

“Finance Day – Financing of Bio-energy projects”

6 June 2018





StartGreen Capital

funds and financing instruments for sustainable innovations

Karel Asselbergs | Investment Director SGC | EFO

Crowdfunding		<ul style="list-style-type: none"> • Pre-seed financing • Proof of concept
Venture capital		<ul style="list-style-type: none"> • Seed funds • Technostarters in energy, materials & ICT
Regional energy funds	 	<ul style="list-style-type: none"> • Later-stage growth capital • Project financing • Solving market imperfections • Focus on regional impact

Regional Energy Funds

Currently in NL:

- 10 Province funds
- 3 City funds



www.publiekeenergiefondsen.nl

Regional Energy Funds

focus on renewable energy & energy savings



Participatiefonds
Duurzame Economie
Noord-Holland

DE on

Duurzame Energie- en
ontwikkelingsmaatschappij
Flevoland



BOM

Energiefonds Overijssel

Limburgs
Energie
Fonds

Size	€ 35-85m	€ 200m	€ 6.5m	€ 18m	€ 60m
Type	Equity	Equity/Debt	Equity/Debt	Equity/Debt	Equity/Debt
Manager	StartGreen Capital KplusV	StartGreen Capital	Econnetic	Finquiddity Vermogens- beheer	BOM

Investments by regional energy funds require 'matching' by independent private investors

Highlights EFO

20% renewable energy in 2023

Debt (€ 160m)

- Min. €1.000.000
- 40-80% LTV
- Interest discount max. 2% (Fixed rate)
- Min. DSCR, DSRA/MRA etc.

Equity (€ 40m)

- Min. €100.000
- Co-investor (50%)
- IRR required
 - ✓ projects: 7-20%
 - ✓ VC deals > 30%

Criteria energy projects

Proven
technology

Solid financial
returns

Direct contribution to
energy transition

Low default
risk
(strong debtors)

Long-term
arrangements

Solid feedstock and
take-off contracts

Project financing

Lessons learned from managing a regional energy fund

Project contracts

- LT feedstock contracts are key, but often challenging to secure. Management vision and capability to renegotiate are also very important.

'Immature' projects

- Often not all subsidies (e.g. SDE), permits and/or project contracts (EPC/O&M) are in place or co-financing is not secured. Business plans of poor quality => substantial BD required

Project Structure

- Investment in SPV (preferably not in holding)
- Milestone-based funding

Project Team

- Lack of entrepreneurs with track record => need for 'serial developers'
- Different stages require different people

Financing (instruments)

- Coordination between *debt* and *equity* providers *early* in the process is crucial
- Mismatch: e.g. strong demand for subordinated debt ('achtergestelde leningen')

Thank you.

Questions:
karel@startgreen.nl

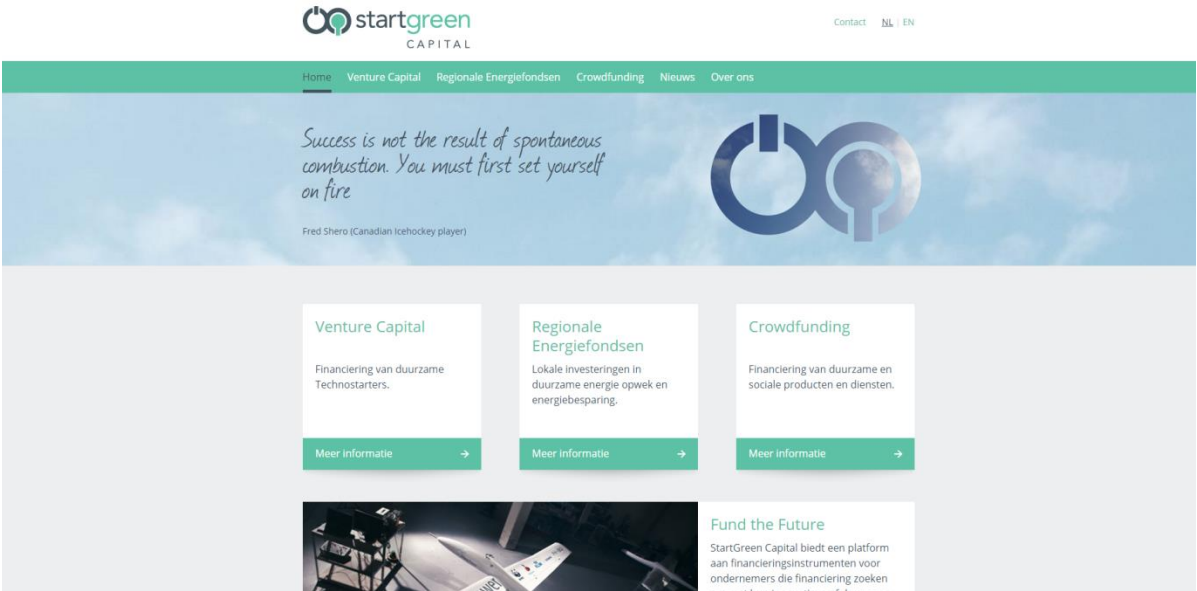
StartGreen Capital

Mauritskade 64
1092 AD Amsterdam

 info@startgreen.nl

 31 (0)20 568 20 60

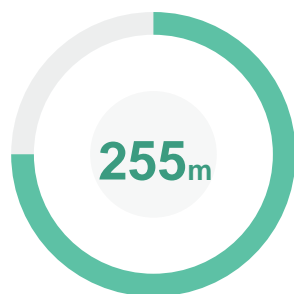
 www.startgreen.nl



Appendices

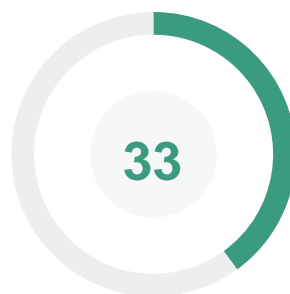
StartGreen Capital

Key figures since 2006



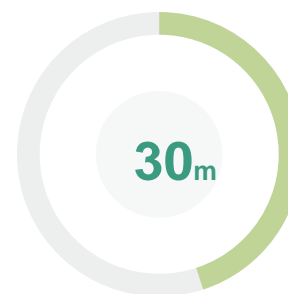
Euro

AuM
4 funds



Portfolio

Sustainable
companies

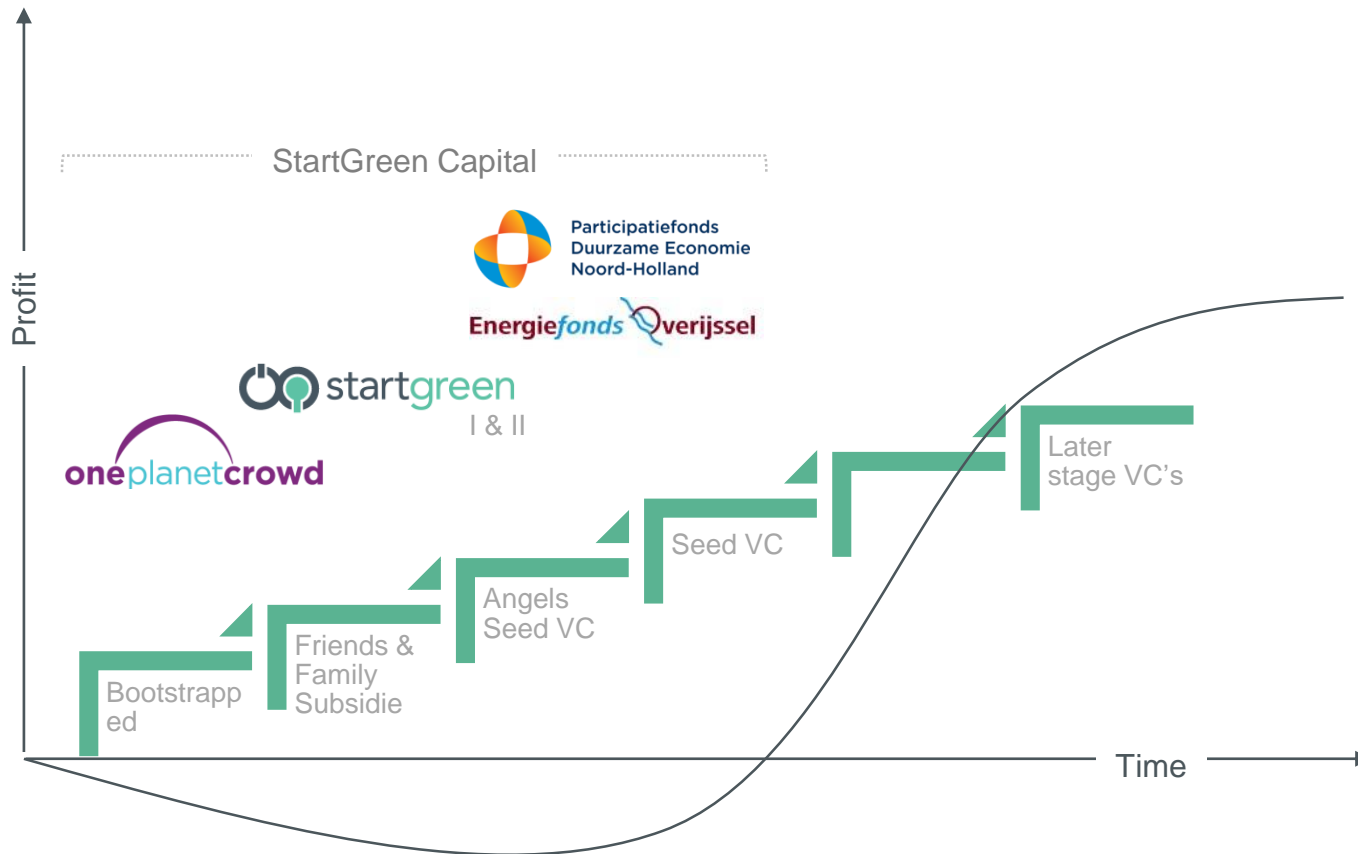


Crowdfunding

1st sustainable CF platform
130 successful projects

StartGreen Capital

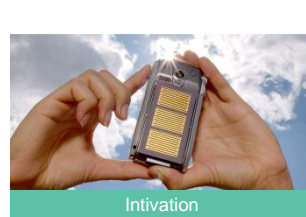
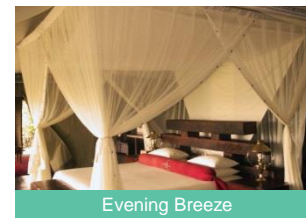
“Valley of death” in financing sustainable companies/projects



- **Valley of death** => limited capital available for stage between 'development' and 'commercial roll-out'
- **Specific knowledge & expertise**
- Investments are 'capital intensive'
- Focus on **bankability**
- **Excessive availability** of later stage funding:
 - **Pressure** on returns/margins
 - **Mismatch** in ticket size

StartGreen Capital

portfolio



■ Venture capital
■ Projectfinanciering



Examples



Development, installation, management and financing of residential solar PV systems (operational lease).

Closing: december 2015
EFO-I: € 300k

IRR = 8,1%
EFO-II: € 1,95m



Development, installation, management and financing of solar PV systems for agricultural companies

Closing: 25 november 2015
EFO-I: € 150k

IRR = 8,52%
EFO-II: € 1,1m



Development and operation of woodfired installations for f.i. district heating networks

Closing: TBD
EFO-I: € 500k

IRR = c. 13%
EFO-II: n.a.



Development, installation and management of 12 solar-PV projects (9,7 MWp) => 85 SDE subsidies / €70m

Closing: januari 2016
EFO-I: c. € 800k

IRR = 10,1%
EFO-II: € 9,9m

Case Study EFO

Combined VC and project equity investment from EFO to master the “valley of death”

High efficiency commercial scale pyrolysis plants



Unique patented technology



- BTG-BTL possesses **unique pyrolysis technology**: most types of (non-food) biomass converted into pyrolysis oil within two seconds
- Commercially scalable production => **demonstration plant** (Empyro)
- Empyro: located on site of **Akzo** / 20 million litres of pyrolysis oil per year purchased by FrieslandCampina (long term off-take agreement) / replacing 10 million m3 of natural gas annually
- ‘**Funding mix**’ Empyro (EUR 19m) was challenging => combination of **subsidies** from The Hague (**Tki**) and Brussels (**FP 7**), **loans** from the Province, a commercial bank and EFO as well as **equity investments** from private investor and EFO
- Project equity investment combined with **subsidies** (SDE) to arrive at financially viable business case
- VC investment should deliver returns from realising/selling **new installations** based on **licensing model** in global (EPC) partnership with **Technip**