

The Eco-Mileage System

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Organisation: Climate Change & Air Quality Management Division, Seoul Metropolitan Government

Country: Korea

Level of government: Local government

Sector: Environmental protection, General public services

Type: Data, Digital, Methods

Launched in: 2009

Overall development time: 1 year 11 months

Link to the innovation's website

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Description

The Eco-Mileage system is a citizen participation programme that gives incentives to member households and organisations who voluntarily cut back on electricity, water, or gas use per month by at least 10% compared to the monthly average of the previous two years. Here's how the system works: households and businesses can monitor their energy consumption through an online platform that also allows members to track savings over time. Members with good energy-savings records are incentivised to invest in driving further energy reductions. For example, in the case of a household, the amount of energy consumption is converted into carbon emissions. If the household reduces emissions by 10 percent or more compared with the same period of the previous year, it receives 50 000 mileage points (worth around KRW 50 000, or almost USD 50), which can be used to buy LED lamps, energy-saving taps or transportation cards.

Why the innovation was developed

- During 100 years from 1908 to 2007, the average temperature of the earth rose by 0.74°C and that of Korea by 1.5°C. During the same period, the average temperature of Seoul jumped by 2.4°C, tripling the earth's average. As of 2009, Korea emitted 564 million tCO₂e of greenhouse gases, of which 8.7% (49 million tCO₂e) came from Seoul. Unlike in other cities, most of greenhouse gas emissions in Seoul are generated by residential and commercial buildings and cars.
 - According to a survey on the characteristics of greenhouse gas emissions in Seoul, households and buildings account for 67% and transportation for 24%. Those two areas compose more than 90% of the total greenhouse gas emissions. Thus, the most effective way to reduce gas emissions in the city within a short period of time was to make households and businesses voluntarily take part in energy conservation efforts.
 - A reduction of greenhouse gas emissions in Seoul (a 40% reduction of the 1990 level by 2030).
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Objectives

Enhance transparency, Improve access, Improve effectiveness, Improve user satisfaction, Increase citizen engagement

- A unified response to global warming through a collaborative effort among the city government, private enterprises, and citizens.
 - Continuous energy reduction through citizens' voluntary participation.
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Main beneficiaries

Civil Society, General population, Government bodies, Government staff

- Seoul citizens: With greenhouse gas emissions being decreased, the air will be better for the people to breath. By conserving energy, they will lessen their energy bills. Citizens can receive various incentives, if they decrease their energy consumption to a certain amount.
- The environment: By lessening the emission of greenhouse gases, the ozone layer can be protected and so can the environment.

Results

Efficiency

- Since the launch of the programme in 2009, Seoul has reduced 122 000 tons of oil equivalent (TOE) of energy consumption and cut CO2 emissions by 355 000 tons.
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Effectiveness

- As of November 2012, a total of 1 407 primary, middle and high schools in Seoul have joined the Eco-Mileage system and many students are educated on saving energy through lectures and case studies.
 - The proportion of buildings that have reduced energy consumption has continued to increase due to promotion campaigns and the incentive system involved. The proportion has increased from 38.4% in 2010, to 50% in 2011 and to 56.5% in 2012.
 - The energy conservation degree has also intensified, from 1.0% in 2010, to 2.1% in 2011 and to 2.9% in 2012.
 - Membership has surpassed 1 million, and more than 10 percent of users have received incentive points for their energy consumption reduction.
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Service quality

Accessibility:

- For seniors and the disadvantaged who had no computers, programmes were set up at resident centres, with the help of volunteers or officials, to help the citizens navigate the process and join the eco-mileage membership.

Responsiveness:

- Residents and companies became more responsive, when the government began giving incentives for energy conservation.
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Evaluation

The system has been closely monitored, assessed, and improved based on consultation on a regular evaluation (3 times a year).

Development

Design

A number of civic groups called on the Seoul Metropolitan Government (SMG) to come up with energy conservation systems. In April 2008, the SMG established the procedures for the implementation of the Eco-Mileage System along with the energy consumption quantity management system under the leadership of the Climate & Environment Headquarters in the SMG. In January 2009, the Eco-Mileage System was put into effect in an effort to reduce greenhouse gas emissions in Seoul.

Design time: 9 months

Testing

- In February 2009, a pilot Eco-Mileage system was implemented in 25 districts, and cash rewards were given according to the amount of reduced carbon emissions.
- 12 advisory council meetings with experts and eight meetings with district officials were held to gather feedback.

Testing time: 1 month

Implementation

Tools used:

- Working in partnership with companies: To successfully implement the Eco-Mileage System, the SMG signed MOUs with large and medium-sized companies, including Samsung Electronics, Hyundai Motors, and LG Chemical, with the aim of providing environment-friendly incentives. These companies offered their products to households that had demonstrated outstanding energy conservation.
- Issuing Eco-Mileage Card: As the programme expanded and membership continued to grow, the SMG adopted the 'Eco-Mileage Card' to decrease the programme's fiscal burdens. As of Oct. 2014, 1 841 394 Eco-Mileage Cards have been issued. The card mileage system benefits citizens remarkably and strengthens their commitment to environmental protection.

Resources used:

- The SMG's budget has been kept to a minimum. As the Eco- Mileage system has been benchmarked by almost all the local governments and implemented across the country, the profits generated from the system are then controlled by the central government. The private companies' earnings from issuing the Eco-Mileage Card are being donated to and managed by the Ministry of Environment, and the ministry subsidizes the SMG with KRW 3.5 billion (approximately US 3.35 million) annually. Even with minimal municipal input, the system can now run sustainably.

Implementation time: 1 month

Diffusion

- A two-way information channel: Along with the provision of incentives, the Eco-Mileage programme promotes two-way communication with citizens. The Eco-Mileage website posts citizens' energy conservation tips and experts' advice. It also informs citizens of new city programmes, like the Energy Clinic that pays free visits to households or buildings to offer an energy diagnosis service.
- Resident centres helping the disadvantaged to participate: The SMG supported for those who do not own computers at home or cannot operate them well to become members by visiting their resident centers. In addition to in-charge officials, a temporary student worker at each center will help them apply for the online membership.

Diffusion time: 1 year

Challenges and solutions

- **Technical difficulties:** Energy providers were reluctant to share their information on citizens' energy consumption because they thought the information was confidential. Therefore, tighter security measures needed to be installed to ease their concerns. By establishing a safe security system, Seoul has succeeded in persuading energy providers such as Korea Electric Power Corporation and city gas companies to cooperate in sharing the necessary information.
 - **Insufficient Public Awareness and citizen participation:** Since Seoul citizens showed little interest in the environmental issue, it was difficult to attract the citizens' voluntary participation. To address this problem, the SMG set up an organisation with district offices, schools, civic groups, and enterprises at an early stage to raise citizens' awareness about global warming. The organisation toured the city and held 788 education sessions for 72 771 citizens including community leaders, environment teachers, apartment maintenance managers, and women's association leaders.
 - **Tight budget:** As memberships increased, incentives had to increase too, straining the city budget. Building partnership with 24 enterprises paved the way for solving the problem. The enterprises offered their environment-friendly products to the city for use as incentives. The Eco-Mileage Card system was made possible through cooperation with a card company, financial institutions, and manufacturers and retailers.
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Partnerships

Civic groups

Civil Society

The SMG established a new governance system with the participation of civic groups, businesses, Seoul Metropolitan Office of Education, and the municipal government.

Seoul Metropolitan Office of Education

Other Public Sector

The SMG signed an MOU with Seoul Metropolitan Office of Education for schools in Seoul to actively implement energy conservation programmes in the context of environmental education.

Districts

Other Public Sector

The SMG and its 25 autonomous district offices have also closely cooperated with one another.

Companies

Private sector

The SMG signed a Memorandum of Understanding (MOU) with 24 big and small companies, including Samsung Electronics, Hyundai Motor and LG Hausys, which produce either high-efficient electronics or environment-friendly products. The companies offer their products to the SMG free of charge, and the SMG delivers them to the citizens who significantly conserve energy. KT Corporation, a telecommunication service provider, provides mileage to citizens that contribute to the Eco-Mileage website.

Credit card company and commercial banks

Private sector

The mileage benefits have become possible with BC Card, Korea's biggest credit card company, and six commercial banks, such as Woori Bank, SC Bank and NH Bank.

Lessons Learned

Lessons Learned

- To make a major change, it is necessary to get all stakeholders involved, including the public, private sector, many government branches, etc.
 - By engaging private households, businesses, and energy-related entities, the Eco-Mileage System has demonstrated remarkable success not only in reducing energy consumption and carbon emissions, but also in raising public awareness.
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Conditions for success

- The Eco-Mileage System was launched successfully thanks to the collaborative network among the City governments, credit card companies, banks, manufacturers, and retailers.
 - The credit card company and banks donated 50% of their proceeds. The SMG used these funds as the resource for the mileage programme. As such, the SMG, citizens, and private companies have established a system in which the citizens and corporations benefit altogether.
 - The system cost the City administration very little while bringing significant benefits.
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Other information

- The Eco-Mileage System is being replicated and disseminated. It is the first citizen-participating greenhouse gas reduction programme implemented by a local government in Korea. In January 2010, the Ministry of Environment designated the Seoul Eco-Mileage System as a model for the government-enterprise cooperation in the implementation of environment-friendly measures, and in July 2012, the ministry benchmarked the Eco-Mileage Card System and introduced a “Green Card” for national application.
 - The City of Busan, Gyeonggi, and Jeollanam-do Provinces have already benchmarked it. The dissemination of the system to other municipal and provincial governments in the country is being prepared.
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