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Multi-Region Assistance Project-Revolving Investment for Cities in Europe (MRA-RICE)

In Depth Case Study – The Hague

In Depth Case study

Final Report

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List of Acronyms

B.V.	Besloten Vennootschap (private limited liability company)
C.V.	Commanditaire Vennootschap (limited partnership)
EC	European Commission
ED	Energiefonds Den Haag (Energy fund The Hague)
EFF	European Fisheries Fund
ERDF	European Regional Development Fund
ETA	Energie Transitie Atlas (Energy Transition Atlas)
FRED	Fonds voor Ruimte en Economie Den Haag (Fund for Spatial and Economic Development The Hague)
HEID	Stichting Holdingfonds Economische Investeringen Den Haag. Foundation incorporated and managed by the Municipality of The Hague. Legal entity responsible for the requesting of funds from e.g. ERDF and Co-financing Fund to be put in the Holding Fund.
HOA	Home Owner Association
MA	Managing Authority
MRA-RICE	Multi-Region Assistance Project- Revolving Investment for Cities in Europe
OP	Operational Programme
PA	Programming Authority
RES	Regionale Energie Strategie (Regional Energy Strategy)
SOFIE	Stadshavens Ontwikkelingsfonds voor Innovatie en Economie
SVn	Stimuleringsfonds Volkshuisvesting Nederland
VIN	Visserij Investeringsfonds Nederland (Fisheries Investment Fund)
VVE	Vereniging van Eigenaren (Home Owner Association)
WOM	Wijkontwikkelingsmaatschappij (Area Development Agency)

Executive summary

This in-depth study is part of the MRA-RICE project that took place in the cities of London, Manchester, Milan and The Hague. It considers the energy transition the city of The Hague is facing, and the investment needs that come with that transition.

Energy transition The Hague

The Netherlands is reducing the use of natural gas for heating, in response to having more severe earthquakes in the North of The Netherlands and to meet the goals of the Paris climate agreement to reduce CO2 emissions. This means that the country is accelerating the processes of transitioning towards a cleaner environment. While The Netherlands have the ambition to reduce the CO2 emissions by 50% by 2030, the city of The Hague has the ambition to connect 250,000 houses and 30,000 other buildings to sustainable energy sources, away from gas. The Hague is one of the frontrunners in The Netherlands in this policy area.

A climate agreement has been set up between the city, the energy company, water company, housing associations, and other public and private bodies which focusses on the implementation of climate neutral initiatives. A scenario study was conducted and a mixed programme of interventions involving locally sourced heat combined with regional heat from the port of Rotterdam was identified as the preferred option for the biggest part of the city. Initial transformation plans have been made for ten neighbourhoods in The Hague and the implementation works will start in the Southwest area.

Within the Province of South-Holland three funds will be actively focused on the energy transition, the ED fund will focus on the supply side of energy, the SOFIE fund (Rotterdam) will focus on the demand and user side, and a Provincial fund will focus on the infrastructure investments. The ED and SOFIE funds have ring-fenced funds for their own cities, as well have funds available to be invested in the rest of the Province. These funds will continue to play an important part in the financing of the Energy Transition. For example, the ambition of the local government is to bring the HAL geothermal source into operation in the year 2019, and then open and start operating three more geothermal sources in the city. The ED fund could be scaled up for this purpose, using local resources to help fund these future investments.

Future funding

Given the major investments to be made, the city is considering establishing a new Investment Platform, a dedicated financing structure that can channel public and private financing to finance a number of investment projects. The Investment Platform would be targeted at the programme of improvements to the housing stock in the city. Looking at the scale of the investment needed (estimated at several billions) it will be essential that the public resources committed to the Investment Platform will be able to secure additional private and or public investors. As the investment needs are large the Investment Platform described in this study is just one of the potential means of financing the transition. It is a long term project that will need a flexible approach and the work will be implemented in several phases.

In order to help kick-start the Investment Platform and other interventions, the City has agreed to sell its share in the local energy company ENECO. Once the ENECO shares have been sold (expected in late 2019/2020) part of those proceeds (30%) will be invested in an Energy Transition Investment Platform and used as a junior tranche in this revolving instrument. This would then

have the potential to attract fund level investment from national and international finance institutions (such as BNG and the EIB) together with other private investors.

MRA-RICE Blue print lessons learned

The blueprint developed by the MRA-RICE project proposes a flexible framework that can be applied by cities aiming at setting up a new financial instrument. The blueprint aims to provide guidance to cities and also to investors to understand how financial instruments function, as the governance is an extremely important aspect to leverage private funding.

The proposals developed by The Hague have been reviewed against the framework set out in the MRA RICE Blueprint and the conclusions include:

- **Capacity** – the City of The Hague already has significant experience of financial instruments. This provides the city with a strong foundation to develop a project team to manage the funding elements of the Energy Transition programme;
- **Independent Fund Manager** – the MRA-RICE Blueprint should be a significant consideration for the city when developing its requirements for an independent fund manager for the new investment Platform.
- **Structured Design** – the HEID Holding Fund is a sophisticated model that can be adapted to support the new Investment Platform. How the new platform would relate to the existing operations would, however, need to be determined during the detailed development of the instrument. Nevertheless, the MRA-RICE Blueprint provides the framework in which The Hague's considerable experience can be applied to develop the final structure
- **Products** – the development of the products for homeowners, housing associations and other bodies will be critical to the success of the project. Experiences of other countries has shown how grants and assistance through specialist agencies can play an important part in incentivising homeowners to take the loans for improvement to the energy efficiency of the homes.
- **Investment friendly** – the ability to leverage the public funding in the new Investment Platform will be critical to the success of the Energy Transition. This should drive the development of an Investment Platform with an Independent Fund Manager with a governance structure that has the potential to attract significant third party investments from IFIs and private investors.

Future

The city has set up an energy transition team which is solely focused on this the task of the energy transition. This team is and will be assisted by external consultants where and when necessary. As the energy transition is a long term process a flexible approach is needed and the different development stages will need different ways of technical assistance. Therefore an ELENA request is being prepared and will be submitted early 2019. The planning of The Hague for starting this new Investment Platform is depending partly on the timing of the ENECO privatisation.

The steps to be taken to set up such a platform can take up to a year, a market study in which the market gaps, financing gaps and co-financing need to be explored should be started well in advance. Developing an investment strategy and designing the selection process for fund

managers are part of this process. It will be important for the city to ensure that a new Platform can allow for a range of options for raising funds in the future.

1 Introduction

1.1 MRA-RICE Project

The project known as "Multi-Region Assistance Project – Revolving Investment for Cities in Europe", (MRA-RICE), has provided advisory services to the cities of London, Manchester, Milan and The Hague. The main objective of the study was to identify common technical and financing needs across cities, and the extent to which a multi-region financial instrument that provides standardised solutions and delivery models could be a viable solution to provide financing and technical support to cities' urban development projects.

As part of the MRA-RICE project, The Hague has been the lead partner in developing a blueprint for future financial instruments for cities. Following delivery of the Phase 2 Report for the project, The Hague has been considering the application of the MRA RICE Blueprint to its Energy Transition. This in depth study is a follow up of the MRA-RICE project, and will look into the details of the current situation in The Hague, regarding the existing funds, potential new funds and the investment opportunities.

The Netherlands are looking into far reaching climate change measures. This is both in response to the Paris climate deal and also reflects the proposed national change to the energy supply system, from the current system based on natural gas extracted in the North of the Netherlands, to other types of energy like geothermal and electric solutions. In the national government's plans the amount of CO2 should be reduced by 50%[1] by 2030[2]. The Hague is even more ambitious and aims to become climate neutral by 2040, as outlined in The Hague's Strategy; 'Towards a sustainable heat supply in 2040'[3]. The ambition of the strategy is that by 2040, 250,000 houses and 30,000 other buildings need to be climate neutral.

In 2013, The Hague started operating financial instruments with the implementation of the Holding Fund HEID (Holdingfonds voor Economische Investeringen Den Haag), and the start of ED (Energiefonds Den Haag) and FRED (Fonds voor Ruimte en Economie Den Haag). At the same time, in 2013, Rotterdam also started a fund called SOFIE (Stadshavens Ontwikkelings Fonds voor Innovatie en Economie). This in depth case study will mainly focus on The Hague, although it is recognized similar conditions may exist in Rotterdam and some degree of cooperation between existing financial instruments is already taking place as described in chapter 2.

The Hague has developed its financial instruments in a very progressive way, starting off with a pilot project with only EUR 4 mln ERDF for two funds (ED and FRED). The Holding Fund currently holds EUR 46 mln, and is divided into eight funds, in three different sectors; sustainability, innovation and urban development.

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[1] Compared to 1990

[2] National Coalition agreement 2017: https://www.kabinetsformatie2017.nl/documenten/publicaties/2017/10/10/regeerakkoord-vertrouwen-in-de-toekomst

[3] Energy Strategy 21 September 2017 ; 'Towards a sustainable heat supply in 2040' https://denhaag.raadsinformatie.nl/document/5489651/3/170921-RIS297287%20Geamendeerd%20Op%20naar%20een%20duurzame%20warmtevoorziening%20in%202040%20%282%29

1.2 Approach to in Depth Study

As a follow up of the MRA-RICE project, this study examines in greater detail the investment opportunities and challenges for the city of The Hague. Five years after the initial set up of the JESSICA funds, the city is now seeking to find ways of stepping up the investments in the energy sector as demanded by the high and challenging coalition agreement of the city.

This in depth case study will be three fold. Firstly the report will describe in more detail the prevailing policy framework in The Hague and the actions already undertaken by the energy transition team, and future investments needs for realizing the project pipeline. This information is based on the information retrieved for the city of The Hague and interviews held with the energy transition team in The Hague.

Secondly, the study will look into the future of financial instruments and the potential for a new investment platform to support the Energy Transition in The Hague. It is proposed that this new fund will be set up when The Hague receives funds from the sale of its share in ENECO, the energy supply company, planned for 2020.

This report will as a third aim, consider the existing ED fund and its governance, and the lessons learned from the set up and operation of the fund that will inform the future development of the Energy Transition Investment Platform. The study will look at the current governance arrangements of the ED fund and how it influences mechanisms for leveraging the public resources invested in the fund.

2 Policy framework and investment strategy for the energy transition

2.1 Regional and local energy plans

To reach the goal to reduce the CO2 emissions by 50% by 2030 on a national scale, all municipalities and regions in The Netherlands are involved in setting up Regional Energy Strategies (RES). This is a bottom up approach, in which the decentralised regions develop and deliver their own policies, within the national regulatory framework. Decision making on these strategies takes place through national policy, provinces and the municipalities. One of the main functions of the RES is to translate the commitments made on national level of the National Climate Agreement[4] for the sectors electricity and the built environment into regional heat plans, energy and infrastructure plans and for renewable energy.

The Hague city council has adopted an energy strategy on September 21st, 2017, called "Towards sustainable heat provisions in 2040"[5]. In this strategy it is stated that 250,000 houses and 30,000 other buildings need to be transformed to be connected to a sustainable energy source before 2040. To reach this goal, the city of The Hague took the initiative to start the The Hague Energy Network. Partners in this network are the city of The Hague, housing associations, water company, energy companies, infrastructure companies, other businesses and representatives of residents.

Looking at a national level The Hague is one of the frontrunners of the implementation of the energy transition. To reach this goal a climate agreement[6] has been set up between the partners of the Energy Network. This agreement focuses on the implementation of energy neutral climate initiatives and on ten neighbourhoods[7] in The Hague where the energy transition should start. In the next 5 years the focus is on renovating 25,000-30,000 houses in these ten different neighbourhoods.

The Energy Transition Atlas (ETA) is the basis for the actions mentioned in the paragraph above. The ETA is a programme that is made by the city of The Hague which comprises the analyses of the neighbourhoods, the measures which are most favourable in each area, and a financial analysis. The ambition to make 100,000 houses climate neutral within ten years is further elaborated in so-called neighbourhood energy plans.

2.2 Technical and financial aspects of the energy transition

To get insight in the different options, the city has conducted a study[8] in which four different scenarios have been calculated. The four scenarios are 1) maximum use of waste-heat, 2) waste

[4] National Climate Agreement; www.klimaatakkoord.nl

[5] "Op naar een duurzame warmtevoorziening in 2040"; https://denhaag.raadsinformatie.nl/document/5489651/3/170921-RIS297287%20Geamendeerd%20Op%20naar%20een%20duurzame%20warmtevoorziening%20in%202040%20%282%29

[6] Haags Energieakkoord

[7] These ten neighbourhods are: Mariahoeve, Den Haag Zuidwest, Binckhorst/CID, het Koningsplein en omgeving, Molenwijk en Moerwijk-Oost, de Vruchtenbuurt, de Vogelwijk, Ypenburg, Noordpolderbuurt en het Statenkwartier/ Scheveningen.

[8] Study CE Delft: Backcasting Den Haag, 30 January 2018

heat in combination with locally produced heat, 3) only locally produced heat, 4) only individual electric solutions. Below they are described in more detail.

Scenario 0:
This scenario describes the current situation in the year 2040, based on the assumption that energy prices and taxes remain at current levels. Possible lower prices towards 2040 are calculated, also in the other scenarios. All areas are calculated on the basis of a boiler based system for heating water in individual buildings.

Scenario 1: Local heat with a regional network, a pipeline in West and a pipeline through the middle
Waste heat will be used from the port of Rotterdam. A heat grid (heat roundabout) needs to be built which will bring high temperature water to The Hague. In The Hague this heat will be used and connected to houses in areas where this is financially and technically the best option. This heat can be used in combination with geothermal heat in The Hague.

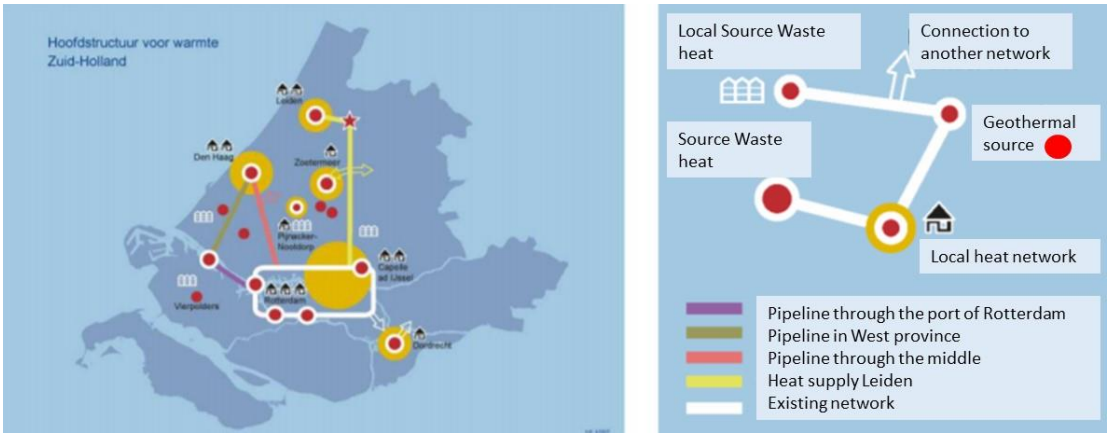
Scenario 2: Local heat with regional heat from the pipeline through the middle
This option is similar to scenario 1, but less waste heat from the port of Rotterdam will be used. Only the pipeline through the middle will be build. A maximum of geothermal energy within The Hague will be used and Low Temperature waste heat can be added, as well as all electric solutions.

Scenario 3: Only local heat
In this scenario only local geothermal heat will be used. The current waste heat network needs to be supplied with this heat. Next to geothermal energy other sources will be important like WKO (heat and cold storage) and area–CHP (combined heat and power station). This potential still needs further research.

Scenario 4: Only individual solutions
This scenario entails only individual solutions. Neither waste heat from Rotterdam will be used, nor local (geothermal) sources. Heat networks therefore are not possible. This option will be using electric heat pumps. The houses that are now connected to a heat network, will need to change to an individual solution.

The figure below shows the energy network in the region, including the pipelines from the Port of Rotterdam to The Hague, the pipeline through the middle and the pipeline in West.

Figure 1: Main heat infrastructure South-Holland



Source: Policy document "Towards sustainable heat provisions in 2040"

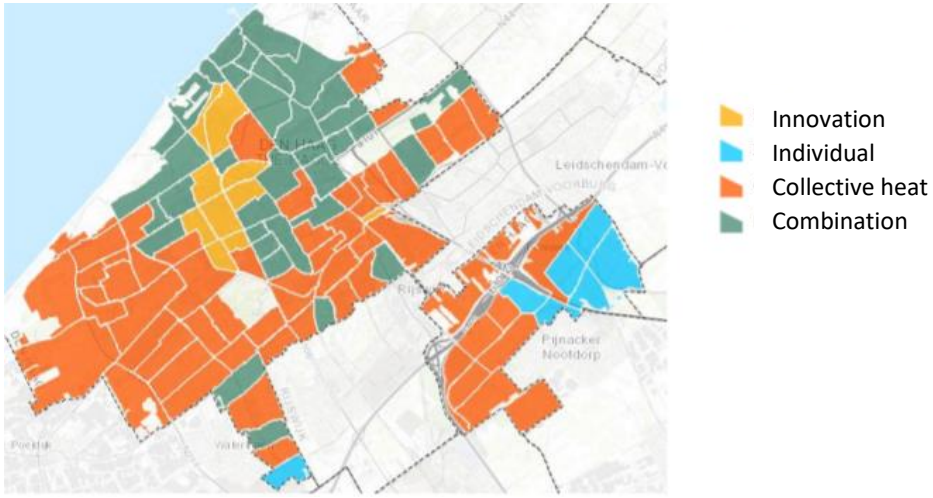
Scenario 2 seems the most feasible for The Hague, although for every neighbourhood the best technical and financial solution will be chosen. In this second scenario, it means that about 100,000 houses will be connected to the network which is supplying heat from Rotterdam, in combination with local heat. For the other houses a mix of solutions will be chosen depending on the characteristics of the neighbourhoods.

The initial cost calculations that have been made by the City show that the scale of investment needed is enormous. Currently there are many uncertainties and assumptions in these calculations, for example the future development of energy taxes on gas and electric solutions, the actual timing of investments and lower future costs because of the learning effect. Based on the assumption that the investments are made by 2040, and learning effects have been included, the cost per house for scenario 2 is estimated to be EUR 23,500 (it ranges between EUR 7,500 (scenario 0) to EUR 32,000 (in scenario 4))[9].

The aim of the transition is to avoid any further investment costs for renewal of the current infrastructure. The financial outcomes of scenario 2 will likely increase if the national government will raise the taxes on the use of fossil fuels (gas), and the alternative of switching to clean energy will be more attractive.

The figure below shows the possible different implementation scenarios for each area of the city.

Figure 2: Different scenarios in The Hague



Source: Programme Energy transition The Hague[10], based on data of the Energy Transition Atlas

2.3 The Hague Southwest as a pilot project

As the whole transition is a long term process, good planning is needed and therefore a flexible approach for implementation will be adopted. A financial and technical inventory was made by the city, the ETA, which gives an overview of the total costs and technical measures to be taken in each neighbourhood. The area called Bouwlust/Vrederust (hereafter called Southwest) is the area

[9] Study of Bart Teulings: Duurzaam en resultaatgericht, Advice financial strategy energy transition The Hague, 12 October 2018

[10] Source: https://denhaag.raadsinformatie.nl/document/6177290/1/RIS299076_Bijlage_2_Basisversie_programmaplanf

where the first implementation actions will take place. There are several reasons why this area is the first one to be invested in.

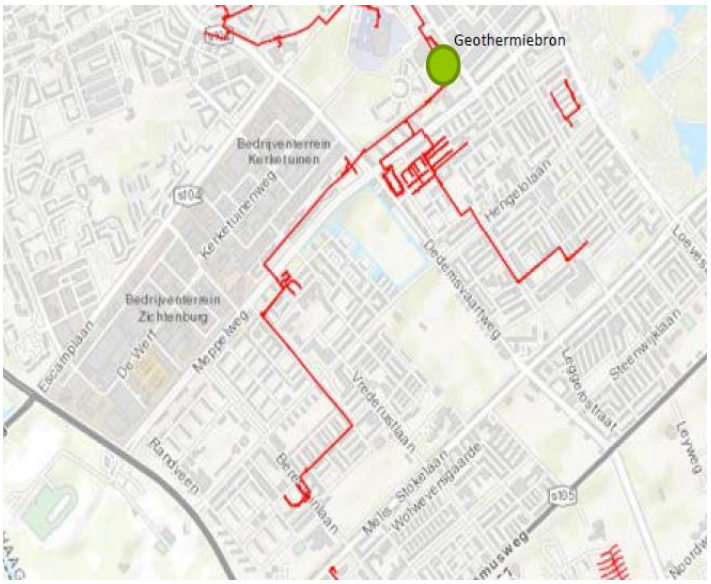
The first focus of redevelopment in this area is the development of a heat network for the HAL geothermal well which delivers heat to four blocks of flats (Lozerlaan). At the same time the project looks at the opportunity for six other blocks of flats to be connected to the same heat network. After this pilot other areas in Southwest should be connected to the network. The aim is to have 100,000 houses disconnected from gas in 2028. This area is also selected as a pilot as part of a national project which is aimed at making the areas energy neutral (away from gas)[11], for which EUR 120 mln is made available for 27 neighbourhoods in The Netherlands.

The most important reasons to choose this area in The Hague are:

- The already existing geothermal source (HAL) is located in this area, including an already existing heat network,
- The majority of the houses belong to one housing association and have the same construction type and year of construction, which make it efficient to renovate, and gives a high density for heat demand in the area which makes it more cost efficient. These houses have low energy labels.
- Some of the gas pipes need to be replaced, maintenance budgets were already reserved for renovation works, which can now be combined with these new works.

The selected area in total comprises 28,233 inhabitants, 12,514 houses and 955 other buildings. Of the houses 25% are in private ownership and 75% are rental houses (of which 91% is social rent owned by housing associations)[12].

Figure 3: Existing heat network and the HAL in South West



Source: City of The Hague Implementation plan South West

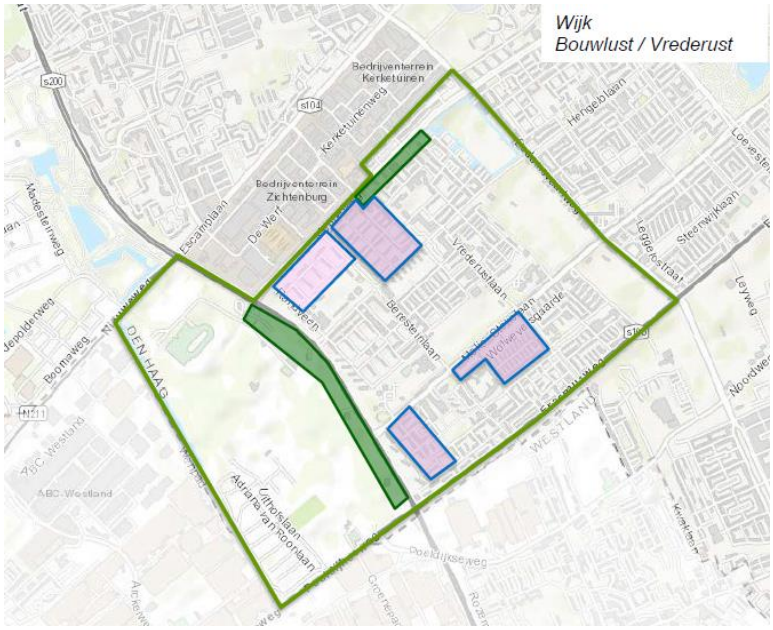
[11] Source: https://www.rijksoverheid.nl/actueel/nieuws/2018/10/01/120-miljoen-euro-voor-%E2%80%98proeftuinen%E2%80%99-aardgasvrije-wijken-in-27-gemeenten

[12] City of The Hague, Implementation Plan Bouwlust/Vrederust, heating on inner city geothermal energy, 12 June 2018

The current planning is that in the fourth quarter of 2019 the geothermal source HAL (Leyweg) will be operational and will be connected to the existing network. The heat network from that moment will be fed by sustainable energy only. The capacity of HAL is not enough to supply the whole area with heat, therefore more geothermal sources will be needed. Under the current plan, the area would be supplied by sustainable energy sources from 2028. The other three wells that would be developed to meet this demand, within this coalition programme are located at Erasmusveld, Binckhorst and Zuiderpark.

In the figure below the first phase of the Southwest area is pictured. These houses which should be connected in Phase 1 are the green areas (four blocks of flats with 512 apartments) and the pink areas (336 apartments, in 6 blocks of flats with home owner associations). The assumption is that the housing associations will pay for the connections from the network to the houses for their properties, for private owners more funding will be needed from other sources to get the private owners to join the project.

Figure 4: Phasing of investments Southwest



Source: City of The Hague Implementation plan South West

After phase 1 the rest of the Southwest area will be renovated. At the same time research is being conducted to establish whether more heat sources in the area can be connected to the heat grid. As mentioned before for the cost calculation for the whole city, also for the Southwest many unknown variables make it difficult to make a precise forecast of the costs and investment needs.

2.4 Area Development Agency (WOM)

In order to deliver the work, the city of The Hague is considering whether to establish an Area Development Agency (Wijk Ontwikkelings Maatschappij (WOM)) for the programme.

The WOM would be a separate vehicle set up and owned by the city that would acquire by agreement the houses of the housing corporations, potentially using financing from the newly set

up Investment Platform. These houses would have a low energy rating, and therefore would be priced relatively low (average EUR 100,000 per house). The investments for energy efficiency measures will be (partly) financed by the WOM. After ten years the houses can be sold back to the housing corporation, or be sold on the market. As the collateral is houses/properties, the investment will have low risks for third party investors.

2.5 Investment strategy of The Hague till 2030

The Hague is seeking to develop investment vehicles which will be needed to finance the energy transition. The investment needs relate to several aspects of the transition. Next to the ED fund, The Hague also has the Homeowner Association fund (VVE fund) in place. This fund focusses on energy efficiency investments for Home Owner Associations of less than 10 apartments. Having positive experiences with these funds, The Hague is looking at scaling up the existing funds but also at setting up new revolving funds.

Investment needs that the city of The Hague is facing can be summarised as follows:

- The development of Geothermal sources: three short term projects (till 2022), 8-10 projects in total long term (before 2030) Costs are roughly EUR 20 mln per source. ED is proposing to invest in the first three projects, providing 30-40% of financing required by the project, subject to the projects securing co-financing;
- Regional and local infrastructure for the heat network; including pipelines from Rotterdam (ENECO project), and infrastructure from local heat sources into the network and to the households;
- Improvements in housing stock/isolation energy efficiency and connections to the heat network.

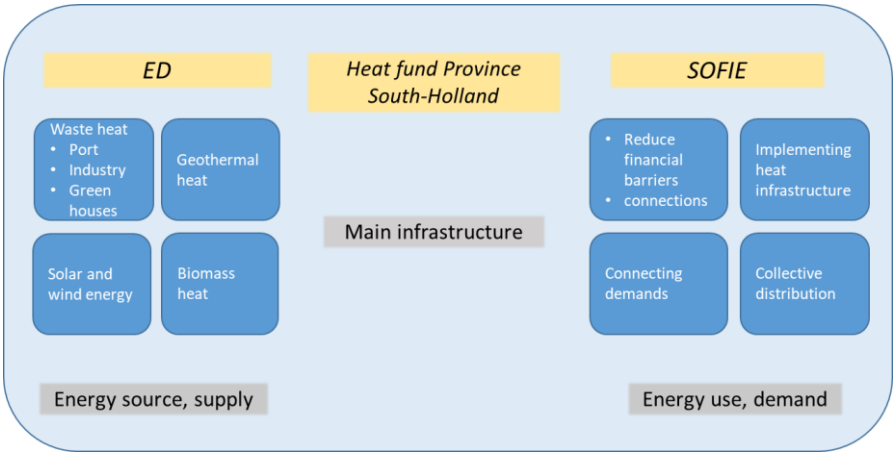
In addition to the ED and SOFIE funds, the Province of South-Holland has set up an investment fund focussing on heat, called the heat participation fund. An amount of EUR 65 mln is mainly available for investments in infrastructure that is needed for the transport of energy, with the final aim to develop a heat transportation company[13]. This fund is managed by the Province (it functions as a limited liability company (B.V.) with the Executive Council of the Province as shareholder). In the figure below you can see the relationship between the funds. The Province, the Managing Authority Kansen voor West (MA) and the cities of The Hague and Rotterdam have bundled their skills and experience to further develop the heat investments in the Province.

Now the Provincial fund is operational, there are three funds which are active in the Province and focus on heat as follows:

- The ED fund will focus on the supply side of energy,
- The SOFIE fund will focus on the demand and user side, and the
- Provincial fund, will focus on the infrastructure investments.

[13] Investment strategy Heat Participation Fund, February 2017. https://staten.zuid-holland.nl/DMS_Import/Provinciale_Staten/2017/Provinciale_Staten_29_maart_2017#

Figure 5: Relation between three funds in Province of South-Holland



Source: investment strategy ED Fund

A major change in the investment strategy of ED (May 2018) has been that part of the funds in ED (which are regional ERDF funds), can be invested in the Province of South-Holland (ca. 50% of the current available funding of EUR 6 mln). The part of the ERDF that comes from the city of The Hague is ring-fenced for projects in The Hague. A second change is that the projects will mainly focus on the supply side of heat, for example drilling and developing geothermal sources. This is shown in the diagram above.

Similar changes have been made for the funds in SOFIE, for the funds available for the city of Rotterdam. As a result, the three funds have the potential to co-ordinate their investment strategies to support the overall Energy Transition across the region. In this context, it is proposed that the ED Fund will seek to prioritise the investment into the supply of energy, principally through the development of geothermal heat sources. If the plan is fully realised the ED fund will successfully attract co-investment to develop the new heat sources that will supply heated water into the heat network infrastructure being funded by the South-Holland Province Heat Fund to serve domestic premises in The Hague, Rotterdam and the surrounding area.

2.6 Future Investment Platform

In parallel to the development of the Investment Strategy of the ED and other funds, The Hague have developed a proposal to create a new Investment Platform to accelerate the transition of housing and other buildings in the City away from gas to sustainable energy, including interventions to improve the energy efficiency of the premises. This platform will have an Investment Strategy focused solely on the City and will provide accessible finance to home owners to undertake the energy efficiency improvement works.

3 Financing the Energy Transition

3.1 A new Investment Platform

The proposed new Investment Platform will be targeted at the programme of improvements to the housing stock in the city and the distribution of heat. Given the scale of the investment needs (estimated at several billions) it will be essential that the public resources committed to the Investment Platform will be able to secure additional private and or public investors.

In the coalition agreement (June 2018)[14] it has been agreed that the city will sell the shares that it has in the ENECO energy company. ENECO is one of the largest Dutch energy providers and the largest in the Province of South Holland. Also the company is one of the 'greenest' electricity providers. The company provides electricity and gas, and has a strong focus on generating sustainable energy. They are actively involved in the Heat roundabout in the Province of South Holland and are investing in biomass and wind energy.

Still, 55 municipalities hold shares in the company, The Hague owns about 17% of the shares and this represents a significant value. In 2020 it is proposed that The Hague (and other municipalities) will sell the shares, and use these resources for the investments in the energy transition. It is yet unclear to whom the shares will be sold (pension providers, investment companies).

It is currently proposed that the proceeds of the sale will be divided accordingly:

- 30% will go to energy transition fund,
- 50% to improving sustainable transport (public transport and bicycle),
- 20% to area developments (public space, green areas and better building quality).

The Hague is currently researching potential structures/investment platforms for bringing together the financial resources of the city and the necessary leverage of public and private investors. Once the different possible legal and financial structures have been analysed, The Hague can decide the best way to channel these funds into projects. The development of the necessary legal and financial structures should be timed such that investment platform should be operational as soon as possible after selling the ENECO shares. A planning is described in chapter 5.

The investment needs are enormous to finance the energy transition in the long term. The potential investment platform will be just one of the means of financing the energy transition.

3.2 Blueprint MRA-RICE project as example

The blueprint developed by the MRA-RICE project proposes a flexible framework that can be applied by cities aiming at setting up a new financial instrument. It highlights all key aspects that should be considered by the city in order to move from its vision and strategy level into the operationalisation.

The vision for the MRA-RICE blueprint is:

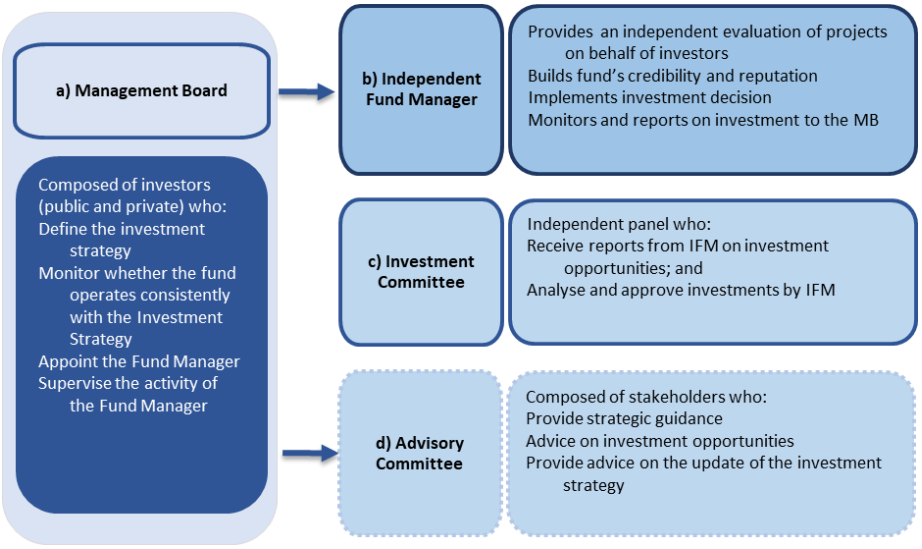
[14] New coalition agreement (2018-2022), approved in city council of The Hague on 6 June 2018

"A city-led financial instrument, independently managed, with an investment strategy aligned to the city's strategic priorities that achieves significant leverage of the public investment".

The blueprint is meant to provide guidance to cities and also to investors to understand how financial instruments function, as the governance is an extremely important aspect to leverage private funding.

In figure 2 the governance is pictured and how the fund manager, the city and external advisors all have their position in the platform.

Figure 6: Blue print governance model



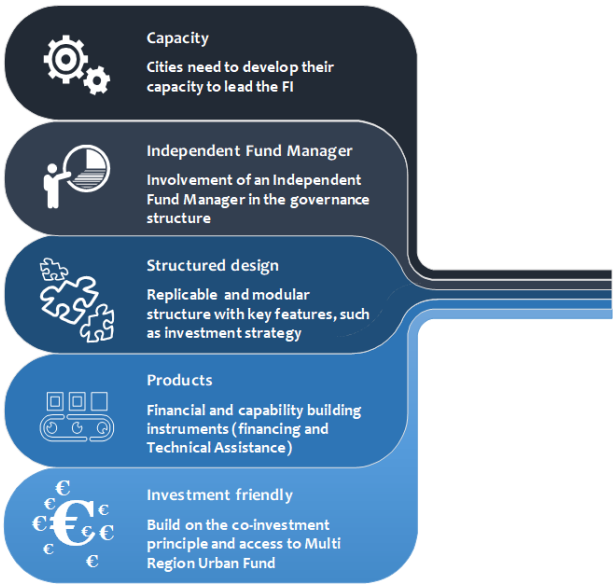
Source: MRA RICE Phase 2 report 2018

To attract private investors to the new Energy Transition Investment Platform (at fund level) it is important that the structure has a clear governance model, and lessons learned from existing funds in The Netherlands will be taken into account. In the model above, which is based on best practice in different countries, there is an independent fund manager, together with an independent investment committee, that is responsible for taking the final investment decisions.

The composition of the investment committee is crucial – it should consist of an independent panel and act independently from the city of The Hague. The role of the Investment Committee is a key factor in any due diligence exercise undertaken by potential third party funders considering investing at a fund level. For this reason it is considered to be an essential part of the MRA RICE blueprint which seeks to create an investor friendly structure capable of attracting significant leverage of the ESIF/EFSI resources.

The conclusions of the MRA blueprint and the main features to take into account to set up a successful financial instrument/platform are combined in the following figure:

Figure 7: Main features of the blueprint of the city fund

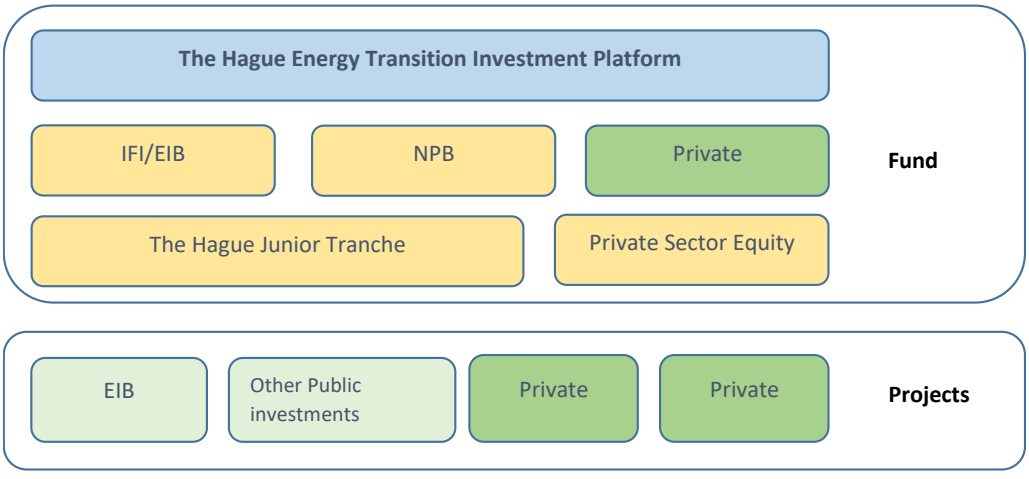


Source: MRA RICE Phase 2 report 2018

In developing the financial structure it is important to define what the financing themes/products will be, based on the underlying financing needs of the projects and the risk appetites of potential funders/investors.

A rough illustrative sketch for the energy transition fund could envisage the following set-up. The Hague would contribute a significant junior tranche of funding (using proceeds from the sale of the Eneco shares) and this could form the foundation of the fund. This would then have the potential to attract fund level investment from national and international finance institutions (such as BNG and the EIB) together with other private investors.

Figure 8: Possible structure of Energy Transition Fund The Hague



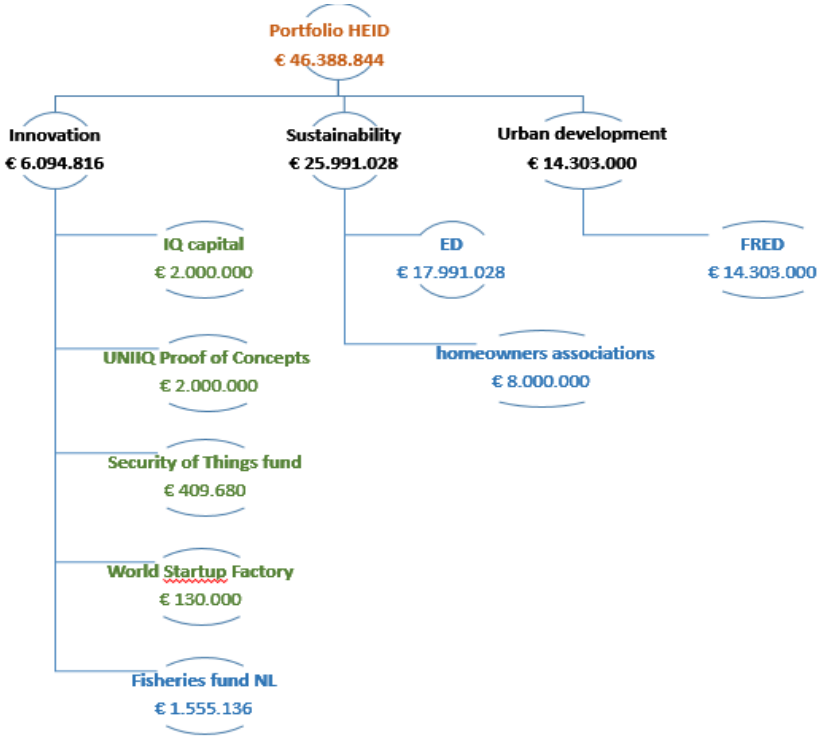
Source: Discussions with stakeholders

4 Scale up Energy fund The Hague

4.1 Existing funds The Hague

To support the development of the Geothermal energy sources, The Hague has also proposed the scaling up of the existing funds in the short term (next three years). In the figure below the funds under HEID are shown. Out of the eight funds, HEID is managing four funds themselves through a selected fund manager. Two of the other four funds shown in green, in which HEID is participating (IQ Capital and UNIIQ) are managed by Innovation Quarter, the regional development agency of the Province of South-Holland. SVn is managing three funds, the ED, FRED and Home owner Association fund (VVE).

Figure 9: Holding Fund structure The Hague



Source: HEID 2018

The ED fund has grown significantly from EUR 4 mln at the start to EUR 18 mln in 2018, see figure 6. In May 2018 new ERDF funding has been added to the fund. At the same time an updated and adjusted investment strategy has been approved by the investment committee.

Figure 10: Growth of ED fund 2003-2018

	2013	2016	2018
ERDF	1.7	6.2	12.3
City Funding	2.0	3.5	4.0
National Funding	0.3	1.7	1.7
TOTAL	**4.0**	**11.4**	**18.0**

Source: HEID 2018

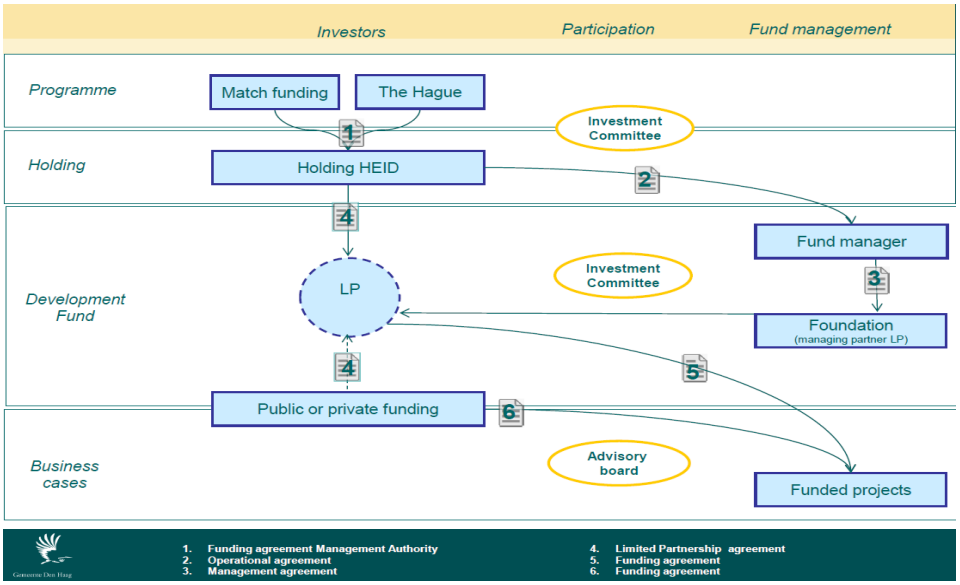
4.2 Fund management ED

The Hague is managing the Holding Fund HEID in house. In 2013 the ED fund selected an external and independent fund manager, SVn. At the start of the funds in 2013, a public tender was undertaken to select the fund manager for ED and FRED. SVn was selected for a period of 10 years for the funds ED and FRED.

SVn is a Dutch foundation which was founded in 1996, as part of the company Bouwfonds. Bouwfonds at that time was owned by the Dutch municipalities. The aim of SVn then was to implement schemes for renovation of the housing stock, supported by grants and facilities from municipalities and the Dutch government. In 2000, ABN AMRO acquired the shares of Bouwfonds, and as a result, SVn became part of a commercial bank. In 2006 the group that SVn belonged to was bought by Rabo Real Estate Group. In 2015 SVn decided to become a fully independent organisation.

As an independent organisation SVn is supported by ca. 95% of the Dutch municipalities, 9 provinces (out of 12) and the Dutch State. It has two directors and a supervisory board of 5 persons[15], which are nominated by the stakeholders of SVn.

Figure 11: Governance structure of ED



Source: City of The Hague

For the management of ED, SVn has selected and seconded two of its employees to the managing partner (the Foundation as shown in the figure above) of the ED Fund. They are responsible for managing the process to support the investment decisions, including acquiring all the technical, legal and financial expertise to appraise the potential investment opportunity. After due diligence by the management of the ED Fund on the projects, subject to the project fitting into the investment strategy of the fund, the project will be sent to the advisory committee of the ED fund, for non-binding advice. This advisory committee consists of two persons of the city of The Hague. After receiving the advice of the advisory committee, the management of ED has the authorisation

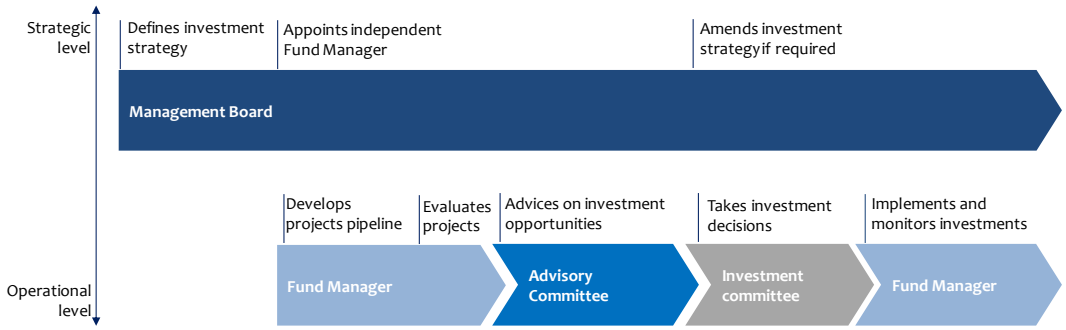
[15] The supervisory board consists of 2 mayors and 3 experts from the private sector.

to sign for the investment decision. The responsibility for these decisions lies within the ED Fund and SVn.

Within the ED Fund structure, the investment committee controls the investment strategy of the fund and verifies whether the projects fit within the policy context of the city. This committee does not take decisions on investments. Within this current investment committee persons are selected that are also from the city of The Hague, on a higher (director) level than the persons in the advisory committee. To avoid confusion regarding the responsibility of the investment committee, its name will be changed to board.

According to the MRA RICE blueprint the role of the different bodies (advisory committee, investment committee and management board) are clear on both strategic and on operational level. In the figure below it becomes clear what role the different bodies play in the investment decision in the blueprint model.

Figure 12: Roles of the different bodies in the blueprint



Source: MRA RICE Phase 2 report 2018

If the activities of the different governance bodies within the ED Fund are mapped onto the MRA-RICE Blueprint, there are some key differences. In particular, the nature of the Independent Fund Manager (IFM) and the composition of the ED Fund Advisory Committee are different from that described in the MRA RICE Blueprint.

Under the MRA RICE Blueprint, the IFM is an independent body that acts on behalf of the city and other investors and reports to an Investment Committee which is also independent of the City. This can often be achieved within a single financial institution that will separate the functions of its investment management team and the Investment Committee to ensure appropriate scrutiny of potential investment propositions. The MRA-RICE case study of the Mayor of London Energy Efficiency Fund, gives an example of how an IFM with industry best practice governance involving an independent Investment Committee is able to attract other public and private investors into the fund.

The ED Fund governance arrangements have been tailored to meet the specific funding challenges experienced by the City to date. They have successfully supported the implementation of the HEID Holding Fund and several financial instruments. The strength and quality of the structure should be recognised as a significant factor in the development of a robust urban development fund of scale that should continue to support investment in the city into the future. The areas of difference between the ED Fund and the MRA RICE Blueprint are relevant only in the context of the potential of the fund to attract other investors at fund level. In this respect, the ED Fund model is less well

suited and this insight could be an important factor in the design of the future Energy Transition Investment Platform, which will have as a core objective the raising of significant co-investment at fund level. In the meantime, the ED Fund can continue its activities, seeking to continue to raise co-investment at project level as it is successfully doing at present.

4.3 Potential options to leverage ED fund

As part of this assignment a number of different stakeholders have been interviewed in relation to the options to use ED Fund to secure further investment in its current investment targets, the development of three geothermal heat sources. Stakeholders contributing have included the city of The Hague, the manager of the HEID, the Dutch promotional bank BNG, the EIB and the fund manager of ED SVn. One of the future options for the growth of the ED Fund that has been identified is that investors are found either on fund level or on project level.

For example, one party that is interested to invest at a fund or project level is BNG. As BNG is the main financial institution in The Netherlands working with and financing municipalities and public bodies, it seems a natural step for BNG to participate in the fund. All potential sources of investment finance will, however, need further discussions with the ED Fund manager regarding potential investments. As BNG have a number of existing relationships with SVn and The Hague, there is the potential for the ED Fund securing co-financing from BNG at project level or potentially fund level, if an existing model of investment between BNG and SVn funds can be adapted.

For investments on project level more detailed information would be needed on the financial and technical aspects of the case to allow potential investors to appraise the projects to assess the risks and investment case. In order to ensure this work is undertaken without delay, it is recommended that The Hague encourages promoters to conclude and present the proposals to investors as soon as possible. Once available The Hague may wish to present the business cases for the new projects to several potential co-investors who may coordinate subsequent appraisal and due diligence activities.

The Hague may also wish to explore other innovative options for raising additional funding. The Manchester Case Study in the MRA RICE project describes how the Evergreen Urban Development Fund was refinanced through the sale of several of its loans to a financial institution. A similar approach may be possible in relation to the geothermal projects. For example, the remaining EUR 6 mln in the current ED Fund (of EUR 18 mln), could be invested together with BNG funding (on fund or project level) into one or more projects. Once the development phase of the project is completed and the geothermal source is operational, the debt could be sold (or the project refinanced) and the proceeds of sale (or reflows) could be reinvested into a further project. At that time also other reflows should come back to the fund for investment in the next geothermal source.

5 Technical Assistance and planning

Within the city of The Hague a team has been formed to transform the national, regional and local policies into a programme that can be implemented and is financially feasible. This team consists currently of ca. 30 persons. This energy transition team is assisted by external consultants for technical and financial advice, focused on technical aspects like drilling and operating the geothermal wells, analysing different scenarios for heating of houses and other buildings, the infrastructure and transport needed and financial impact studies and business cases. As described in Chapter 2, the business case for Southwest is the most advanced of the ten neighbourhoods that will be renovated first. However, as the operation of the energy transition is a long term process, a flexible approach is needed and the different stages of development will need different types of assistance. The start of the operation will begin in Southwest of The Hague, whilst plans are being developed for the next areas.

The existing investment platforms that are contributing to financing the energy transition are the ED fund and the VVE fund. To reach more widespread awareness several information booths have been set up where inhabitants and companies can be informed about the need for investment in buildings and the ways in which the work can be financed.

Currently the city is looking into financing this ambitious operation, for actual implementation and at the same time financing the project management costs. For this reason The Hague is preparing an ELENA request to the EIB. In cooperation with some of the bigger housing associations The Hague is requesting funding from ELENA to further develop and receive investments for the housing renovations. Funding from ELENA can be used for the project management for the investments (feasibility studies, technical studies) as well as for the set up of the new Investment Platform (like soft market testing, advice on procurement etc).

As described in chapter 3, the sale of the ENECO shares could be a kick-starter for attracting more substantial financing of private investors, like the EIB. The sale of these shares is therefore essential for the city to be able to design an investment vehicle in which these investors can participate. In figure 13 a possible timeline is being pictured, with the assumption that the ENECO shares will be sold in the third quarter of 2020. Furthermore the table describes the steps that are needed before and after the sale of the ENECO shares. The decision "Kadernota", which is the official document of approval of the energy transition programme, is expected to be confirmed and approved by the city council in the first quarter of 2019.

Figure 13: Timeline

Action	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021
Decision kadernota*											
Technical/financial feasibility studies**											
Submit ELENA proposal EIB											
Financial strategy											
Soft market testing***											
Sale Eneco shares											
Procurement fundmanager											
Negotiations fund manager											
Create project pipeline**											
Start investing in projects											

* Kadernota is a document which the city council will confirm the agreements for the energy transition

** Ongoing process

*** Soft market testing can start after the Impact summit in The Hague, which will take place on 2-3 April 2019. On this platform National and international investors, pension funds and other institutional investors will gather.

There is however a possibility that sale of the shares will be delayed. In that case the city has to find other ways to attract third party investors to invest in the energy transition. One of the options is that the city is considering is to explore whether a Framework Loan from the EIB would allow them to commence the operations pending the sale of the ENECO shares. This could include the delivery of the range of activities proposed for the Southwest described at Chapter 2.3 above. In addition, The Hague would potentially seek to establish whether part of the Framework Loan could be invested in the ED fund and act as a senior tranche and/or used to invest on project level in schemes funded by the ED Fund.

In addition, it might be useful for The Hague to take lessons from the experience of setting up revolving funds for energy efficiency elsewhere in Europe, including the Baltic States. In Lithuania, for example, the local government established an agency (BETA, Housing Energy Efficiency Agency[16]) who had a promotion role for the initiative. The Agency provided consulting services and assistance for homeowners on matters related to the renovation (modernisation) of multi-apartment buildings. Some of the activities are related to encouraging homeowners to renovate multi-apartment buildings.

A similar operation was implemented in the last programming period in Estonia. In that case, grants were used in combination with technical assistance and loans[17]. The financial instrument provided advantageous loans of up to 85% of the renovation value. It could also be combined with other schemes offering free advice on preparing the project, as well as with rebate-type grants based on the energy efficiency achieved. The potential to combine in a financial instrument a grant component to make the loans attractive and affordable, possibly linked to achieving certain high levels of energy performance.

Overall, the experience from similar schemes is that in addition to making available affordable loan financing other measures such as grants, awareness raising, technical support and planning can

[16] http://www.betalt.lt/en/about-us/100

[17] https://www.fi-compass.eu/sites/default/files/publications/case_study_renovation_loan_programme_estonia_0.pdf

play an important role to incentivise and support delivery of the energy saving measures. Another feature of these examples is the importance of retail financial institutions as financial intermediaries. These types of institutions, which already offer products to individual homeowners, can allow easy access to the products due to their existing network of offices, experience of dealing with customers and exiting lending relationships.

6 Conclusions and recommendations

6.1 Conclusions

The Energy Transition programme in the City of The Hague has significant funding requirements and the potential role for financial instruments to help meet this demand is clear. The MRA-RICE Blueprint can play a role in helping the city design a new Investment Platform that utilises the significant public resources generated from the sale of the ENECO share to leverage significant third party investment to provide finance at the scale required.

The new Investment Platform should, however, be complemented by existing and additional funding resources to ensure that all the elements are delivered. The recent changes to the Investment Strategy of the ED fund and its sister fund in Rotterdam (SOFIE), along with the development of the Province's infrastructure fund will allow these financial instruments to support the programme by funding new renewable energy sources, infrastructure and, potentially the pilot project to carry out energy efficiency measures in flats in the Southwest neighbourhood.

In addition the five elements of the MRA_RICE Blueprint can provide a useful framework for the City of The Hague in developing the project to deliver the programme of works. Taking each element in turn:

- **Capacity** – the City of The Hague benefits from an in-house team of officials with significant experience of financial instruments. As a result of the expertise gained through the implementation of the HEID Holding Fund and associated urban development funds, the city benefits from policy, financial and implementation expertise. This provides the city with a strong foundation to develop a project team to manage the funding elements of the Energy Transition programme;
- **Independent Fund Manager** – the MRA-RICE Blueprint should provide helpful guidance for the City of The Hague in relation to the development of the selection strategy for an independent fund manager for the new investment Platform. The study has also shown the benefits of the current fund manager arrangements for the ED Fund which provides a more flexible model that has ensured the success of the ED Fund. In the future the city may choose to maintain the different types of fund governance to provide complementary types of financial instruments.
- **Structured Design** – the HEID Holding Fund is a sophisticated model that can easily be adapted to support the new Investment Platform. How the new platform would relate to the existing operations would need to be determined during the detailed development of the instrument. Nevertheless, the MRA-RICE Blueprint provides the framework in which The Hague's considerable experience can be applied to develop the final structure
- **Products** – although not addressed in detail in this report, the development of the products for homeowners, housing associations and, potentially the WOM will be critical to the success of the project. The experience of other similar operations elsewhere in the EU has shown how grants and assistance through specialist agencies can play an important part in incentivising homeowners to take the loans for improvement to the energy efficiency of the homes. This will need careful consideration as the financial instrument is developed.

On the other hand lending to the WOM and homeowner associations may be more straightforward, perhaps justifying a different approach.

- **Investment friendly** – the ability to leverage the public funding in the new Investment Platform will be critical to the success of the Energy Transition. This should drive the development of an Investment Platform with an Independent Fund Manager with a governance structure that will attract significant third party investments from IFIs and private investors. The success of the Mayoral Energy Efficiency Fund in London illustrates the scale that can be achieved using an investment Friendly model.

The design of the delivery arrangements for the Energy Transition in The Hague is already well developed and recognises the need to invest time and resource into the development of new and existing financial instruments to support the programme. This should mean that the city is well placed to develop the tools it needs to meet the challenges of financing the Energy Transition in the future.

6.2 Recommendations

Following the conclusions we have formulated recommendations to advise the city of The Hague for taking steps to set up a new investment platform and further elaboration of existing revolving instruments.

1. The Hague should continue its work of planning for the implementation of this new Investment Platform recognising the need to conduct a market study (in which the market gaps, financing gaps and co-financing are the key issues), develop an Investment Strategy, undertake a selection process, select, negotiate and appoint a fund manager and support the implementation. In Figure 13 in the previous chapter a draft planning with the activities is indicated.
2. As the energy transition will take many years a flexible approach is needed. To reflect the flexible phased strategy the Investment Platform should be designed to allow for several rounds of fund raising and investment. At this stage it is difficult to accurately recommend the optimum scale for the first round of investment. This will need to be developed following the market study, having regard to the level of demand identified. However, the first phase should aim to create a fund which combines public and private resources. The funding would preferably come from the sale of ENECO funds– if the ENECO sale is delayed the city could consider raising money through a Framework Loan or other borrowing.
3. The design of the Investment Platform should allow for a range of options for raising funds in the future – this could include examples from other MRA RICE cities including the London MEEF model that secures the potential involvement of several banks (which is also the case in Portugal for the IFRRU fund) and the Manchester model where they sell the loan book – for example once the EE works are completed in a district, the risk profile will be reduced and the portfolio of loans could be sold, thereby raising reflows for reinvestment in subsequent phases. The Hague can explore in the market testing phase before setting up the new Investment Platform if this set up could work in The Hague. All options should be kept open at this stage.

4. In the meantime, the city should consider whether it can undertake the initial pilot project in the Southwest using existing financial instruments such as the ED and SOFIE funds to address any funding gap and support the funding of the required infrastructure.

5. The city should continue to use technical assistance to support the implementation of the Energy Transition. This may include developing local schemes aimed at householders, support in developing larger interventions, for example in conjunction with a WOM, and supporting the work to design and set up the new Investment Platform. The city has already indicated its intention to seek funding from EU platforms such as ELENA and the European Investment Advisory Hub. The process to access funding from these and other EU platforms are subject to their own approval processes. In order to maximise the potential to secure such resources, the City will need to demonstrate its readiness to proceed, for example in relation to the ENECO sale and commencement of the pilot project in the Southwest neighbourhood.

6. The energy transition touches on many individual households and businesses. The city of The Hague should, therefore, seek to learn lessons from similar operations undertaken at scale elsewhere in Europe. In those cases, support measures targeting householders have been important to get the investments off the ground, meeting the concerns of individual homeowners who are being asked to assume a financial liability. This is already recognised in the city and measures such as the VVE fund and the information booths are already set up. The Hague should continue to develop this offering and factor it into the design of a future Investment Platform which could, for example, include one or more funds which work with retail financial institutions which already offer products to individual homeowners (and already have a network of offices, experience of dealing with customers and exiting lending relationships).

6.3 Acknowledgements

We would like to thank the team at the City of The Hague and their partners who have contributed significantly to this study. In particular we are grateful for the support of the project manager at the Heid Holding Fund, William van den Bungelaar, the team at SVn including Richard Luigjes, Nico van Est and the Energy Transition at the team led by Martin Andriessen. In particular we would like to thank Ton Overmeire who has led the team at the City of Hague engaged in this study and the wider MRA RICE project for his continued support throughout the project.