



**EV Energy – Action Plan Flevoland**

Lelystad, August 2019 (updated version)

# Contents

<b>INTRODUCTION</b>	<b>3</b>
<b>PART I – GENERAL INFORMATION</b>	<b>4</b>
<b>PART II – POLICY CONTEXT</b>	<b>4</b>
<b>PART III – DETAILS OF THE ACTIONS ENVISAGED</b>	<b>5</b>
<b>ACTION 1: INTEGRATION OF RENEWABLE ENERGY AND MOBILITY POLICIES ON REGIONAL LEVEL</b>	<b>5</b>
BACKGROUND	5
<i>Activities</i>	5
<i>Players involved</i>	6
<i>Timeframe</i>	6
INDICATORS AND MONITORING	6
<i>Costs and funding sources</i>	6
<b>ACTION 2: SUSTAINABLE MOBILITY AND ENERGY SIMULATION (SMES) TO DEVELOP A SMART ENERGY SYSTEM AT LELYSTAD AIRPORT (LA) AND LELYSTAD AIRPORT BUSINESS PARK (LAB)</b>	<b>7</b>
- REQUEST FOR INTERREG EUROPE PILOT ACTION -	7
<i>Background</i>	7
<i>Activities</i>	8
<i>Players involved</i>	8
<i>Timeframe</i>	8
INDICATORS AND MONITORING	9
<i>Costs and funding sources</i>	9
<b>ACTION 3: INTEGRATION LESSONS LEARNED FROM THE AMSTERDAM ARENA AND FLEXPPOWER PROJECT IN THE ERDF PROJECT</b>	<b>9</b>
<b>POWERPARKING</b>	<b>9</b>
<i>Background</i>	9
<i>Activities</i>	10
<i>Players involved</i>	10
<i>Timeframe</i>	10
INDICATORS AND MONITORING	10
<i>Costs and funding sources</i>	10
<b>ACTION 4: CAPACITY BUILDING ACTIONS CONCERNING E-MOBILITY AS AN INTEGRATED PART OF THE ENERGY TRANSITION</b>	<b>11</b>
<i>Background</i>	11
<i>Activities</i>	12
<i>Players involved</i>	12
<i>Timeframe</i>	12
INDICATORS AND MONITORING	12
<i>Costs and funding sources</i>	12

# Introduction

Province of Flevoland is working together with partners from Stockholm, Kaunas, Barcelona, Rome and Amsterdam in the Interreg Europe project EV Energy. The main goal of the project is to find solutions for the integration of renewable energy and electric mobility, as an important factor in the energy transition. We explored all facets: political, economic, social, technical, spatial, legal and governance.

The project is split into two phases:

In the first phase from January 2017 until June 2019 the partners have exchanged experiences and good practices on an international level. On a regional level, we have made a PESTEL: an extensive analysis of the political, economic, social, technical, environmental and legal aspects influencing the transition to electric mobility. The PESTEL, together with the good practices from the other countries have formed the basis for this action plan, which will mark the end of the first phase.

In the second phase of EV Energy the action plan will be implemented and monitored on project level. This phase will run from July 2019 until June 2021.

The following action plan provides details on how the lessons learnt from the cooperation will be exploited in Flevoland in order to improve the policy instruments and area developments tackled. It specifies the nature of the actions to be implemented, their timeframe, the players involved and, if applicable, the costs and funding sources. GreenIT Amsterdam has assisted Flevoland with the project activities and drawing the Action Plan with their expertise and network and they will support the province of Flevoland in phase 3 with action 4 (capacity building).

Phase 2 of EV Energy starts at the same time as our new political board, which was installed on 10 July 2019. In the coming 4 years (which is the governing period) Flevoland faces many challenges in the field of sustainability. The population is growing, there are large area development projects ongoing and at the same time we need to realise the energy and mobility transition as part of the national goals, as described in the Climate Agreement. The Action Plan contributes to the regional goals (as mentioned below under policy context).

## Part I – General information

Project: EV Energy

Partner organisation: Province of Flevoland in cooperation with Green IT Amsterdam

Country: the Netherlands

NUTS2 region: Flevoland

Contact persons:

Province of Flevoland:

Karin Maatje

email address: [karin.maatje@flevoland.nl](mailto:karin.maatje@flevoland.nl)

phone number: +31 627588737

Bart Tolboom

email address: [bart.tolboom@flevoland.nl](mailto:bart.tolboom@flevoland.nl)

+31 615909845

Green IT Amsterdam:

Julie Chenadec

email address: [Julie.chenadec@greenitamsterdam.nl](mailto:Julie.chenadec@greenitamsterdam.nl)

phone number: +31 633253739

## Part II – Policy context

The Action Plan aims to impact the following policy programmes:

1. The Investment for Growth and Jobs programme i.e. the Operational Programme Kansen voor West II (Project PowerParking + new project development)
2. Other regional development policy instruments i.e. the Coalition Agreement of the regional government  
Flevoland had regional elections in March 2019. The coalition agreement is a binding document made by the political parties and gives the direction of regional developments for the coming 4 years. The regional energy transition and the future of mobility will subjects of the agreement. It is a high level document, which will be broken down in more detailed policy papers like the Regional Energy Strategy (RES).

These more detailed policy papers have to contribute to the Climate Agreement. The Netherlands have recently signed the climate agreement. The climate agreement contains 600 proposals and agreements for hundreds of measures to reduce CO2 emissions in the Netherlands. In 2030, 70 percent of all electricity will come from renewable sources and around 1.8 million

charging stations will be available. Mobility is emission-free in 2050, whereby electric mobility plays an important role. Flevoland is one of the parties that have signed the climate agreement. The coming period will be used to consult about the achievement of the national goals and to translate these achievements into regional and local policies.

## Part III – Details of the actions envisaged

### ACTION 1: Integration of renewable energy and mobility policies on regional level

#### Background

The exchange of knowledge and good practices and the project visits made us aware of the huge effect of e-mobility at the (renewable) energy system. To be prepared at this effect, it is necessary to integrate the renewable energy and mobility policies. These two policies are separate now, but can't be seen separately.

We took several colleagues of the province with us during the meetings in Stockholm (April 2018) and Barcelona (October 2018). During these meetings we discussed good practices and visited several projects. Some knowledge gained during these meetings, will be transferred to the policies in Flevoland (notably the knowledge from Stockholm Royal Seaport and the way Barcelona is working on the electrification of public transport.

The integration of both policies will contribute to the goals in the Regional Energy Strategy, because it reduces the emissions and contributes to (the combination of) electric mobility and renewable energy.

#### Activities

- Consult with our colleagues of the policy department, about the transfer of knowledge gained by EV Energy in the policies of the province. Examples of good practices that might be transferred are FlexPower Amsterdam (flexible charging of electric cars on the public charging network, to avoid peak loads and match demand and supply of sustainable power), the knowledge gained about electric buses in Barcelona and the way Stockholm has set a clear target and overarching sustainability goals for the area development.
- If necessary, we will consult with the owner (project partner) of the good practice about the transfer to the circumstances of Flevoland.
- Draw up and implement the policies, including the transfer of knowledge gained, jointly with our colleagues of the policy department. This will be included in the coalition agreement that is currently being drawn up and/or the follow up actions of the agreement. After the coalition agreement has been concluded, the policy is further elaborated and established. Relevant regional parties are involved in the formulation of the policy.

## Players involved

Province of Flevoland, involved project partners by the good practice and relevant regional stakeholders involved in area development in the province (e.g. Lelystad Airport, Lelystad Airport Businesspark).

## Timeframe

June 2019 - December 2020

## Indicators and monitoring

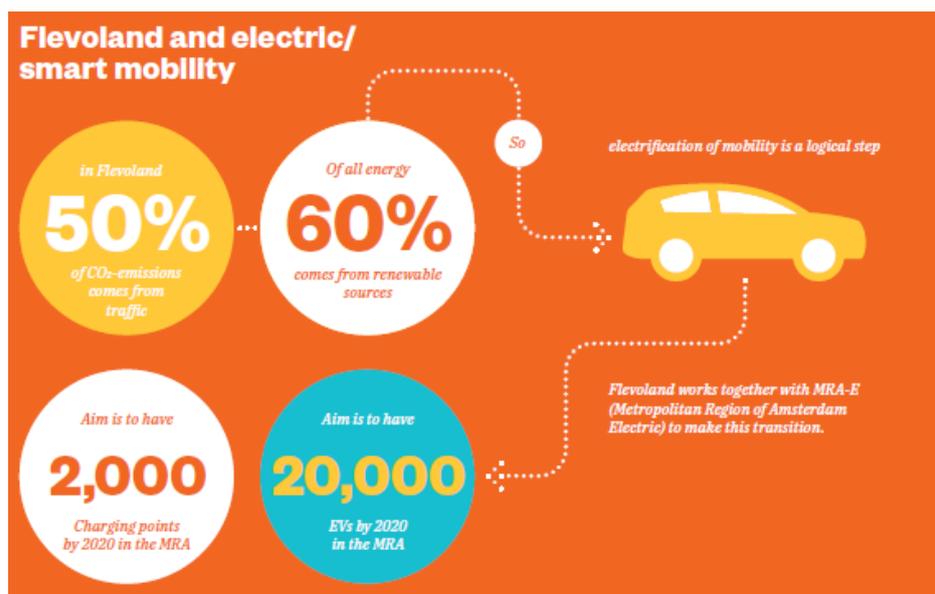
The output indicator consist of: number of meetings organised by the EV Energy team around the topic.

The outcome indicators consist of: policy documents mentioning mobility as part of the energy strategy and/or cooperation agreement(s) with external stakeholders, which have the goal to integrate sustainable energy and mobility.

The progress will be monitored and reported by the EV Energy team of the province of Flevoland.

## Costs and funding sources

Only provincial costs, paid from the dedicated provincial budget (policy making). The dedicated provincial budget results from the coalition agreement.



Visual of EV related goals Flevoland (extract from the EV Energy policy brochure)

## ACTION 2: Sustainable Mobility and Energy Simulation (SMES) to develop a smart energy system at Lelystad Airport (LA) and Lelystad Airport Business Park (LAB)

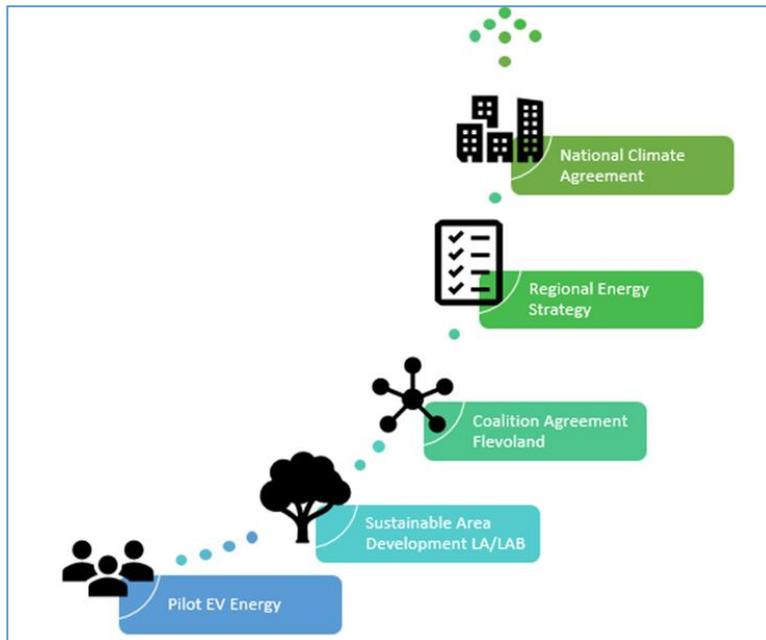
- request for Interreg Europe pilot action -

### Background

This action is a result of the good practice exchange from the Royal Seaport Project in Stockholm. Flevoland was really interested in the way Stockholm has set a clear target and overarching sustainability goals for the area development, and has implemented them in all aspects. From waste, to energy saving, to renewable energy production and sustainable transport. Apart from the good practice description on the EV Energy website, we have received more in depth information about this good practice (field visit, programme ([https://vaxer.stockholm/globalassets/omraden/-stadsutvecklingsomraden/ostermalm-norra-djurgardsstaden/royal-seaport/media/sustainable\\_urban-development-programme.pdf](https://vaxer.stockholm/globalassets/omraden/-stadsutvecklingsomraden/ostermalm-norra-djurgardsstaden/royal-seaport/media/sustainable_urban-development-programme.pdf)) and sustainability checklist). The 'Sustainable Urban Development Programme Stockholm Royal Seaport' describes all sustainable measures in the field of waste, nature, sustainable energy and mobility.

Seeing the Stockholm good practice, we realised that we have several projects running, but no clear target and vision of the future yet. So, we are really eager to 'copy' their model, while adapting it to our circumstances. We would not cover all the sustainability goals from the Royal Seaport programme, but the ones corresponding to the focus of EV Energy. We use the latter 2 (on page 17 and 18 of the programme) for transfer to our region. We want to adopt their principles and way of planning: to prioritise sustainable ways of transport and to facilitate carbon free fuelling (charging stations). To plan and realise such a sustainable transport system, insight in the potential renewable energy production and consumption (including mobility) in the area is essential.

The pilot contributes to the area development LA/LAB as stated in the current Coalition Agreement and will serve to strengthen this ambition in the new Coalition agreement. The Coalition Agreement is a political agreement, which forms the base of all regional policies for 4 years. One level higher the pilot contributes to the overall sustainability goals of the province, which will be part of the Regional Energy Strategy (RES), and again one level higher the RES will contribute to the National Climate Agreement. Please, see below a summary of the policy logic.



The pilot will not be able to influence the Regional Operational Programme (ROP) as indicated in the original application of EV Energy. The reasons are the timing of the pilot and the fact that we run towards the end of the ROP programme. Also, there are almost no means left in the ERDF programme Kansen voor West II.

## Activities

- Organise Skype conferences with key stakeholders from Royal Seaport and stakeholders from Flevoland.
- Make a document with the demands for the SMES
- Ask for quotations from external experts for sub-contracting the work
- Run a pilot to test the SMES
- Presentation of the results at the conference in Kaunas.

## Players involved

Province of Flevoland  
 Stakeholders from Royal Seaport  
 Regional stakeholders, like Lelystad Airport and Lelystad Airport Businesspark

## Timeframe

July 2019 – December 2020

## Indicators and monitoring

The output indicator consists of: the product that is made by the external agency (report or dashboard) about the energy simulation

The outcome indicator consists of: a cooperation agreement with the area stakeholders and an overarching plan for a sustainable energy and mobility system.

The process will be managed and monitored by the EV Energy team of the province of Flevoland and reported in the progress reports of EV Energy.

## Costs and funding sources

For this action we request an amount of € 30.000 for the implementation of an Interreg Europe pilot in the second phase of EV Energy.

## **ACTION 3: Integration lessons learned from the Amsterdam ArenA and Flexpower project in the ERDF project PowerParking**

### Background

PowerParking is an innovative concept with the aim to develop (large) parking locations into integrated 'local power plants'. The parking spaces are equipped with a roof of solar panels. The generated solar energy is used locally, but by a surplus the energy can be stored in the batteries of electric vehicles and in the installed battery storage for later use. Thanks to the link with a 'smart grid' and the application of 'smart charging', this is done efficiently. The project runs until June 2021 and the budget is € 3.2 M (of which € 1.2 M ERDF funding). The province of Flevoland initiated the project, the building locations are Lelystad Airport and Lelystad Airport Businesspark. Apart from these organisations, the other parties involved in PowerParking are: Delft Technical University, Alfen (SME), Pontis Engineering (SME), Eneco (energy provider), Schiphol International Airport.

As part of the EV Energy exchange activities we have visited – together with regional stakeholders and the PowerParking team - the ArenA project in Amsterdam (on 30 October 2018 and 4 June 2019) where they have solar panels on the roof and 3 MW storage in second life batteries. The stored (renewable) energy is used for multiple purposes, like events in the ArenA itself, to stabilize the grid, for back-up and for events nearby the ArenA. These multiple purposes can make a viable business case for the ArenA project.

From Flexpower, we've learned that there are also good possibilities to stabilize the grid by means of smart charging, without doing large investments.

For PowerParking we have learned that you need multiple business models to make a viable business case for energy storage and we want to compare this with the applications of smart charging. Therefore we have to study the possible business models for the PowerParking project.

## Activities

- Study the possible business models of energy storage as part of the PowerParking project with the aim to get a viable business case.
- Explore further cooperation possibilities with ArenA (exchange of knowledge concerning Direct current and testing of materials, e.a. bidirectional chargers)
- Explore the possibilities to integrate the Flexpower principles in the management system of PowerParking (i.e. charging faster or slower, depending on the supply and demand of energy in order to balance the grid)

## Players involved

PowerParking team (Province, Lelystad Airport, Lelystad Airport Businesspark, Delft Technical University, Eneco (energy company), Alfen (company for charging infrastructure), Schiphol International Airport, Pontis (SME))

## Timeframe

June 2019 – June 2020

## Indicators and monitoring

Output indicator: an optimised technical and financial design of the PowerParking project

Outcome indicator: the PowerParking project can be rolled out to other locations with a viable business case

Monitoring and reporting will be done by the lead partner of PowerParking in the framework of the ERDF subsidy and also be reported in the progress report of EV Energy.

## Costs and funding sources

The costs involved are mainly staff costs, which can be part of the PowerParking project (co-financed by ERDF, Kansen voor West II)



Example of solar parking

## **ACTION 4: Capacity building actions concerning e-mobility as an integrated part of the energy transition**

### Background

During the learning process (regional stakeholder events, Project meetings, study visits, exchange of good practices etc.) the staff members and stakeholders involved in EV Energy have gained a better understanding of the enormous impact of the electrification of mobility in combination with the energy transition. In the next phase we aim to transfer this knowledge, in combination with capacity building actions, to a larger community. At the other hand, we can learn from this large community as well.

We were inspired by the approach of the Stockholm Royal Seaport programme, which we visited in April 2018. This programme integrates participation and consultation in the development process of the area. An inclusive development process has two advantages: it creates more commitment from citizens and it activates their knowledge. In the case of Flevoland, we decided to apply this approach to Lelystad Airport and Lelystad Airport Business Park in relation to sustainable energy and mobility issues. We want to integrate this to our Talent Programme. In the Talent Programme the province connects projects to students, so the students can study and give advice on real life problems. It is an ongoing programme, but due to the EV Energy exchange process we are now integrating the theme of sustainable energy and mobility.

We aim to start with two target groups; high school and university students and stakeholders involved in area development programmes in Flevoland. In this way we create more awareness about sustainable energy and mobility among future generations and we also can use their knowledge and creativity to find innovative solutions.

GreenIT Amsterdam will help us with organising the visits and will be invited as guest speaker at the Talent Programme meetings.

## Activities

- Cooperation with university of applied sciences and high school students on EV issues
  - Students will get assignments as part of the curriculum 'research and design'. We will formulate assignments in the field of electric transport and the integration in the environment. Students will work 8 weeks on the subject and present the results.
- Transfer of knowledge to other area development programmes
  - Flevoland is the youngest province in the Netherlands, therefore there are many new area developments where we have the opportunity to work in the most sustainable way according to the latest innovations. Therefore, we aim to visit good practices and/or invite the leaders of good practices, that we have got to learn through EV energy with groups of colleagues. These visits can lead to changes in regional development policy instruments. We aim to visit a.o. the good practices EV-NRG Dashboard in Amstelveen and Flexpower.

## Players involved

Provincial staff members

University of applied sciences (Aeres groep)

High schools (Technasia)

GreenIT Amsterdam

Stakeholders of good practice projects (for example: Johan Cruijff ArenA, Flexpower project, Green Village)

## Timeframe

From June 2019 ongoing

## Indicators and monitoring

Output indicator: number of assignments for students, number of study visits with colleagues

Outcome indicator: research results of the assignments that can be used in our work

Progress will be monitored in the framework of our talent programme 'Talent Kleurt Flevoland' and also reported in the progress reports of EV Energy.

## Costs and funding sources

The organisational costs will be paid from the dedicated provincial budget for talent development and area development. The dedicated provincial budget results from the coalition agreement.

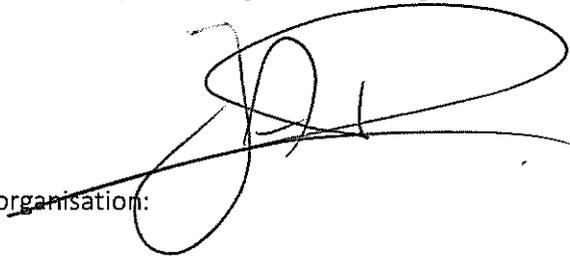


Students designing a smart solution for luggage in the bus

Date: 2-9-2019

Name and function: Jaap Ree, Programme Manager, Province of Flevoland

Signature:

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke extending to the right.

Stamp of the organisation: