources such as coal, gas and nuclear (Broom, 2019; Foreman, 2018), which are facing challenges in the areas of sustainable energy, greenhouse gases emissions etc.(Foreman, 2018) There are voices for government to increase the usage of renewable energy (Kim, 2017). Following up the suggestion from the Seoul International Energy Advisory Council on establishing an agency to supervise the energy policy and the nuclear power plants reduction projects in Seoul”, the Seoul Energy Corporation (SEC) was established in February 2017. The SEC is registered as a public corporation of the Seoul Metropolitan Government, and it successfully gathered around KRW 358.4 billion as at March 2017(Seoul Metropolitan Government, 2017).

## **2. Seoul Energy Corporation**

The SEC’s main objective is to continue carrying out the project “One Less Nuclear Power Plant”, which aim to improve the energy management system and to expand the use of renewable energy (Seoul Metropolitan Government, 2017). “One Less Nuclear Power Plant” has entered phase two in July 2014 (C40 CITIES, 2018). Phase two of the project build on the work on phase one on reducing central demand of energy which has a stronger focus on energy self-reliance at the local level through expanding the use of renewable energies as well as a more ambitious reduction target on both energy use and greenhouse gases emission (Environmental Policy Division, 2016; Jones, 2019). The SEC has launched projects in four areas to meet the target, which are (1) eco-friendly and distributed energy supply projects, (2) low consumption energy distributed projects, (3) energy sharing projects, and (4) interregional cooperation projects (Seoul Metropolitan Government, 2017).

## **3. Utilisation of Renewable Energy**

For developing renewable energy, SEC decided to build a heat and power combined power plants in Magok District by 2020 to provide district heating and cooling system to 75,000 households(Foreman, 2018; Seoul Metropolitan Government, 2017). On the other hand, SEC also aims to increase the power generation of renewable energy by adding 70 MW solar photovoltaic generation facilities by 2020(Kim, 2017; Seoul Metropolitan Government, 2017). The SEC is also planning to start a new project called the “Solar Station” which help to store the leftover energy from the solar cells for later use(Foreman, 2018). In terms of energy reduction, SEC has started projects to encourage citizens to switch to Electric Vehicles (EVs) from promotion to setting up power stations for EVs (times). Under the project, SEC will provide low-interest loans for interested individuals to purchase EVs, and provide life cycle management which will include services from purchasing, maintenance, to reselling and scarping at the later stage(Foreman, 2018; Seoul Metropolitan Government, 2017).

#### **4. Sharing of Information and Results**

Other than carrying out projects to reduce energy consumption and increase the use of renewable energy, SEC also put efforts on sharing the results with others. Firstly the SEC is developing a welfare model which allows low-income households and enjoy customized energy welfare services(Seoul Metropolitan Government, 2017). Also, the SEC aim to spread their projects to other local government through promoting the vision of “One Less Nuclear Power Plant” to uphold the value of mutual growth in a larger area than Seoul(Kim, 2017). In July 2018, the SEC has started a new project, Smart Energy City which aims to solve the energy issues through the usage of Information and Communication Technologies (ICT)(Seoul Metropolitan Government, 2018). This project includes five areas, which aim to enhance the energy management in households, buildings, communities and town level, as well as providing district heating services inside the district. It was announced that the Magok District can achieve 30% energy self-reliance by 2022, as well as reducing 180,000 tons of greenhouse gases emissions per year if the models are developed successfully (Invest SEOUL Co. Ltd, 2018).

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