



Key Decision Points and Executive Summary

<i>Sponsor</i>	Ministry of Foreign Affairs, Department of Stability and Humanitarian Aid, Migration and Development group
<i>Beneficiary</i>	Stichting GreenfieldCities
<i>Budget requested</i>	€ 398.000
<i>Type of contribution</i>	Grant
<i>Duration project</i>	10 months

GreenfieldCities (GFC) is a Dutch ANBI foundation working to help mitigate forced migration. GFC works with refugees (*statushouders*) and Dutch education and industry partners to develop sustainable urban areas in regions of refugee origin. GFC aims for solutions that are ultimately economically self-sustaining forming an attractive private sector impact investment proposition.

After 2 years of preparation, invited by Jordan stakeholders, GFC is ready to commence the feasibility phase for developing a pilot: a clean tech campus in Mafraq, Jordan. A key goal is to create a truly lasting (hence sustainable) *enabling environment* for job creation for Jordanian and Syrian people.

Key deliverables should provide answers to all important feasibility questions: to what extent is it financially, legally, politically, technically feasible and are public and private stakeholders on board? Can we stimulate job creation in the numbers we foresee? Can the proposition attract impact investors?

The campus development and the activities at the campus should ultimately create 1.500 direct jobs and 1.500 indirect jobs (in total: 3000 jobs). The feasibility study will also include testing the possible contribution to SDGs 4 (quality education), 5 (gender equality), 8 (decent work & economic growth), 12 (responsible consumption and production), 13 (climate action), and 16 (peace, justice and strong institutions). The study will provide specific project goals for these SDGs. Last but not least the study will include a rough order of magnitude estimation of the regional scalability potential of the solution.

Figure 1 presents the timeline of the project including the steps after the feasibility study has finished. If all so-called decision gates down the road are passed successfully, the first phase of the campus could be built in 2 years' time.

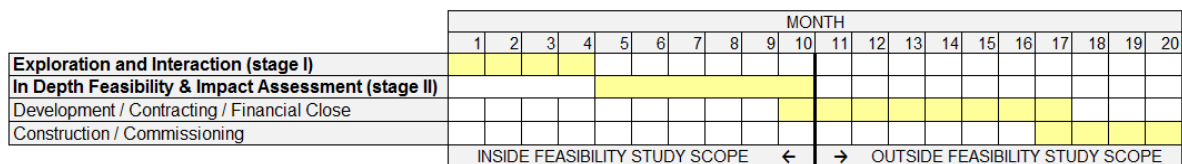


Figure 1 Timeline feasibility study including next steps.

The study activities will also be used as a learning by doing approach for strengthening the GreenfieldCities organization itself. The lessons learned will be used to increase focus on the necessary resources and processes and gradually transition GreenfieldCities to a well scaling international social enterprise. At the same time typical policy issues will become more clear: could this type of innovative approach help reduce migration to the EU?



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1. Introduction

1.1 Background Situation

The European Union faces a circle of instability around its territory that poses a challenge for EU-governments and citizens. Youth in the Middle-East, Northern Africa and further southwards on the African continent face insecurity, unemployment and a lack of perspective on a better future in their countries. Many take the risk to cross the Mediterranean under life threatening circumstances to reach the EU. Countries such as Greece and Italy have to deal with the stream of mixed migration, as neighboring countries close down their borders and it turns out not to be easy to create consensus among all EU member states when it is about dealing with migrants. There is decreasing political support within EU member states to offer refuge to migrants on EU-territory. However, with upcoming consequences of climate change and resource-scarcity in regions where the size of the population rather grows, more migration streams to the EU can be expected, both as a result of conflict and/or economic malaise. The time is now for exploring alternative and more effective migration mitigation measures.

1.2 Vision GreenfieldCities and Relation to the Project

GreenfieldCities (GFC) aims to contribute to the reduction of migration by giving a sustainable economic boost to the migrants' regions of origin through the development of *enabling environments*. These enabling environments, the "greenfield cities", act as showcase for sustainable social, technological and economic development for a wider region. GFC gathers specific local needs and opportunities in target regions and translates these findings into concrete development initiatives for enabling environments in the form of "campuses". A GFC campus has a compact footprint, but it includes most social, economic and infrastructural features of a modern smart-city. It should literally be a physical and visible place where locally relevant job, education and living opportunities can be found and created.

GFC provides a long-term commitment to projects that nurture a campus to further growth, increasing its impact on the wider region. GFC provides that long-term commitment by not only taking responsibility for the development of a campus, but also by operating its key infrastructure parts and continuously promoting social, gender, economical and institutional development while using the campus. GFC aims to complement existing or prospect plans and programs of national authorities, embassies and development agencies through partnerships. Also in that sense, the GFC programs on a campus are demand-driven. GFC aims to maximize the sense of ownership among users of the campus and strives for full integration of the campus and its projects in existing (semi)urban societies. Ultimately, GFC seeks scaling and repetition of the concept to many regions of refugees' origins driven by attractiveness for Impact Investors and authorities both in the EU and in the region. In this way GFC aims to tackle the most dominant drivers for emigration: unemployment and instability due to unsustainable living circumstances.

A specific part of the GFC vision is that talented refugees, currently residing in the Netherlands bring in substantial parts of the local perspective and local knowledge. The majority of the GFC team consists of Syrian nationals and working for GFC helps them to improve their international career perspectives and integration in Dutch society as well. In its inception statute, GFC embraces a subset of the Universal Declaration of Human Rights and for day to day decision making, the UN Sustainable



Development Goals (SDGs) are important GFC guidelines. It is therefore consistent with the GFC vision to attempt to qualify and quantify a number of impact parameters for selected SDGs.

Summarizing, the three main components of the GFC vision are:

1. Bring local needs and local opportunities together in the campuses
2. Ensure that the social-, technical- and financial designs for the campus are truly sustainable
3. Commit to the campuses without end-date in an impact investor funded business model

1.3 From Vision to Pilot-Project in Mafraq, Jordan: Results Pre-Feasibility Study

Translating the GFC vision to concrete results requires research and development of a method and approach for the implementation. After dozens of interviews with experts, market research and workshops, GFC narrowed down the geographical location for a first project to the city of Mafraq. GFC decided to test the idea for a pilot-project with the size of a campus in the Special Economic Zone (SEZ) of Mafraq in Jordan. Mafraq is one of the most affected Jordanian cities by the Syrian refugee crisis, but also offers potential with the presence of many Syrian nationals, the *al Al-Bayt* university, its proximity to the city-center of Mafraq and Za'atari refugee camp, and its location at roads that are connected to Irbid, Amman, Damascus and Baghdad.

The project purpose for the campus in Mafraq resonates with the GFC vision: giving *a sustainable economic boost* to Mafraq region through the development of an enabling environment in the form of a campus in the King Hussein Bin Talal *Special Economic Zone* (KHBTDA SEZ) in Mafraq where jobs, educational opportunities and housing for Syrian and Jordanian nationals (18-30 years old)¹ are created. The campus should keep talent from Mafraq (from Al-Bayt university for example) close to the city so that they do not have to move to Amman or even abroad to find jobs matching their capabilities. GFC envisions the campus as an enabling environment where three functions come together:

- Working (job creation)
- Learning (education)
- Living (housing)

Market research has also shown that quick results are important for success in Jordan. This is a challenge as bureaucracy and the complex regulatory framework in Jordan could lead to campus development times of more than 5 years. The existing spatial planning framework for the SEZ will partly alleviate this. Furthermore, quick physical results and flexibility on the campus can be reached by working with a *pop-up concept*. The pop-up concept for the campus is defined as the use of temporary, but high quality modular civil infrastructure (think about modular architecture) that is easy to be transported and replaced. As the campus develops over time, temporary pop-up components will be replaced by permanent infrastructure. The temporary components can be used somewhere else, preferably at another GFC mission, and are thus not wasted. Such pop-up concepts are easy to deploy, do not require much time to place, can benefit from partial exemptions from permits and reduce design and on-site construction risks. Moreover, even the pop-up concept guarantees a high sustainability performance. Finally, the pop-up concept also increases the Dutch stake in the concept as Dutch manufacturers can develop the components. This constitutes an international trade opportunity.

¹ GFC primarily aims at Jordanian and Syrian youth, because their unemployment rates are very high.

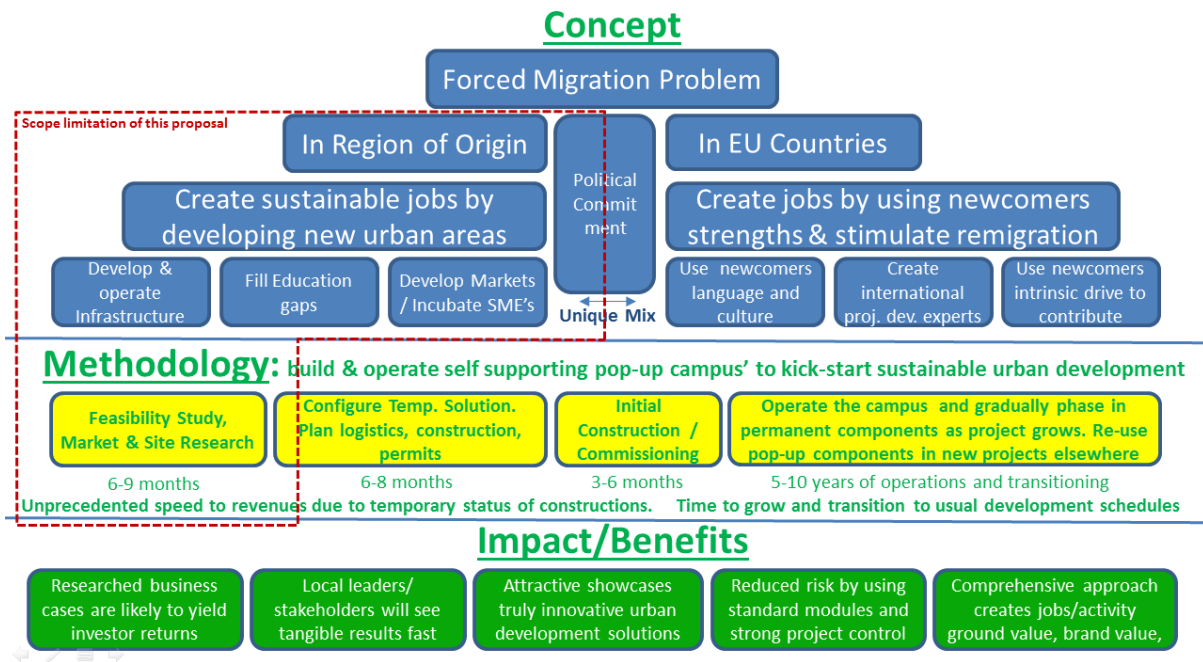


Figure 2 The project scope and relation between concept (blue), pop-up method (yellow) and impact (green). The red dotted line indicates the scope of the feasibility study.

The campus should function as a small sustainable 'village' that is still well-connected to Mafraq. It will need to create jobs relevant for the future of Jordan and therefore support the regional economy as well. In order to create jobs and educational opportunities, the campus should attract people, businesses, institutions and capital. The campus design and positioning will include a number of features to boost attractiveness for these target groups:

- The location is good: close to the city and *al Al-Bayt university*, inside the SEZ (tax breaks and clear regulatory framework) with good road- and rail access.
- Sustainability and high quality of services (water, energy, connectivity) on the campus.
- Good governance and continued support that GFC offers during the operation phase of the campus.
- Visibility of the innovative character of the campus, including small scale solar PV, wind turbines, greenhouses, attractive public space, leisure, job fairs and other activities.
- Practical access to education for both higher- and lower educated Syrians and Jordanians.
- Proximity/concentration of like-minded people and companies in specific sectors.

To create a successful social-economic environment that promotes innovation, a mix of actors and functions are needed. To be able to determine what mix of sectors and job types would be most relevant for the future of Jordan, GFC conducted market research together with the 1 CMI Command of the Netherlands MoD and undertook three research trips to Jordan. This resulted in five sectors that are promising to explore:

1. IT
2. Agriculture
3. Energy
4. Water
5. Leisure



[Ad 1. IT](#)

There is an ongoing national IT-program in Jordan with potential to grow and job opportunities for the next years. One of the focus points could be to close the existing gap between IT graduate skills and market needs. This can be achieved by creating a post-graduate IT skills development program, very much like the successful [“Hack your future”](#) initiative in Amsterdam. GFC has reached out to the global Python programming community to set up a “buddy to certification” system. Furthermore an IT startup incubation program can be started.

[Ad 2. Agriculture](#)

Contemporary agriculture counts for 60-70% of Jordan’s water usage due to the cultivation of water-intensive crops and inefficient water use. There is the need and the potential to grow less water-intensive crops for different markets, but the agricultural sector is conservative and often lacks access to capital. One of the focus points could be to demonstrate farmers that the cultivation of less water-intensive crops can be done effectively and economically in a semi-commercial *farmer field school* on the campus. GFC partners with Wageningen University & Research can set up such a program.

[Ad 3. Energy](#)

The demand for energy in Jordan increases fast and Jordan covers over 95% of its needs by imports. This makes the country vulnerable to supply shocks as was demonstrated in recent years when cheap Egyptian natural gas had to be replaced with expensive fuel oil. High energy cost-prices created large budget deficits and slowed down private sector growth. As from last year, the new LNG terminal in Aqaba came on-line, restoring access to relatively cheap natural gas. Nevertheless, the energy situation in Jordan is dire and improving efficiency and adding more renewable energy power is necessary. The GFC campus can contribute by fostering educating designers and engineers and foster entrepreneurship in renewable energy initiatives. Specific focus will be on renewable energy integration into the existing grid system, and energy use reduction in the buildings.

The design of the Campus obviously will aim itself at energy neutrality and energy production. In general this already leads to more local jobs, also in the operating phase of the pilot. During this study the feasibility of setting up a local sustainable energy company that will service both the Special Economic Zone and Mafraq. It can be expected there is a large potential for energy saving and renewable energy to unlock in these areas. This will result in substantial investments in the local economy and will create more sustainable jobs.

[Ad 4. Water](#)

Jordan is in the top 5 of water scarce countries in the world. Jordan has several mega-projects in the pipeline to reduce the current practice of depleting fossil aquifers. These projects progress very slowly and lack local focus. The country offers opportunities for small-scale initiatives related to, efficient use, sewage treatment and other water-harvesting techniques. One of the focus points in the Campus could be to use the campus own water management and recycling system to educate more Jordanians and Syrians in water-management practices, and develop the conditions for replicating the Campus own water management system elsewhere.

[Ad 5. Leisure](#)

According to USAID (Report: Jordan Tourism Sector Assessment, challenges today, opportunities tomorrow, 2013), Jordan is well-positioned to move from a regional, multi-country tourist



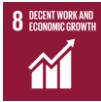

destination to a standalone destination with a portfolio of tourism products with year-round appeal for foreign and domestic visitors. That same report also states that Jordan should increase its professional hospitality workforce, reduce dependence on foreign workers and improve public and private sector collaboration. Mafrq currently has virtually no hospitality sector and the campus could introduce and stimulate the sector. Initial market research already indicated a 40-50 room hotel facility is a quick win opportunity. Such a hotel can serve as workplace and a place where people get training on the job. Last but not least, a hotel can add to the liveliness of the campus and can attract visitors to Mafrq and its surrounding historic sites.

The Campus will ultimately attract and offer space for activities from more sectors than the 5 mentioned above. One can think about shops or healthcare functions for example. During the feasibility phase elaborate research will be done locally to check which (combinations of) sectors are most attractive. It might occur that the focus will be on less- or other sectors after the feasibility study than initially described in this proposal.




1.4 Campus Pilot-Project Outputs (After Realization)

Outputs are defined as the concrete results and impact when the Campus has been built and is operating. At this stage, based on the research GFC did so far, some outputs and impacts can already be predicted with moderate levels of confidence. Other outputs are desired but much less sure and the feasibility study should help to assess how outputs can be optimized and impact maximized. For reasons of aligning project output with an internationally recognized policy framework they are related to a number of relevant SDGs, see Table 1. Apart from these project outputs, there is the important output of building the campus itself, its infrastructure and operations.

Table 1 The main targeted project output/impact related to the most relevant SDGs for the pilot-project.

SDG	Description	Indicators/ impact performance metrics	Error margin pre and post feasibility study
	Decent work and economic growth	<ul style="list-style-type: none"> number of created direct jobs and level of wages (1.500 @ €22.000/yr average) number of created indirect jobs and level of wages (1.500 @ €12.000/yr average) Avoided costs for reception and integration for migrants in EU/NL (750 @ 150.000/1st 5 yrs) 	Pre: 50% Post: 10%
	Quality education	<ul style="list-style-type: none"> Post-education professional success (>80% that finds job within 3 months) 	Pre: 50% Post: 10%



SDG	Description	Indicators/ impact performance metrics	Error margin pre and post feasibility study
	Climate action	<ul style="list-style-type: none"> ● Avoided GHG emissions (>2.5 kton/yr and > 40 kton as 15 year total) ● > 100% renewable energy supply ● Building energy intensity (kWh/m2/yr) <ul style="list-style-type: none"> ○ office: <65 ○ home:<45 ○ education:<55 ● Water usage (< 20m3/person/yr), 	Pre: 20% Post: <5%
	Gender equality	<ul style="list-style-type: none"> ● participation grade of women (>50%) ● equal rewarding target (100%) 	Pre: 50% Post: 5%
	Peace, justice and strong institutions	<ul style="list-style-type: none"> ● Percentage of Campus users that trusts and appreciates the GFC governance (Campus management & operations) practice (>80%) 	Pre: 50% Post: 10%

1.5 Overall Planning of Pilot-Project

Based on prior research, the project will start with a 10 month feasibility phase that is also the scope of this proposal. After that, a 6 month development phase should lead to a permitted and shovel ready project, allowing for the pop-up phase to be executed. This pop-up phase will create around 250 jobs. Based on the success of the pop-up phase and the created enabling environment, more permanent infrastructure and economic development activities will see the Campus grow to its targeted 3000 job size in around 5 years' time.

1.6 Organization GreenfieldCities

GreenfieldCities is a dynamic foundation based in Arnhem that exists since February 2016. The foundation board consists of Mr. Joris Benninga and Mr. Arie van Beek who currently work with six refugee talents from Syria and Eritrea. These talents are connected to expert coaches made available by partners, to develop their capacities in order to play an ever growing role in the organization. GreenfieldCities has a preliminary supervisory board and intends to form an advisory board of experts to help in the development of GreenfieldCities' methods.

Why GreenfieldCities?

GFC offers advantages with its innovative concept and methodology.

Mission and Vision GFC

- Aims at aligning Dutch and Jordanian interests.
- Develops/Defines a proposition that is attractive for impact investors.
- Aims at combining job creation and education with sustainability and the future of Jordan.
- Aims at supporting Jordanian stakeholders to commit long-term by leading the operation of the campus.



Achievements GFC

- Has developed an innovative concept and methodology that leads to quick results (pop-up).
- Has tested the waters with a business case to build a pilot campus to key Jordan stakeholders and Dutch stakeholders.
- Has created fertile ground for business potential of Dutch stakeholders in Jordan.
- Has developed a proposition that is attractive for impact investors.
- Has experience for over a year of work with Syrian refugees.
- Has a broad network in Jordan and The Netherlands that leads to easy recruitment, connections with experts and partnerships.
- Founders have a track record in company and solution building based on product market combinations at pre-commercial stage. This track record in the energy transition vertical can at many aspects be compared to creating the enabling environments like GFC envisions. In both cases is about managing a complex stakeholder problem, ultimately leading to creating trusts, high levels of confidence, and closure of bankable investment propositions

1.7 Funding Focus

This proposal aims at funding the feasibility phase by the Ministry of Foreign Affairs. GreenfieldCities will endeavor to attract impact investors for the development phase and the construction phase of the pilot-project in Mafraq. In 2016 and 2017, already dozens of meetings have taken place with foundations and private sector investors. Contacting potential investors has proven to be relatively easy. Getting them to fund GFC is more difficult. The feedback that impact investors generally gave to GreenfieldCities in those meetings is that they judge the idea positively, but need more specific cases and better understanding of risks. The feasibility study process and deliverables are key tools for discussing specific investment opportunities with these parties. The development of the pop-up concept was partially fueled by investor feedback. Moreover, GreenfieldCities expects that it is likely that for the development phase additional grant funding in the range of €300.000 to €500.000 can be attracted as many impact investors offer staged financing that includes feasibility and development financing. Annex B. has a list with potential investors that GFC already talks to.

2. Goals and Scope of the Feasibility Study

2.1 Goals

The feasibility study for the Mafraq Clean Tech Campus pilot-project has three main goals:

1. To assess and judge with a high level of confidence whether and against what conditions it is feasible to practically execute the GFC methodology for the campus in Mafraq and to what extent it is feasible to scale the concept.
2. To assess and judge with a high level of confidence whether and to what extent it is feasible to achieve the contributions (expressed in metrics) to the most connected SDGs through the campus in Mafraq.
3. To assess and judge if the GFC business-case is attractive for private sector impact investors (“attractive” implies willingness to be financially involved in the next stage of the development of the campus).



2.2 Scope

The feasibility study focuses specifically on the pilot-project of the campus in Mafraq, but also tests to what extent it is feasible to scale the concept in Jordan and other areas. The starting point for the feasibility study is based on previous market research, interviews with experts, workshops and research activities in Jordan. The feasibility study includes (1) the feasibility of the project itself and the possibility for a rough estimate of the possibility for growth beyond the pilot-project, (2) an SDG impact assessment of the project and (3) a financial feasibility study related to the attraction of private sector impact investors.

The feasibility study will not include work on the development of the GFC team and proposition in the Netherlands beyond the necessary, basic organizational functions to be able to perform a high-quality feasibility study.

3. Action Plan Feasibility Study

The feasibility study is divided in two stages:

- I. Exploration and Interaction
- II. In-depth feasibility study including an impact assessment.

In Figure 3 the two stages are visualized including their main activities.

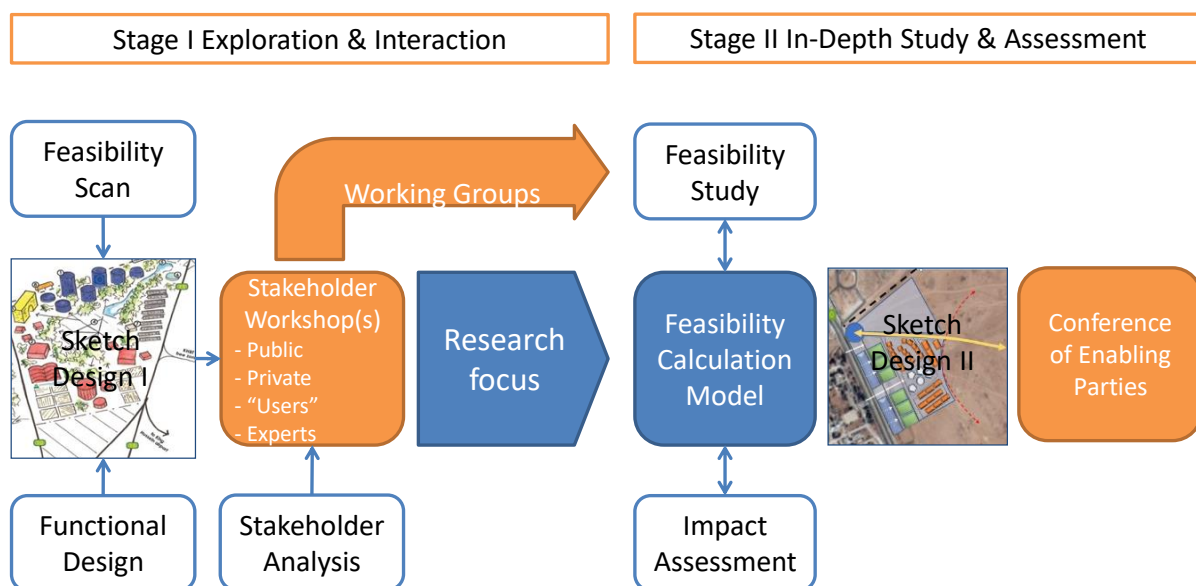


Figure 3 Two stages and key tasks and elements in the feasibility study.

The starting point of this feasibility study consists of the results of previous studies as described in Section 1.3. The final results of this feasibility study will be presented in reports and during a *Conference of the Enabling Parties*.

Stage I: Exploration and Interaction

In this stage GreenfieldCities:

1. Performs a stakeholder-analysis
2. Scans the key elements for feasibility



3. Makes a sketch design I for the campus
4. Discusses the concept and sketch design I with key stakeholders of the campus through workshops, focus meetings and meeting with (potential) partners.

Task I.1 Stakeholder-Analysis

The stakeholder-analysis identifies stakeholders in the Jordanian and the Dutch context, analyses their interests and their drivers, assesses their position towards the pilot-project and assesses their power and influence in the Jordanian, Dutch and EU field. Per stakeholder we explore as well whether and how they can contribute to the project, and what GreenfieldCities can specifically do for them. We will informally perform stakeholder analyses on a monthly basis with input from desk-research and meetings in the field to gain an up-to-date overview of the playing field. This analysis supplies input for our strategy and provides input for the list of participants for the workshops and the way to organize them. All (potential) partners, stakeholders, partnerships and updates are processed and documented in an already existing 'partner directory'.

Method(s): Desk research and meetings in Jordan

Deliverable(s): Sheet per stakeholder with interest, position, influence and contribution

Task I.2 Feasibility Scan

Key elements for the feasibility scan include:

- *Economical:* explore the needs and potential for jobs in our five sectors for sustainable economic development of Mafraq region.
- *Educational:* explore the needs and potential for education in our five sectors for sustainable economic development of Mafraq region.
- *Legal:* analyze which permits and approvals are necessary, which procedures have to be followed and analyze the rules and regulations for the development of the campus at our preferred location in the SEZ.
- *Spatial:* analyze current facilities at the site such as the energy-, water-, IT- and waste-system and assess the potential to create links between the campus and Mafraq town.
- *Technological:* assess the availability and-state-of-the-art of various technological solutions and the potential for implementation of our technologies in the specific context
- *Financial:* analyze the financial feasibility for the campus on the basis of key figures, a cost estimation for the project and the identification of potential impact investors for the next phases of the project.
- *Environmental:* assess which environmental issues may occur and what their effect can be on the pilot-project's permits, costs and development path
- *Sustainability:* analyze the possibility for integration of sustainability showcases in the buildings itself, the site, the infrastructure, the systems and the operation of the campus.
- *Social:* assess potential needs for future users of the campus, gender equality and to increase the likelihood of a lively campus that is accepted and used by Jordanians and Syrians.
- *Political:* assess the support of the Jordanian, Dutch and EU politics for the concept and the particular pilot-project in Mafraq.
- *EU values:* analyze which EU values can be integrated in the design and implementation of the campus and how these can be integrated,
- *Risks:* draft a list of risks



- *Scalability*: assess the potential for growth of the campus, the transition from temporary pop-up structures to more permanent structures and the enthusiasm to implement a similar approach in other contexts.

GFC will search for examples of similar entities as the campus both in Jordan and the Netherlands (e.g. business-parks or knowledge hubs) and integrate findings in the feasibility scan to identify challenges, lessons learned and recommendations to be related to the key elements of this scan.

Methods: Desk research, interviews, surveys, workshop(s), focus meetings and visits of stakeholders and potential partners

Deliverables: a. Memo with results of the feasibility scan of all the elements

b. A list of workshops participants based on this scan

c. List of interested impact investors and minutes of meetings

d. List of potential functions in the campus (Program of Requirements)

e. Challenges, lessons learned and recommendations from similar entities

Task I.3 Sketch Design I

A sketch design of the campus in the form of impressions is not only necessary to underpin many aspects of the feasibility study, but is also key in mobilizing expert-knowledge and political and financial support. Based on previous sketches and the results of the feasibility scan, key design parameters and functions for the campus can be drafted, including potential links to Mafraq town, the *al Al-Bayt University* and other functions in the environment. The existing railway for instance could be used to link public space in the campus with the public park in Mafraq. We propose that a sketch design I is made by groups of 4th or 5th year students of the Faculty of Architectural Engineering of the University of Jordan in Amman as a design assignment for their university. This way we gather different perspectives on the campus, we embed the Jordanian values and gather multiple design variations of which we will select one for further development. Our contact with the dean of this faculty will ease the process of organization. The design(s) will be used for the workshop(s), interactions with stakeholders and partners, and for external communication purposes.

Method(s): Meetings with designer(s) and the production of 3D-impressions and maps

Deliverable(s): Sketch Design I (3D-impressions and maps) in electronic format and on paper

Task I.4 Interaction with Key Stakeholders and (Potential) Partners

The results of the feasibility scan and sketch design I will be discussed in a workshop setting in Jordan. Input of key-stakeholders related to results of the scan, functions for the campus, opportunities for job creation and educational opportunities, connectivity to the environment and the design will shape the GFC concept in the specific context and is invaluable for the support of stakeholders. Participants for the workshops may include but are not limited to politicians, policy makers, influencers, decision makers, potential users for the campus, Mafraq citizens, Civil-Society organizations in Mafraq, grassroots organization in Mafraq, experts on our five sectors, potential impact investors and (potential) partners. Focus meetings will be held with specific groups to ensure input from all. GreenfieldCities aims to work with partners in key areas of expertise and form them in working groups per sector so that they can provide key expertise for specific themes. We also discuss the results with (potential) partners and try to bind them to the pilot-project.



Participants: Key stakeholders that can contribute to the realization and success of the pilot-project.

Duration: Full day

Location: Jordan, suggestion: Dutch embassy in Amman

Goals workshop(s):

- Inform about project and progression
- Test key elements of feasibility and design
- Generate new ideas for next stages and embed concept in the specific context
- Find variants for the design and key variables for the feasibility calculation model
- Create enthusiasm, commitment and support
- Generate input for the risk-analysis
- Create working groups around specific areas and specific knowledge that can advise GFC during the in-depth feasibility stage of this study.
- Gain the “user” perspective to get a better understanding of the user needs.

Method(s): Workshops, focus meetings, working groups and meetings with (potential) partners

Deliverables: Workshop slides, report summarizing the results of the workshop(s) and focus meetings, and Loi's, MoU's or term sheets from partners

Stage II: In-Depth Feasibility Study Including Impact Assessment

In stage II, GreenfieldCities:

1. Performs an in-depth feasibility study
2. Assesses the impact on key aspects of the pilot project
3. Makes a sketch design II
4. Organizes a *Conference of the Enabling Parties*

The working groups as created during the workshop(s) in stage I will be actively involved in tasks 1 and 3 of this stage.

Task II.1: In-Depth Feasibility Study

The elements of the in-depth feasibility study are similar to the ones of the *feasibility scan* of stage 1, but this study is more detailed. It will also be analyzed what the financial feasibility is for two or three development scenarios and it will be estimated what the overall scalability of the campus is. The interest of impact investors and/or private partners and/or public partners to invest in the next phases of the project should be tested in this stage. It is furthermore assessed how Jordanian and EU values can be aligned and how the political support can be secured in Jordan and the Netherlands.

Method(s): Desk research, interviews and focus meetings, model calculations

Deliverable(s): Assessment feasibility, program of requirements and LoIs or MoUs of investors for development funding

Task II.2: Impact Assessment

The impact of the campus will be assessed based on project-output metrics. A calculation model will be developed to facilitate the optimization of campus parameters and variables (such as functions from the program of requirements) and to facilitate the assessment of impacts on relevant aspects. These include:



- *SDG 8*: Economic output parameters such as investments, growth, the number of jobs, increase of wages, and improvements in our five sectors, such as an improvement in agricultural production methods, avoided costs for reception and integration of migrants in EU/NL
- *SDG 4*: Effect of education on employability and problem-solving of Jordanian issues
- *SDG 13*: Effect of the climate demonstration: environmental output parameters such as GHGs and other avoided fossil fuel emissions and including:
 - Renewable energy production and energy savings (SDG 7)
 - Reduction of used water (SDG 6)
- *SDG 5*: Ratio female/male students; employed women/men
- *SDG 16*: Trust in Campus administration

A rough order magnitude projection of this assessment will be made assuming the development scenarios used under Task II.1

Method(s): Desk research, surveys and model calculations

Deliverable(s): Impact assessment report and program of requirements for most feasible option with the largest impact

[Task II.3: Sketch Design II](#)

Based on the program of requirements and sketch design I an improved sketch design will be made by a design expert and functions as input for discussions with stakeholders and partners.

Method(s): Meetings with designer(s) and the production of 3D-impressions and maps

Deliverable(s): Sketch design II (3D-impressions and maps) in electronic format and on paper

[Task II.4: Conference of Enabling Parties](#)

At the end of stage 2 an international *Conference of enabling parties* will be organized. At the conference the results of the study will be presented and discussed for a wider audience. Formal signing of key MoUs, LoIs or contracts could be part of the conference.

Duration: Half a day + evening.

Location: Amman

Method(s): Conference and meetings

Deliverables: Conference slides and a report summarizing the results of the conference

4. Format Deliverables Feasibility Study

The deliverables from stage I and stage II of the feasibility study will be synergized in a feasibility end Report, an impact end Report, a campus development plan and later a feasibility update (see Table 2). These deliverables need to convey the conclusions of the feasibility study to stakeholders and offer clear steps for the next phases of the pilot-project. As the feasibility phase progresses, the (nature of the) deliverables may slightly change, but the goals and the scope for the feasibility study remain the same.



Table 2: Proposed deliverables feasibility study

Deliverable title	type/content	target group	publ. date	format	language
Feasibility end Report	comprehensive, high level of confidence feasibility info	Broader stakeholder group	t+9 months	doc,ppt, xls	eng
SDG Impact Annex	specific, high level of confidence feasibility info	Broader stakeholder group	t+9 months	ppt, xls	eng
Campus Development Plan	specific, high level of confidence feasibility info	Broader stakeholder group	t+9 months	ppt, xls	eng
Feasibility update	summary of feasibility report	Broader stakeholder group	t+10 months	video,www	eng, nl, ar.

5. Organization and Team for the Feasibility Study

The feasibility study is going to be performed by a team of Dutch, Syrian and Eritrean nationals that will be partly based in Arnhem, The Netherlands and partly in Mafraq, Jordan.

Team GFC NL:

1. *Mr. Joris Benninga* Founder and Chief Executive Officer
2. *Mr. Arie van Beek* Founder and Chief Sustainability Officer
3. *Mr. Mohamad Hassoun* IT Manager
4. *Mr. Wasim Othman* Marketing Manager
5. *Mr. Salim Nouri* Medior Researcher, Liaison Officer
6. *Mr. Nahom Tesfamichael* Finance and Administration Manager

Team GFC JOR:

1. *Mr. Hedzer Roodenburg Vermaat* Country Director Jordan
2. *Ms. Syrian or Jordanian national* Research Officer

The feasibility study covers a wide area of technical and non-technical issues both in the Netherlands and in Jordan. A successful study requires senior knowledge and experience in executing feasibility and project development work, as well as in public sector and private sector negotiations and deal making. GFC is well positioned to take care of the overall organization of the feasibility study. Specialized expertise will be hired, when necessary such as design expertise, cost estimation expertise and legal expertise.

For every collaboration that GFC concludes related to Jordan services or vendors, the organization applies a “local first” policy which entails that Mafraq town is the first place to search for expertise, service providers, partners in our five sectors, suppliers and more. Only if we cannot secure the adequate price/quality ratio in Mafraq, we select partners in Amman or Irbid, and later in The Netherlands and other EU member states. The Dutch team will consist mostly of talented (Syrian) refugees with adequate qualifications to carry out tasks and activities related to IT, content production, marketing, finance, engineering and administration. The overall management of the feasibility study will be in hands of Mr. Joris Benninga and Mr. Arie van Beek with Mr. Hedzer Roodenburg Vermaat as the local manager in Mafraq. Mr. Hedzer Roodenburg Vermaat has worked and lived for two years in Jordan and has developed and managed projects for UNHCR, VNG-I and the City of Amsterdam. The team in Mafraq furthermore consists of a small team with research, external relations and communication responsibilities. Mr. Joris Benninga and Mr. Arie van Beek have a track record in high-level consultancy, hands-on project development and setting up big and complex project organizations. Mr. Joris Benninga’s focus will be on economic impact and private



partners, while Mr. Arie van Beek's focus will be on sustainability and public partners. More information about them is presented in their detailed CVs in Annex C.

6. Partners

The GFC field trips in the past months have resulted in a good network. Several partner companies and individuals have been identified that can help us to develop the pilot-project. However, new partnerships will be concluded as well during the feasibility phase as the willingness to collaborate, support and commit to the pilot-project has to be tested. To enable us to deliver the required quality in the key elements of the feasibility scan and in-depth feasibility study we cooperate with Jordanian and Dutch partners. For each element we search for (scientific) experts to advice or supervise relevant GFC team members. We have already developed good partnerships with:

- Wageningen University & Research (Agriculture and water)
- Alliander (Energy)
- Radboud U/MC (healthcare, ICT and linguistics)
- 1 Civil Military Interaction Commando (Netherlands MoD).

This list is not exhaustive and not exclusive (see also Annex B). We have an excellent network with other universities and will use it if necessary (Leiden University and Technical University of Delft).

Jordanian partners include:

- Al-Al Bayt University
- Mafraq KHBT Special Economic Zone
- EDAMA, Jordan Sustainability Agency
- Jordan Green Building Council.

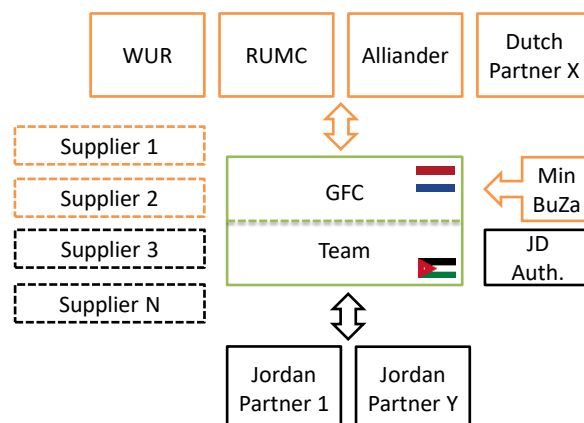


Figure 4 Schematic overview the Feasibility study project organization.

The pop-up approach enables us to do a substantial part of the design work in the Netherlands together with Dutch partners and preferably Dutch suppliers. Naturally the Dutch GFC branch will bring in the Jordanian and refugee perspective which is not only important for local feasibility aspects and design requirements, but they also can bring in a “user-of-the-campus” perspective.



To give the feasibility study the depth it needs and the required accuracy, we will also cooperate with (potential) suppliers. Making a realistic design and having the right cost estimates is key for the follow-up phase: financial close and implementation. Potential suppliers include:

- De Meeuw (key player in pop-up buildings)
- Alfen (key player in building the electricity grid of the future)
- Wind Energy Solutions
- Deerns Consulting Engineers

Suppliers with whom we seek to cooperate will be invited to participate through Requests for Information and Requests for Quotes, and/or beauty contests. Last not least, the relationship and communication with the Ministry of Foreign Affairs is key for the success of this study and for its follow-up. Not only in the Ministry's role as sponsor and expert in the field of Jordanian affairs but also in the role of facilitating to unlock the (public) network of key Jordanian decision makers; more specifically they can help shape the relationship with Jordanian authorities. In addition, they can help find the right partners and/or suppliers in Jordan.

We propose an advisory committee to be formed to maximize the quality of the study both in its content and in its impact. The frequency of the meetings of this advisory committee can be determined during the kick-off meeting of the study.

7. Communication during the Feasibility Phase

Communication with all stakeholders and partners is crucial for the success of this study, for its impact and for GreenfieldCities in general (see Figure 5). Therefore the GFC team will develop and deploy different forms of communication:

1. Highlights of the gathered information and reached milestones will be publicly shared with a broader stakeholder group on the News items section on the GreenfieldCities website. The website, a bi-weekly news update and monthly newsletter will keep them informed.
2. For more financially interested stakeholders, a monthly financial report will be produced, allowing to keep track of progress versus spending.
3. Personal interactions with key stakeholders and (potential) partners are essential for proper partnership building. They will therefore regularly be visited for face-to-face meetings.
4. It is aimed to foster online communication and support collaboration between GreenfieldCities and 'established' partners through an online communication platform that can be accessed through a 'login' function on the website or a platform with the required functionality. This platform will be used for ideas and information sharing, planning and proper filing of relevant documents with the overall goals to foster effective collaboration, to stimulate working groups and fresh input.



Figure 5 Before ... and after: the importance of communicating progress.

While making progress with the study, levels of confidence on the possible impact of the approach chosen will increase. If findings point towards potentially substantial impact in curbing the migration crisis, we propose the Ministry of Foreign Affairs to consider jointly organizing an international conference with key EU member states, the EU itself and the “Region” as target group. The Minister for Foreign Trade and Development Cooperation could be the host and might deliver a key note address to this conference.

8. Budget and Timing

At the time of writing of this document we estimate the necessary investment to construct and commission the pop-up phase (250 jobs) of the Mafraq Clean Tech Campus at around €5 million. This amount is based on high level market research and informal quotes by prospect suppliers. A budget estimation of the in-depth feasibility study for this investment is given in Table 3.

Table 3 Budget summary and timing of activities and deliverables.

Activities	Rate (€/hr) → Function →	Internal Costs		3rd party services		3rd party products		total
		€ ↓	hr ↓	€/hr ↓	€ ↓	€ ↓	€ ↓	
Exploration and Interaction (stage I)	Deliv. month ↓	€ ↓	hr ↓	€/hr ↓	€ ↓	€ ↓	€ ↓	€ ↓
I.1 Stakeholder analysis	3	€ 11.759	0	€140	€ 0	€ 0	€ 0	€ 11.759
I.2 Feasibility scan	3	€ 35.926	40	€140	€ 5.600	€ 0	€ 0	€ 41.526
I.3 Sketch Design	3	€ 5.740	40	€140	€ 5.600	€ 0	€ 0	€ 11.340
I.4 Stakeholder interaction	3	€ 20.189	0	€140	€ 0	€ 2.500	€ 2.500	€ 22.689
Preparing Stage II	3	€ 3.244	0	€140	€ 0	€ 0	€ 0	€ 3.244
sub-total		76.858			11.200		2.500	90.558
In Depth Feasibility & Impact Assessment (stage II)	Deliv. month ↓	€ ↓	hr ↓	€/hr ↓	€ ↓	€ ↓	€ ↓	€ ↓
II.1 In-Depth Feasibility Study	9	€ 68.908	80	€140	€ 11.200	0	0	€ 80.108
II.2 Impact Assessment	9	€ 41.389	40	€140	€ 5.600	0	0	€ 46.989
II.3 Sketch Design II	9	€ 5.740	80	€140	€ 11.200	0	0	€ 16.940
II.4 Conference of enabling parties	10	€ 22.239	0	€140	€ 0	5.000	5.000	€ 27.239
sub-total		138.276	200		28.000		5.000	€171.276
GFC Organization and Supporting Activities	Deliv. month ↓	€ ↓	hr ↓	€/hr ↓	€ ↓	€ ↓	€ ↓	€ ↓
Financial management	1-10	5.512		€140	0	3.000	3.000	8.512
ICT	1-10	7.349		€140	0	15.000	15.000	22.349
Marketing research & Communication	1-10	8.084		€140	0	10.000	10.000	18.084
Partner/Impact Investor Search	1-10	6.614		€140	0	0	0	6.614
Legal Advice	1-10	0		€140	8.400	0	0	8.400
Other	1-10	23.065		€140	0	50.000	50.000	73.065
sub-total		50.623	60		8.400		78.000	€137.023
TOTAL FEASIBILITY / PILOT STUDY		€ 265.757	260	€ 0	€ 47.600		€ 85.500	€ 398.857

Tasks for which the broader GFC team does not have in-house capabilities will be outsourced. The applied hourly rates are derived from market conform salaries for the applied specializations and functions plus costs for overhead (office costs, insurances, pensions, support staff etc.). The hourly rate used for outsourced work is €140/hr. This rate is a low-end average for the different required specialisms. Other out of pocket costs line items are for travel and for establishing the Jordanian and Netherlands project organizations.



The total study budget is € 398.857. Annex A also provides a detailed overview of the projected activities and costs.

Figure 6 shows the two stage Gantt chart of the study and the approximate month in which deliverables need to be ready. The first stage will take 4 months, while the second stage will take 6 months. The stages after the study: bringing the project to financial close and the actual construction will take another 10 months. If all so-called decision gates down the road are passed successfully, the first phase of the campus could be built in 2 years' time.

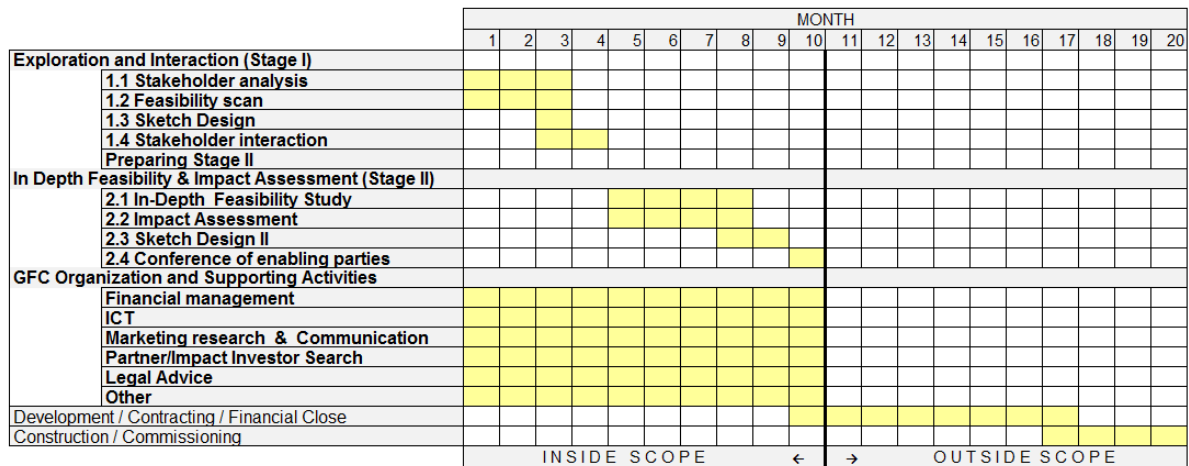


Figure 6 Gantt chart of the feasibility study.



Annex A Detailed work break down and budget

PROJECT FEASIBILITY / BUDGET ESTIMATION

Proj. name	Mafraq Feasibility
Owner	Stichting GreenfieldCities
Project #	2018001
Area	40.000m2, Mafraq, Jordan
Size	work, live and learn places for 200 people
Capex est	€ 5.000.000
Feasibility	€ 398.000
O&M est.	€300.000/yr
Responsible	Joris Benninga
Start	1-3-2018
End (st. 2.)	1-11-2018

function abbreviations

- jrr= junior research officer
- mnr= medior research officer
- srr= senior research officer
- lex= financial expert
- cm= contract manager
- arch= architect/designer
- pm= project (construction) engineer/manager
- pd= project director
- alo= arabic liaison officer
- mkt= marketeer
- sust= sustainability expert
- it- information technology expert

Activities	Rate (€/hr) →																Internal Costs	3rd party services			3rd party products		total	
	Function →																	€ ↓	hr ↓	€/hr ↓	€ ↓	Amount		€ ↓
	25	41	60	46	60	55	53	75	37	51	51	46	it	hr ↓	hr ↓	hr ↓								
Exploration and Interaction (stage I)	Deliv. month ↓	jrr	mnr	srr	lex	cm	arch	pm	pd	alo	mkt	sust	it	€ ↓	hr ↓	€/hr ↓	€ ↓	Amount	€ ↓					
I.1 Stakeholder analysis	3	60	60	60	4	0	0	16	4	30	16	4	16	€ 11.759	0	€140	€ 0	€ 0	€ 0	€ 11.759				
Jordan: identification and quick scan		30	30	30	2			8	2	30	8	2	8	€ 6.431		€140	€ 0			€ 6.431				
NL and EU: identification and quick scan		30	30	30	2			8	2		8	2	8	€ 5.328		€140	€ 0			€ 5.328				
I.2 Feasibility scan	3	176	176	176	22	0	40	22	11	88	44	40	22	€ 35.926	40	€140	€ 5.600	€ 0	€ 0	€ 41.526				
Economical/Jobs		16	16	16	2			2	1	8	4	2	2	€ 2.983		€140	€ 0			€ 2.983				
Education		16	16	16	2			2	1	8	4	2	2	€ 2.983		€140	€ 0			€ 2.983				
Legal /Regulatory		16	16	16	2			2	1	8	4	2	2	€ 2.983	40	€140	€ 5.600			€ 8.583				
Spatial / Site		16	16	16	2		40	2	1	8	4	2	2	€ 5.188		€140	€ 0			€ 5.188				
Social /Users		16	16	16	2			2	1	8	4	2	2	€ 2.983		€140	€ 0			€ 2.983				
Technological		16	16	16	2			2	1	8	4	2	2	€ 2.983		€140	€ 0			€ 2.983				
Financial		16	16	16	2			2	1	8	4	2	2	€ 2.983		€140	€ 0			€ 2.983				
Sustainability		16	16	16	2			2	1	8	4	20	2	€ 3.892		€140	€ 0			€ 3.892				
EU Values		16	16	16	2			2	1	8	4	2	2	€ 2.983		€140	€ 0			€ 2.983				
Risks		16	16	16	2			2	1	8	4	2	2	€ 2.983		€140	€ 0			€ 2.983				
Scalability		16	16	16	2			2	1	8	4	2	2	€ 2.983		€140	€ 0			€ 2.983				
I.3 Sketch Design	3	8	8	8	0	0	40	40	0	0	8	0	0	€ 5.740	40	€140	€ 5.600	€ 0	€ 0	€ 11.340				
Briefing 1.1, and 1.2 findings to designers		4	4	4			20	20			4			€ 2.870	20	€140	€ 2.800			€ 5.670				
Developing the sketch design		4	4	4			20	20			4			€ 2.870	20	€140	€ 2.800			€ 5.670				
I.4 Stakeholder interaction	3	40	40	40	0	0	0	64	64	40	80	10	20	€ 20.189	0	€140	€ 0	€ 2.500	€ 0	€ 22.689				
Prepare workshop plan		8	8	8				16	16	8	16	2	4	€ 4.448		€140	€ 0			€ 4.448				
Shortlist participants		8	8	8				8	8	8	16	2	4	€ 3.423		€140	€ 0			€ 3.423				
Test workshop plan with shortlisted stakeholders		8	8	8				8	8	8	16	2	4	€ 3.423		€140	€ 0			€ 3.423				
Execute workshop		8	8	8				16	16	8	16	2	4	€ 4.448		€140	€ 0	€ 2.500		€ 6.948				
Analyze results and report		8	8	8				16	16	8	16	2	4	€ 4.448		€140	€ 0			€ 4.448				
Preparing Stage II	3	8	8	8	4	0	0	16	16	0	0	0	0	€ 3.244	0	€140	€ 0	€ 0	€ 0	€ 3.244				
Refine Phase 2 planning		8	8	8	4			16	16					€ 3.244		€140	€ 0			€ 3.244				
sub-total		292	292	292	30	0	80	158	95	158	148	54	58	76.858			11.200	2.500		90.558				
In Depth Feasibility & Impact Assessment (stage II)	Deliv. month ↓	jrr	mnr	srr	lex	cm	arch	pm	pd	alo	mkt	sust	it	€ ↓	hr ↓	€/hr ↓	€ ↓	Amount	€ ↓					
II.1 In-Depth Feasibility Study	9	330	330	330	44	80	60	44	22	132	44	80	44	€ 68.908	80	€140	€ 11.200	€ 0	€ 0	€ 80.108				
Economical/Jobs		30	30	30	4			4	2	12	4	4	4	€ 5.364		€140	€ 0			€ 5.364				
Education		30	30	30	4			4	2	12	4	4	4	€ 5.364		€140	€ 0			€ 5.364				
Legal /Regulatory		30	30	30	4			4	2	12	4	4	4	€ 5.364	60	€140	€ 8.400			€ 13.764				
Spatial / Site		30	30	30	4		60	4	2	12	4	4	4	€ 8.671	20	€140	€ 2.800			€ 11.471				
Social /Users		30	30	30	4			4	2	12	4	4	4	€ 5.364		€140	€ 0			€ 5.364				
Technological		30	30	30	4			4	2	12	4	4	4	€ 5.364		€140	€ 0			€ 5.364				
Financial / Investor Appetite		30	30	30	4	80		4	2	12	4	4	4	€ 10.141		€140	€ 0			€ 10.141				
Sustainability		30	30	30	4			4	2	12	4	40	4	€ 7.183		€140	€ 0			€ 7.183				
EU Values vs JoD values and RoL		30	30	30	4			4	2	12	4	4	4	€ 5.364		€140	€ 0			€ 5.364				
Risks		30	30	30	4			4	2	12	4	4	4	€ 5.364		€140	€ 0			€ 5.364				
Scalability		30	30	30	4			4	2	12	4	4	4	€ 5.364		€140	€ 0			€ 5.364				
II.2 Impact Assessment	9	210	210	210	28	0	0	28	14	84	28	104	28	€ 41.389	40	€140	€ 5.600	€ 0	€ 0	€ 46.989				
Economical/Jobs (SDG 8)		30	30	30	4			4	2	12	4	4	4	€ 5.364		€140	€ 0			€ 5.364				
Education to employability (SDG 4)		30	30	30	4			4	2	12	4	4	4	€ 5.364		€140	€ 0			€ 5.364				
Climate, Energy and Water (SDG 13, 6 and 7)		30	30	30	4			4	2	12	4	80	4	€ 9.204		€140	€ 0			€ 9.204				
Gender, female participation rate (SDG 5)		30	30	30	4			4	2	12	4	4	4	€ 5.364		€140	€ 0			€ 5.364				
Institutions, Trust in GFC (SDG 16)		30	30	30	4			4	2	12	4	4	4	€ 5.364	40	€140	€ 5.600			€ 10.964				
Overall Region of Origin Impact Potential		30	30	30	4			4	2	12	4	4	4	€ 5.364		€140	€ 0			€ 5.364				
Overall Enabling Environment Creation		30	30	30	4			4	2	12	4	4	4	€ 5.364		€140	€ 0			€ 5.364				
II.3 Sketch Design II	9	8	8	8	0	0	40	40	0	0	8	0	0	€ 5.740	80	€140	€ 11.200	€ 0	€ 0	€ 16.940				
Briefing 1.3, 2.1 and 2.2 findings to designers		4	4	4			20	20			4			€ 2.870	40	€140	€ 5.600			€ 8.470				
Developing the sketch design		4	4	4			20	20			4			€ 2.870	40	€140	€ 5.600			€ 8.470				
II.4 Conference of enabling parties	10	40	40	40	0	0	0	80	80	40	80	10	20	€ 22.239	0	€140	€ 0	5.000	€ 0	€ 27.239				
Prepare conference plan		8	8	8				16	16	8	16	2	4	€ 4.448		€140	€ 0			€ 4.448				
Shortlist participants		8	8	8				16	16	8	16	2	4	€ 4.448		€140	€ 0			€ 4.448				
Test conference plan with shortlisted stakeholders		8	8	8				16	16	8	16	2	4	€ 4.448		€140	€ 0			€ 4.448				
Execute conference		8	8	8				16	16	8	16	2	4	€ 4.448		€140	€ 0	€ 5.000		€ 9.448				
Analyze results and report		8	8	8				16	16	8	16	2	4	€ 4.448		€140	€ 0			€ 4.448				
sub-total		588	588	588	72	80	100	192	116	256	160	194	92	138.276	200		28.000	5.000		€171.276				
GFC Organization and Supporting Activities	Deliv. month ↓	jrr	mnr	srr	lex	cm	arch	pm	pd	alo	mkt	sust	it	€ ↓	hr ↓	€/hr ↓	€ ↓	Amount	€ ↓					
Financial management	1-10	0	0	0	120	0	0	0	0	0	0	0	0	5.512		€140	€ 0	3.000		8.512				
Financial admin					40									€ 1.837		€140	€ 0			€ 1.837				
Financial advice					40									€ 1.837		€140	€ 0			€ 1.837				
Financial audits					40									€ 1.837		€140	€ 0	€ 3.000		€ 4.837				
ICT	1-10	0	0	0	0	0	0	0	0	0	0	0	160	7.349		€140	€ 0	15.000		22.349				
Internal IT, pc's, network, connectivity, office software													80	€ 3.674		€140	€ 0	€ 7.500		€ 11.174				
Application development													80	€ 3.674		€140	€ 0	€ 7.500		€ 11.174				
Marketing research & Communication	1-10	0	0	0	0	0	0	0	0	0	0	0	0	8.084		€140	€ 0	10.000		18.084				
Content development													80	€ 4.042		€140	€ 0	€ 5.000		€ 9.042				
Channel costs													40	€ 2.021		€140	€ 0	€ 5.000		€ 7.021				
Marketing research, analysis, strategizing													40	€ 2.021		€140	€ 0			€ 2.021				
Partner/Impact Investor Search	1-10	0	0	0	80	0	0	0																



Annex B Longlist of Partners, Prospect Suppliers and -Investors

Partners

- Netherlands Ministry of Foreign Affairs
- Radboud University Medical Center
- Wageningen University & Research
- Alliander
- TenneT
- Stillare Foundation
- Gemeente Arnhem
- Gemeente Nijmegen
- 1 CMI Commando, NL MoD
- InEnergie BV
- World Waternet, Amsterdam
- The Hague Centre for Strategic Studies, the Hague
- Work4water, the Hague-Syria
- Jordan Green Building Council
- EDAMA Jordanian Sustainability Agency
- Jordanian Investment Commission
- Mafraq KHBT Special Economic Zone
- Mafraq Governorate
- Al-Al Bayt University, Mafraq, Jordan
- EU, DG NEAR and EU Delegation Amman, Jordan
- Eco Consult, Amman Jordan
- IDECO, Irbid, Jordan
- Innogy, Germany
- GIZ Germany
- Python Software Foundation, USA
- Box.org, USA-UK
- Allyourmedia BV

Prospect Suppliers

- Deerns Consulting Engineers
- De Meeuw Future Builders
- Sendec Constructions
- BAM Group
- VDL Group
- Gieling Consulting
- Alfen TBI
- Pure Water Well
- WES Wind Energy Solutions
- Siemens, The Netherlands
- Petra Engineering, Mafraq/Amman, Jordan
- Florentine Visser Arch., Amman, Jordan
- IKEA/IKEA Foundation
- Remondis, Germany



Prospect Investors/funders with already ongoing discussions

(In between brackets if they already contributed)

- TenneT (€20.000)
- Gemeente Arnhem (approx. €40.000)
- Gemeente Nijmegen
- Wageningen University & Research (€30.000)
- Marion Rockefeller / Flowfunding.org (\$10.000)
- Box.org (approx.€3000/yr in kind)
- Techsoup.org (approx.€3000/yr in kind)
- EU Commission
- EU SME programs
- GIZ
- Ikea Foundation
- Boudewijn Poelmann / DOEN
- Maatschappelijke Alliantie
- Adessium
- GoldSchmeding Foundation
- Open Society Foundations
- NL Ministry of Social Affairs and Work
- FMO
- Fred Foundation
- Shell Foundation
- Rockefeller Foundation
- USAID
- Alliander
- Unie van Waterschappen
- Sawiris Foundation
- Qatar Foundation
- Triodos Foundation
- Rabobank Foundation
- Rabo Development
- Private Donations (approx.€30.000)
- NL Ministry of Justice, COA-International



Annex C Key CVs

CV's can also be viewed online in the LinkedIn profiles:

Joris Benninga: <https://nl.linkedin.com/in/joris-benninga-69839a4>
Arie van Beek: <https://www.linkedin.com/in/arie-van-beek-4466a583/>
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PERSONAL INFORMATION

Joris Benninga



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 +31 6 14 87 161

 joris@benninga.nl

 www.skygeo.com, www.greenfieldcities.org

Sex male | Date of birth 08/06/1965 | Nationality Dutch

WORK EXPERIENCE

Feb. 2016 – today

www.GreenfieldCities.org delivers sustainable solutions to mitigate forced migration. We do that by developing sustainable, safe, inclusive and productive urban areas in regions of origin of (potential) migrants.

As founder and chairman I focus on funding and strategy and I oversee our project teams.

We started in 2016, and by Q2 2017, some 300 stakeholder discussions further, we have a 10 people strong team in the Netherlands (mostly migrants) and a pilot project development for a Clean Tech Campus for 1.500 people in Mafraq, Jordan.

June 2015 – today

www.SkyGeo.com leads the way in providing high precision, cost effective ground deformation information to clients worldwide, using InSAR satellite data.. Our clients use our satellite based InSAR intelligence to improve their operations and reduce risks and costs while exploring and exploiting sub-surface natural resources and designing and operating land based infrastructure.

As VP Business Development I help clients to get value out of our data products and convert those successes into new client propositions. In this way I contribute to our continued 30% year over year profitable growth.

2009 – 2015

www.RealNewEnergy.com , Co-founder and Managing Member of US company in wind, solar and hydro development and renewable energy project, policy and technology consulting;

2002 – 2010

www.Ecofys.com , Ecostream, Managing Director Ecofys Italy and Ecostream Italy. Building and leading a 25 man strong team in sustainable energy consulting and solar and wind system integration and –development;

2001-2002

Nuon Energy, Program Manager Internet Energy Sales; Developing the company Internet portal for retail energy and energy services sales in the liberalizing Dutch energy market

2000-2001

Rost & Co Strategy Consulting, Sr. Consultant and country manager Netherlands. Developing and implementing e-business projects for energy- and other clients;

2000-2001 "Echte-Energie"(Real Energy), Co-founder of Netherlands' 1st Internet Energy Co;

1997-2000 Oracle, Business Consultant. Process re-engineering for energy sector clients;

1992-1997 Nuon Energy, Project manager, Energy Economist on projects on CHP, early smart grids, and fleet conversion to natural gas and electricity;

1991-1992 Netherlands Army, Forward Artillery Observer 41st Regiment & 43rd Tank Bat;

1991 Euroconsult, Field Market Researcher, Khon Kaen, Thailand. Economic impact study and opportunity identification related to ley farming projects;

EDUCATION AND TRAINING

1990 MA Economic Sciences, Specialization: corporate finance, (direct) marketing management, University of Amsterdam

1995 Netherlands National Utility Industry Management Development program (12 months), Rotterdam School of Management

1999 Oracle Business Processing and Business Consulting Specialist, Oracle Education.

2009 Senior Business Leadership Program (12 months), Rotterdam School of Management

PERSONAL SKILLS

Mother tongue(s) Dutch

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
	Replace with name of language certificate. Enter level if known.				
Italian	B1	B1	B1	B1	A2
	Replace with name of language certificate. Enter level if known.				

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Communication skills Strong, particularly in building inter disciplinary teams

Job-related skills Project management, project development, finance, sales, technology system integration

Computer skills MS Office, Word Press, Joomla

Other skills: strong generalist, bringing new technology and business concepts to market

Other: Patent: WO 2015035054 A1, Water Turbine Drive system

EUROPEAN CURRICULUM VITAE FORMAT



PERSONAL INFORMATION	
Name	van Beek, Arie
Address	Zomerkade 23, 1273 SL Huizen, The Netherlands
Telephone	+31 35 888 0032
Cell Phone	+31 640 564 284
E-mail	arievandbeek@casema.nl
Nationality	Dutch
Date of birth	11.02.1960
WORK EXPERIENCE	
Dates (from – to)	2016 – now
Type of business or sector	Think tank, Business Development and Education
Name of business	GreenfieldCities , www.greenfieldcities.org
Occupation or position	<i>Founder, Chief Sustainability Officer</i>
Main activities and responsibilities	<p>Activities and key responsibilities include:</p> <ul style="list-style-type: none"> ▪ Set up the foundation to build sustainable cities in the Middle-East for refugees and with refugees (www.GreenfieldCities.org) ▪ Integrate sustainability and Sustainable Development Goals in all aspects of design and development ▪ Funding from public sector ▪ Development pilot refugee campus Mafraq / Jordan ▪ Build & Manage partnerships with universities and energy utilities ▪ Organise political support ▪ e-Marketing, ICT and recruitment
Dates (from – to)	2009 – now
Type of business or sector	Consultancy, Business Development and Education
Name of business	Climate Mitigation and Change Management BV , www.cmx2.nl
Main activities and responsibilities	<p>Activities include:</p> <ul style="list-style-type: none"> ▪ In general: consultancy, coaching, training and publishing in the field of sustainability and the transition to a new and renewable energy system. ▪ Set up a foundation to build sustainable cities in the Middle-East for refugees (www.GreenfieldCities.org) ▪ Set up a Partner in Business programme for Poland ▪ Projects for the Commission for Environmental Impact Assessment (see below).
Dates (from – to)	2013 – January 2014
Name and address of employer	Association of Provinces (IPO) , P.O. Box 6107, 2500 BC THE HAGUE, The Netherlands, +31 70 888 1212 , www.iponl.nl
Type of business or sector	Authority
Occupation or position held from 2013-now	<i>Quartermaster Energy transition & Sustainable growth</i>
Main activities and responsibilities	<p>Prepare the inter-provincial organisation for the implementation of the National Agreement for energy transition and sustainable growth 2013:</p> <ul style="list-style-type: none"> ▪ Define and formulate name, vision, mission, aim and strategy of the organisation ▪ Extract provincial targets and tasks from the Agreement ▪ Interview all provinces to find common tasks and activities ▪ Analyse main actors in the field ▪ Define milestones and planning ▪ Find & define 'lean and mean' organization including required (human) resources

Dates (from – to)	2009 – 2013
Name and address of employer	Province of Flevoland , P.O. Box 55, 8200 AB LELYSTAD, The Netherlands, +31 320 265 418, www.flevoland.nl
Type of business or sector	Authority
Occupation or position held from 2009-2013	<i>Programme Manager Sustainability & Energy</i>
Main activities and responsibilities	<ul style="list-style-type: none"> ▪ Set-up a provincial renewable energy company (DE-on), www.deon-flevoland.org <ul style="list-style-type: none"> ➢ Exploration of concept and find partners ➢ Feasibility study commissioned by future DE-on partners: the province of Flevoland, its municipalities and the Water board ➢ Master plan for the energy system in the municipality of Almere including 4 DE-on business cases ➢ Business plan commissioned by future DE-on partners including HVC and the grid company, Alliander. ➢ Commit financial institutions, banks and knowledge institutions to contribute, participate or support DE-on. ➢ Develop agenda to strengthen the regional economy in the slipstream of DE-on ▪ Set up, negotiate and finalise the Green Deal 'DE-on' providing elaborate financial support from the national government to kick-start DE-on. ▪ Set-up international DE-on master classes and pilots within the framework of an Interreg project "Regions for Green Growth" carried out by 12 partners. ▪ Develop policies for a regional sustainable economy ▪ Develop & manage a cross-departmental programme "Sustainability & Energy" including: <ul style="list-style-type: none"> ➢ Developing vision, strategy and structure of all sustainable activities ➢ Ensuring & developing sustainable policies and instruments causing sustainable energy to be implemented ➢ Strengthening cooperation internally between departments and other programmes and externally, in particular with municipalities ➢ Improving pro-activeness in policy development and specifically in area-bound approaches & developments ▪ Guest lectures "Sustainability from a Governmental Perspective" for the Windesheim MBA course ▪ Manage Sustainability Working Group in the Amsterdam Metropolitan Area
Dates (from – to)	1996 – now
Name and address of employer	Commission for Environmental Impact Assessment , PO Box 2345, 3500 GH UTRECHT, The Netherlands, +31 30 234 7666, www.eia.nl
Type of business or sector	Agency for Environmental Impact Assessments
Occupation or position held	<i>Independent advisor</i>
Main activities and responsibilities	<ul style="list-style-type: none"> ▪ Guidelines for maximizing renewable energy, energy saving, energy efficiency and CO2 reduction in spatial plans ▪ Draft guidelines for and evaluate environmental impact assessment studies on large scale wind farms (including Near shore wind farm and Q7) ▪ Develop framework for minimising environmental impacts while maximising environmental profits ▪ Develop guidelines Environmental Impact assessment Renewable Energy in Ghana
Dates (from – to)	2003 – 2009
Name and address of employer	Ecofys BV , Kanaalweg 16-G, 3526 KL UTRECHT, The Netherlands, +31 30 2808 300, www.ecofys.com
Type of business or sector	Consultancy in Sustainable energy & Climate policy
Occupation or position held from 2003-2009	<i>Manager International business development</i>
Main activities and responsibilities	<ul style="list-style-type: none"> ▪ Strengthen cohesion between all Ecofys offices ▪ Set up, build & manage international teams ▪ Identify successful products and services in one national market, adapt these to other national markets and initiate, facilitate and organise their roll out ▪ Knowledge management on concern level (Econcern); development & implementation of, training for a new intranet web including business information
Occupation or position held from 2007-2009	<i>Manager CarBon™ software family</i>
Main activities and responsibilities	<ul style="list-style-type: none"> ▪ Development, training and international roll-out of strategic services and web based

	<p>decision support software for authorities and companies in a carbon constrained world (the so-called CarBon™ software family); these include policy and strategy development, target setting, identifying and selecting best CO2 reduction projects, monitoring CO2 emission (baseline) and CO2 reduction. See also www.carbonopportunities.com</p> <ul style="list-style-type: none"> ▪ Professionalising and upscaling ▪ Recruitment of Dutch & Polish data modeling & programming team ▪ Coaching modelists and programmers towards (external) market ▪ Merger and acquisition activities
Occupation or position held from 2006-2007	<i>Director international cluster Carbon & Energy Solutions</i>
Main activities and responsibilities	<ul style="list-style-type: none"> ▪ Management of international team (20 to 30 consultants) operational in about 10 countries ▪ Management consultancy for key clients including organisational assessment, strategy development and implementation of strategy developed ▪ Carbon and energy related services including carbon management for companies participating in the European Emission Trading Scheme. ▪ Analyses of governmental market support schemes ▪ Publishing CO2 Market and Policy bulletins in several languages
Dates (from – to)	January 1994 – July 2002
Name and address of employer	CEA, Consultants on Energy and the Environment , Westblaak 226, 3012 KP ROTTERDAM, The Netherlands, +31 10 2805 666
Type of business or sector	Communication consultancy on energy and the environment
Occupation or position held	<i>Manager CEA International</i> <i>Manager Task force Renewable Energy</i> <i>Senior strategy consultant</i> <i>Guest lecturer on Renewable Energy and Energy Efficiency</i>
Main activities and responsibilities	<ul style="list-style-type: none"> ▪ Set up CEA International, draft business plan, develop strategy, carry out work search, draft large international proposals in the field of sustainable energy. ▪ Set up Task force Renewable energy, develop vision, strategy, and plans for work search. ▪ Set up Task force for Knowledge Management ▪ Manage large, strategic projects for national and international authorities.
Dates (from – to)	July 1992 – January 1994
Name and address of employer	NUON , PO Box 9039, 6800 EZ ARNHEM, The Netherlands, +31 26 377 2286, www.nuon.nl
Type of business or sector	Energy distribution company
Occupation or position held	<i>Interim manager small scale Combined Heat and Power</i>
Main activities and responsibilities	<ul style="list-style-type: none"> ▪ Lead a team of project managers ▪ Develop, monitor, evaluate and adapt business strategy ▪ Develop and standardise approach to implement a large number of CHP units ▪ Draft specifications for and contracts with main CHP suppliers ▪ Responsible for external Public Relations (permits, subsidies)
Dates (from – to)	September 1982 – July 1992
Name and address of employer	Centre for the environment and clean technology , Oude Delft 180, 2611 HH DELFT, The Netherlands, +31 152 150 150, www.cedelft.nl
Type of business or sector	Consultancy and Research in sustainable energy
Occupation or position held	<i>Consultant and researcher</i> <i>Head ICT department (50% during the last three years)</i>
Main activities and responsibilities	<ul style="list-style-type: none"> ▪ Policy, scenario studies and feasibility studies in the field of wind energy, CHP and waste ▪ Responsible for ICT: implementation of network of PCs and Sun Workstations, word processing software including company style, CRM system and library database.
Dates (from – to)	September 1983 – July 1984
Name and address of employer	Comprehensive school "Henegouwerplein" in Rotterdam
Type of business or sector	Education
Occupation or position held	<i>Technical Education Assistant (1 day/week)</i>
Main activities and responsibilities	<ul style="list-style-type: none"> ▪ Coach students with laboratory classes in physics, chemistry & biology ▪ Set up PC class room & draft programming exercises

EDUCATION AND TRAINING	
Dates (from – to)	2009 – 2011
Name and type of organisation providing education and training	Interuniversity Centre for Organising, Changing, Renewal and Management (Sioo), Utrecht, The Netherlands
Principal subjects/occupational skills covered	Executive Change Management Master thesis: "Meer Meters Maken" (<i>Increase effectiveness of sustainability policies</i>).
Title of qualification awarded	Master of Change Management
Dates (from – to)	2011
Name and type of organisation providing education and training	Van 't Loo-van Eck, consultancy and training in the field of internal and external communication for the public and private sector
Principal subjects/occupational skills covered	Effectively drafting notes and memoranda for governors and politicians
Title of qualification awarded	Certificate
Dates (from – to)	1993 – 2003
Name and type of organisation providing education and training	University of Leiden, Leiden, The Netherlands
Principal subjects/occupational skills covered	English, Rhetoric, Stylistics, Book and Publishing, From Copy to Book, Software Packages and Data Communication, Electronic text. Master thesis: <i>An International Bench Mark Study on Internet Performance</i>
Title of qualification awarded	Master of Arts
Dates (from – to)	1991
Name and type of organisation providing education and training	Technical University of Eindhoven, Eindhoven, The Netherlands
Principal subjects/occupational skills covered	Postgraduate course "Information policy and planning"
Dates (from – to)	1982-1986
Name and type of organisation providing education and training	Postgraduate Advanced College of Technology, Amsterdam, The Netherlands
Principal subjects/occupational skills covered	<ul style="list-style-type: none"> ▪ Environmental Protection ▪ Specialty "Water Protection" ▪ Specialty "Air Protection" thesis "De heilige koe, Bron van zure regen" (The Sacred Cow: Source of Acid Rain) ▪ Specialty "Soil Protection"
Dates (from – to)	1978-1982
Name and type of organisation providing education and training	Advanced College of Technology, Rotterdam
Principal subjects/occupational skills covered	Mechanical Engineering; Specialty Energy Technology; Thesis: "Energy Produced by Wind Turbines"
Title of qualification awarded	Bachelor of Science

<p align="center">PERSONAL SKILLS AND COMPETENCES</p> <p align="center"><i>Acquired in the course of life and career but not necessarily covered by formal certificates and diplomas.</i></p>			
MOTHER TONGUE		Dutch	
OTHER LANGUAGES			
	English	German	Polish
Reading skills	Excellent	Good	Beginner
Writing skills	Excellent	Moderate	Poor
Verbal skills	Excellent	Moderate	Beginner
<p align="center">SOCIAL SKILLS AND COMPETENCES</p> <p align="center"><i>Living and working with other people, in multicultural environments, in positions where communication is important and situations where teamwork is essential (for example culture and sports), etc.</i></p>	<ul style="list-style-type: none"> ▪ Team player and builder: I acquired these skills in sports (being a player, referee, coach and trainer in volleyball) as well as in various jobs (see above). ▪ Communicator: I carried out many international projects, in which almost all Member States of the European Union participated. I have built (or helped building), coached & managed international teams in a fast growing and internationally expanding company. I can communicate easily with people from different cultural backgrounds. 		
<p align="center">ORGANISATIONAL SKILLS AND COMPETENCES</p> <p align="center"><i>Coordination and administration of people, projects and budgets; at work, in voluntary work (for example culture and sports) and at home, etc.</i></p>	<ul style="list-style-type: none"> ▪ Business developer: the last 15 years business development has been at the heart of almost every position I have held. Even when working as a civil servant I initiated a company that basically accelerated the development of renewable energy projects substantially. The General secretary of the Province used to call me "the entrepreneurial civil servant". ▪ Change Manager on executive level: in almost all positions I initiated and managed change in focus, scope and organizations. During the Flevoland period the scope widened to include many organisations playing a role in the change towards a sustainable energy system. ▪ Manager and Coordinator: In several positions I managed people and large, complex projects. These skills were also developed when I was trained to become a skipper on sailing boats. ▪ Team builder: in several positions I built and have built up teams in several organisations with highly qualified professionals; I am appreciated for leading strategic discussions and inspiring team members to contribute to a common cause & course. ▪ Analyst & Troubleshooter: I easily spotted opportunities for improvement in almost all organisations I worked in. I honed these skills while analysing the code of big computer programs and troubleshooting ICT problems that occurred on the boundaries of software, hardware and NetWare. ▪ Negotiator: in several positions I had to negotiate with contractors about services, software or hardware. With the Green Deal 'DE-on' the Province received a substantial amount of money from the national government. The amounts ranged from several hundred thousands Euros to tens of millions of Euros. 		
<p align="center">TECHNICAL SKILLS AND COMPETENCES</p> <p align="center"><i>With computers, specific kinds of equipment, machinery, etc.</i></p>	<ul style="list-style-type: none"> ▪ Bench Marking: I carried out an international bench mark study on renewable energy. In addition I graduated on the development and application of a bench mark tool for Internet performance. ▪ Publishing: see education at the University of Leiden, development and publishing of "CO2 News" for Ecofys clients and co-author of several technical books. ▪ Mechanical Engineering/Energy technology: see education and training ▪ (Functional) designer of Web sites: during my education period at the University of Leiden I designed the web site for the English department. In addition, I developed a framework for literary criticism on the web. ▪ Design of web based software: during my Ecofys career I designed and managed the development of the CarBon™ software family. ▪ Skilled programmer in several languages (including HTML), see jobs and education. 		
<p align="center">OTHER SKILLS AND COMPETENCES</p> <p align="center"><i>Competences not mentioned above.</i></p>	<ul style="list-style-type: none"> ▪ Enthusiastic trainer/teacher and coach in both work and sports (sailing, windsurfing & volleyball) ▪ Chess player ▪ Long distance runner 		

DRIVING LICENCE(S)	ABE
OTHER ACTIVITIES	<ul style="list-style-type: none"> ▪ Member of the Board of the Dutch Wind Energy Association (NEWIN) ▪ Member and chair of NEWIN's committee for Knowledge Transfer and PR ▪ Chairman of the board of a Sailing Association organising professional holidays for children and students.
KEY REFERENCES	<ul style="list-style-type: none"> ▪ Exploration, feasibility study and business plan for a regional Sustainable Energy Utility in the Province of Flevoland (DE-on) ▪ Carbon strategy and carbon management for one of the largest power producers in Europe (BOT Poland) ▪ An International Benchmark study on Renewable Energy commissioned by the European Commission ▪ An International Benchmark Study on Renewable Energy commissioned by the Ministry of Economic Affairs ▪ Development fact sheets for businesses and consumers for all renewable energy options for the Dutch Renewable Energy Office (PDE) ▪ Renewable Energy policy and production monitor commissioned by NUON ▪ Environmental aspects (in particular for the air compartment such as NOx, SO2) of large scale implementation of small scale CHP in the greenhouse sector (using NATDIS & NATERL) commissioned by the Ministry of Environment (published in the "Lucht" series) and by the province of Zuid-Holland. ▪ Policy Advice for Subsidy programme for silent wind turbines commissioned by the Ministry of the Environment ▪ Contours of Equivalent Sound Levels around Wind Farms commissioned by Novem/Ministry of the Environment ▪ Identification Best Projects & Strategies & Suggestions for Improvement of Renewable and Energy Saving Options commissioned by the European Commission

PERSONAL INFORMATION

Hedzer Roodenburg Vermaat



📍 Walstraat 22, 6701BG Wageningen (Netherlands)

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✉ hroodenburgvermaat@gmail.com

PERSONAL STATEMENT

I have almost two years of field experience in the Jordanian context, from research to project development and management, often in dynamic and challenging (institutional) environments such as refugee camps while working with people from various backgrounds. Throughout my work experience I have witnessed consequences of forced migration in Greece, worked directly with Palestinian and Syrian refugees in Jordan, and I have seen the consequences of protracted encampment. Backed by a strong socio-technical background, in-depth experience with the Jordanian context and an action-oriented attitude, I have a strong capacity to strategically transform ideas into practice. I am furthermore a creative team player with strong leadership skills, as well as research, coordination and project management skills.

WORK EXPERIENCE

01/06/2017–30/11/2017

Project developer/ project manager

VNG-/ City of Amsterdam, Za' atari refugee camp (Jordan)

This position was a field-based position in Za'atari camp. I took responsibility for the development and implementation of several projects in liaison with UNHCR, NRC and IRD. My main responsibility was the *Emerging Public Space project* (EPS): the first public space project in a refugee camp worldwide, performed in a bottom-up manner based on the skills and motivation of Syrian volunteers. During this project I managed max. 17 Syrian and Jordanian staff. Other projects under my responsibility were a research project (EMN) with the aim to improve the mobility for refugees with physical impairments, and an urban planning project to improve water management (WASH) of the camp.

In order to fulfil my duties, I developed and performed research (incl. methods and surveys), need assessments, planning, logistics, proposals, M&E framework(s), strategies, workshops and facilitated focus-group discussions, coordinated community mobilization, monitored project progress, represented the projects during UNHCR, WG, cluster and CMC meetings and did budgetary and administrative tasks. Technical responsibilities included the development and coordination of designs, technical designs, BOQs, scopes of work and the procurement process. Finally, I reported M&E materials, strategic documents, program documents and final evaluation reports.

27/11/2016–27/05/2017

Shelter and Site Planning int.

UNHCR, Za' atari refugee camp/ Amman (Jordan)

This was a field-based position in Za'atari camp. I contribute to shelter and site planning projects by the development (and implementation) of a shelter strategy, a shelter assessment and several construction projects in the camp related to storm water drainage and aid facilities. I initiated and developed the public space project (EPS), performed research in the field on relevant topics and drafted reports, and I developed and managed databases of UNHCR assets as preparation for missions at the Syrian-Jordanian border.

01/05/2016–30/06/2016

Project Coordinator

Wageningen University and Research, Athens (Greece)

This was a field-based position in refugee camps and ITSs in- and around Athens. I was responsible to organise and coordinate a research project about the impact of the EU-Turkey deal on humanitarian operations in Greece. I prepare interviews, surveys and site visits, and monitored the progress of data

collection. I was responsible for the logistics around data collection in refugee camps, ITSs and offices of (i)NGOs and CSOs, and finally developed a report with recommendations.

01/10/2015–20/04/2016 **Content Developer (part-time)**

Wageningen University and Research, Wageningen (Netherlands)

I developed written, videographic and photographic content for the website of WUR, flyers, booklets and social media. Next to that, I organised and coordinated career-related and recruitment-related event for MDR and MID (MSc studies) and represented WUR at external events. A final responsibility contained of data base management, scholarship selection and administration.

01/03/2017–26/05/2017 **Filmmaker (part-time)**

Resource, Baqa'a camp (Jordan)

This was a community-based filming project in Baqa'a refugee camp where I made short movies about Palestinian life in Baqa'a refugee camp together with youth from the camp. I taught them as well how to film and how to edit movies.

01/10/2016–20/04/2017 **Student representative (part-time)**

Wageningen University and Research, Wageningen (Netherlands)

I represented MDR during meetings with program committee and educational board, I drafted minutes and collected input from students for the meetings.

01/10/2015–31/12/2015 **Author (part-time)**

Architecture in Development (AID), Amsterdam (Netherlands)

I carried out case-studies on architectural projects in developing countries and wrote articles for internal usage as input for the think-tank.

01/02/2015–10/06/2015 **Language teacher**

Self-employed, Leiden (Netherlands)

I taught the Dutch language to Polish immigrants in the Netherlands (private and family-based) based on the development of personalised teaching materials and methods

01/07/2015–27/08/2015 **Co-founder**

KraiHomestay, Battambang (Cambodia)

I facilitated the start-up of a local hotel and activities by some farmer families in Battambang, and developed and disseminated offline and online promotion materials.

EDUCATION AND TRAINING

01/09/2015–15/12/2017 **MSc Development and Rural Innovation**

Wageningen University and Research, Wageningen (Netherlands)

MSc Development and Rural Innovation (grade: 8.5/10)

Major: Sociology of development and change, including five months of fieldwork in Palestinian and Syrian refugee camps in Jordan (Aug. 2016- Dec. 2016).

- *Courses*: integration social and technical layers of humanitarian and development work, and the facilitation of multi-stakeholders processes

- *Thesis title*: The cambanization of refugee camps. Case studies from Baqa'a camp and Za'atari camp in Jordan.

- 01/09/2014–31/01/2015 **Erasmus certificate in Architectural Engineering**
 Technical University of Cracow, Cracow (Poland)
Erasmus in Architectural Engineering (grade: 9.0/10)
 Major: Construction engineering including two design projects and courses on construction engineering, rehabilitation and renovation of buildings

- 01/09/2010–30/01/2014 **BSc Architecture, Urbanism and Building Sciences**
 Technical University of Delft, Delft (Netherlands)
BSc Architecture, Urbanism and Building Sciences (grade: 7.0/10)
 - *Courses:* architectural design and techniques, urban planning, mechanics, design projects and real estate projects
 - *Minor:* Archineering: integration of architectural esthetics and civil engineering

- 01/09/2004–30/06/2010 **Highschool degree (VWO + Latin)**
 Stedelijk Gymnasium Leiden, Leiden (Netherlands)

PERSONAL SKILLS

Mother tongue(s) Dutch

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
French	B1	B1	B1	B1	B1
Polish	A2	A2	A2	A2	A2
Arabic	A2	A1	A2	A2	A1

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
 Common European Framework of Reference for Languages

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient user	Proficient user	Proficient user	Basic user	Basic user

Digital skills - Self-assessment grid

Driving licence B