



**Solarfields and Greensolver  
Gerben Smit – CEO Founder**

# Producer of solar energy

## What we do

Our core business:



Nationwide coverage from 3 offices:



## Where we are



3.700 MWp  
Solar parks in  
development



55 MWp  
Projects under  
construction



102 MWp  
Renewable energy  
realized

## Our 10 yr goal



Provide 1 million households  
with green energy



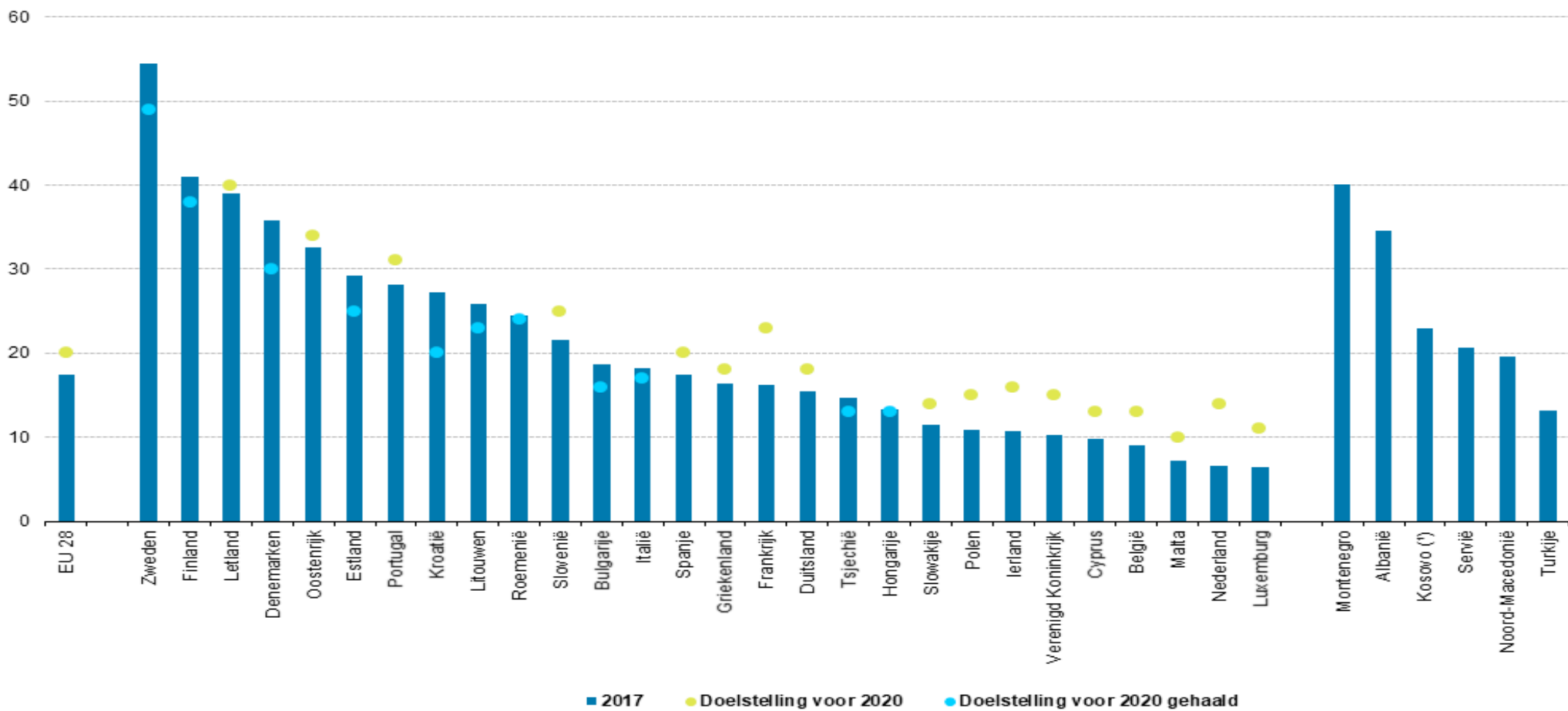
This means an investment of  
€ 3.4 billion

A man with a beard and short hair is looking upwards with a thoughtful expression. He is wearing a dark tank top. The background is dark, and several glowing light bulbs are suspended from the ceiling, casting a warm light. The overall mood is contemplative and focused on the question at hand.

## How does the NL do?

Question: How does the Netherlands perform with respect to renewable energy?

**Aandeel energie uit hernieuwbare bronnen, 2017**  
 (% van bruto-eindverbruik van energie)



(\*) Deze benaming laat de standpunten over de status van Kosovo onverlet en is in overeenstemming met Resolutie 1244 (1999) van de VN-Veilighedsraad en het advies van het Internationaal Gerechtshof over de onafhankelijkheidsverklaring van Kosovo.  
 Bron: Eurostat (onlinegegevenscode: nrg\_ind\_ren)



## 5 Reasons

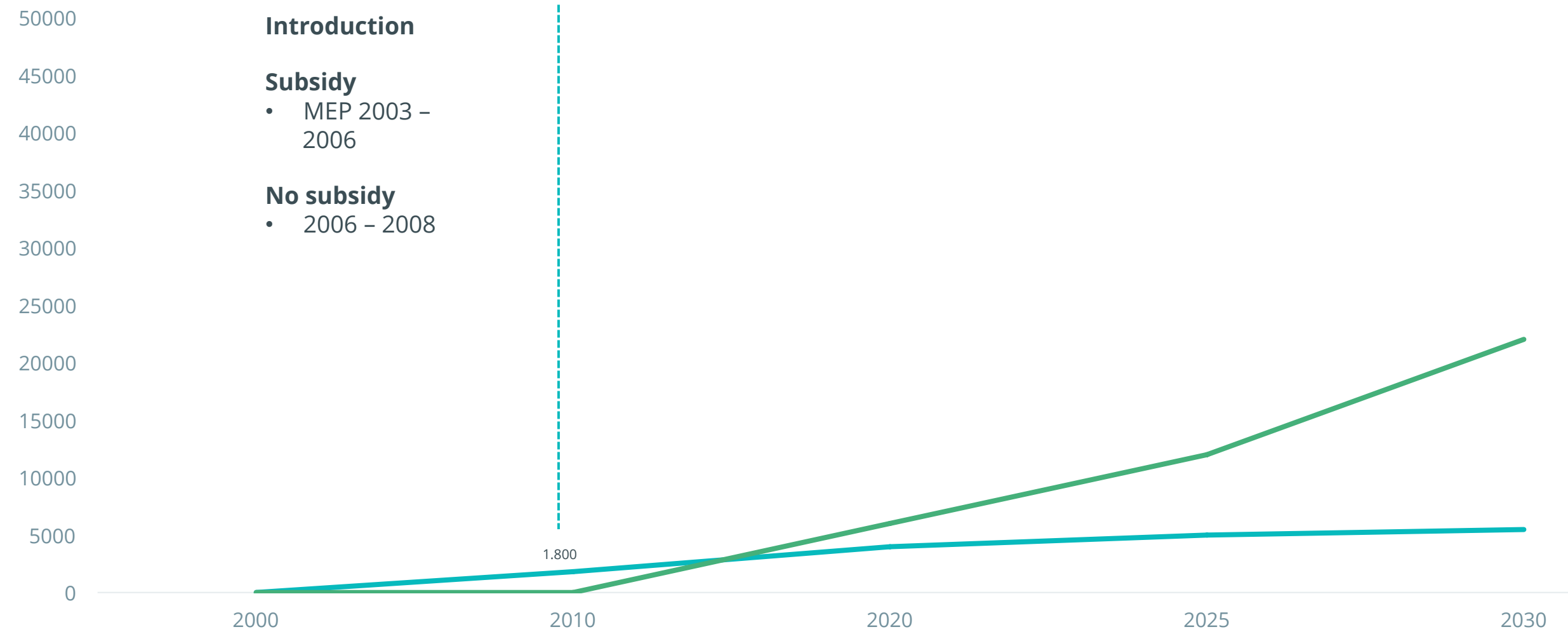
Why does the Dutch solar market have a bright future?

to be best  
point of view.  
**History** ['hɪstə  
events of the p  
developm

Reason 1

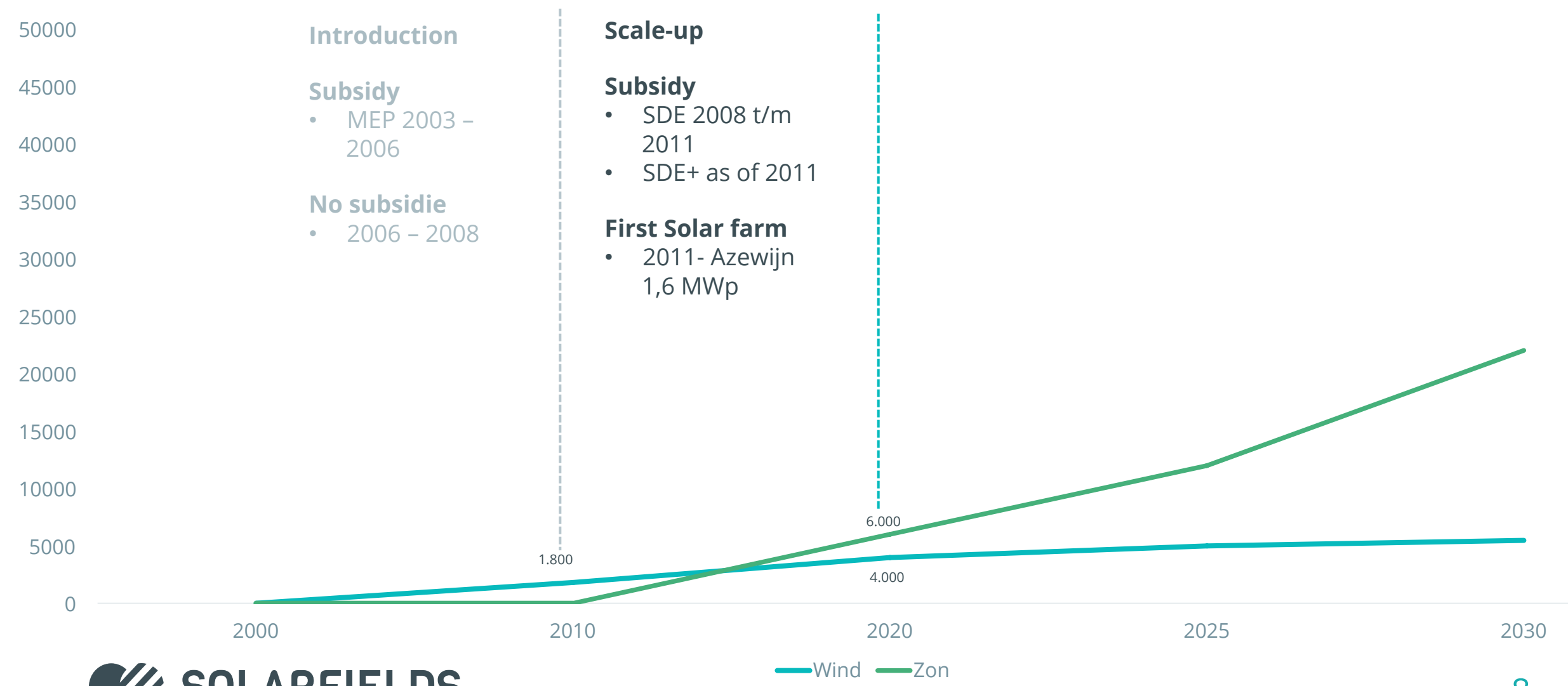
History will tell

MW



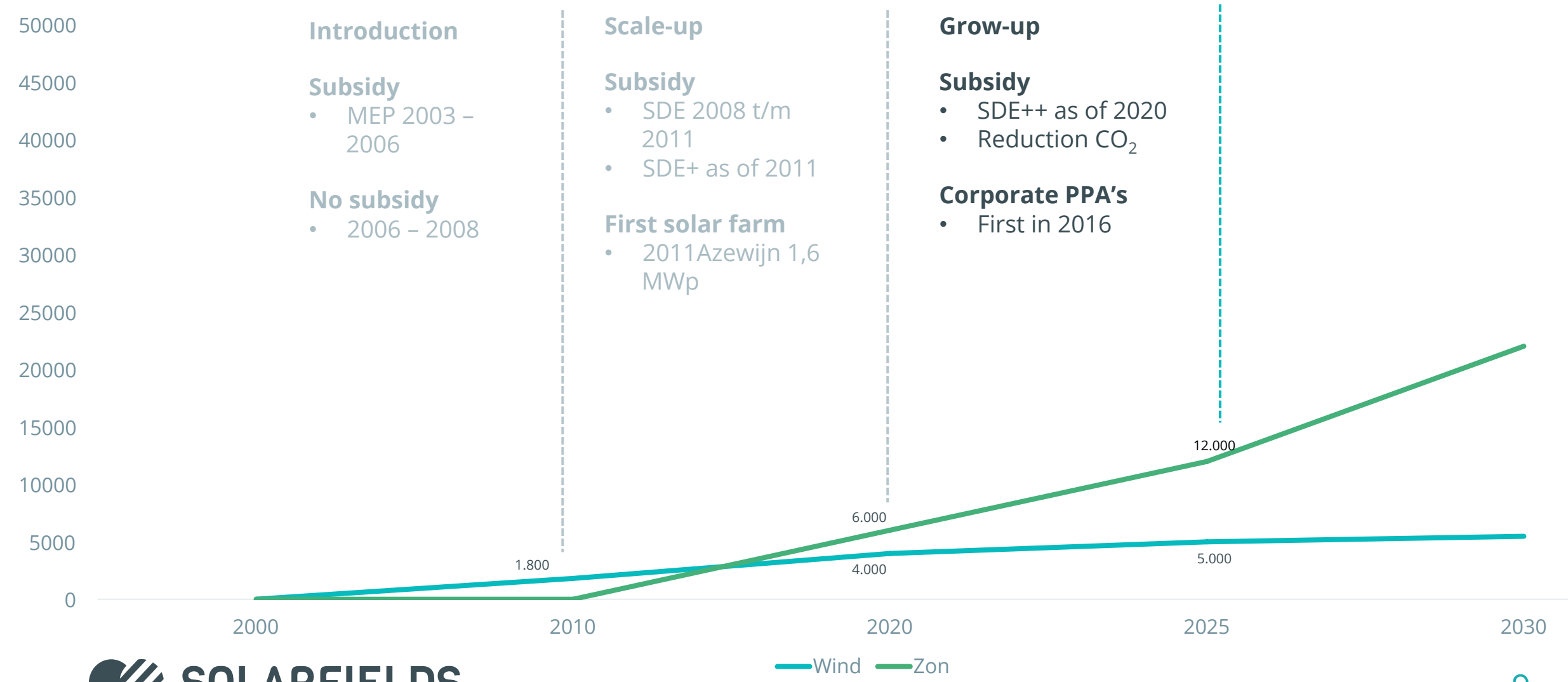
— Wind — Zon

MW

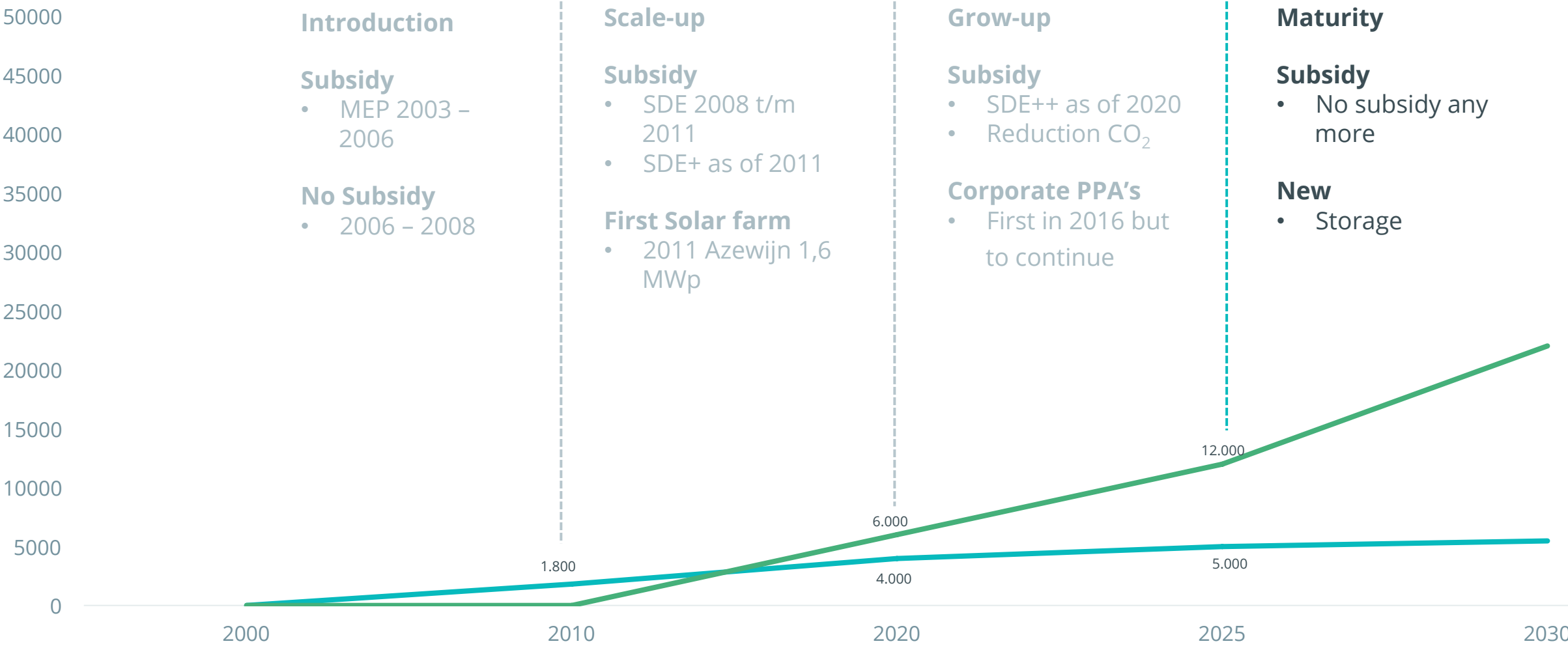




MW



MW



**Introduction**

**Subsidy**

- MEP 2003 – 2006

**No Subsidy**

- 2006 – 2008

**Scale-up**

**Subsidy**

- SDE 2008 t/m 2011
- SDE+ as of 2011

**First Solar farm**

- 2011 Azewijn 1,6 MWp

**Grow-up**

**Subsidy**

- SDE++ as of 2020
- Reduction CO<sub>2</sub>

**Corporate PPA's**

- First in 2016 but to continue

**Maturity**

**Subsidy**

- No subsidy any more

**New**

- Storage



— Wind — Zon



## Reason 2

Law & Legislation

# Law and Legislation



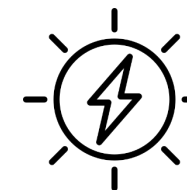
Parijs 2015



Urgenda 2015



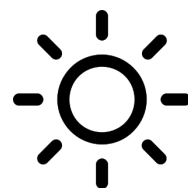
Klimaatakkoord  
2019



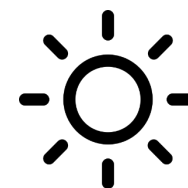
RES 2020



2020  
6 GWp



2030  
22 GWp



2050  
88 GWp

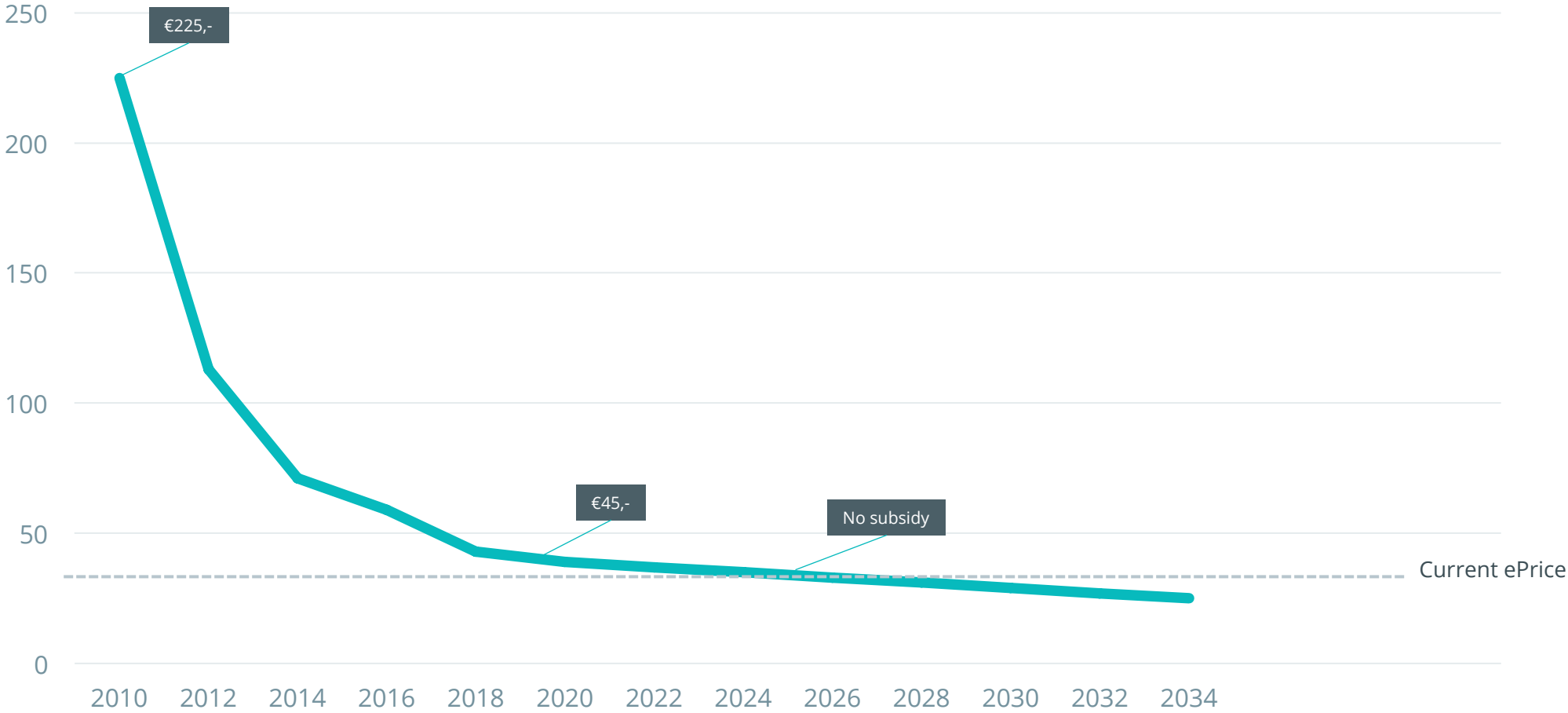


• Reason 3

LCOE

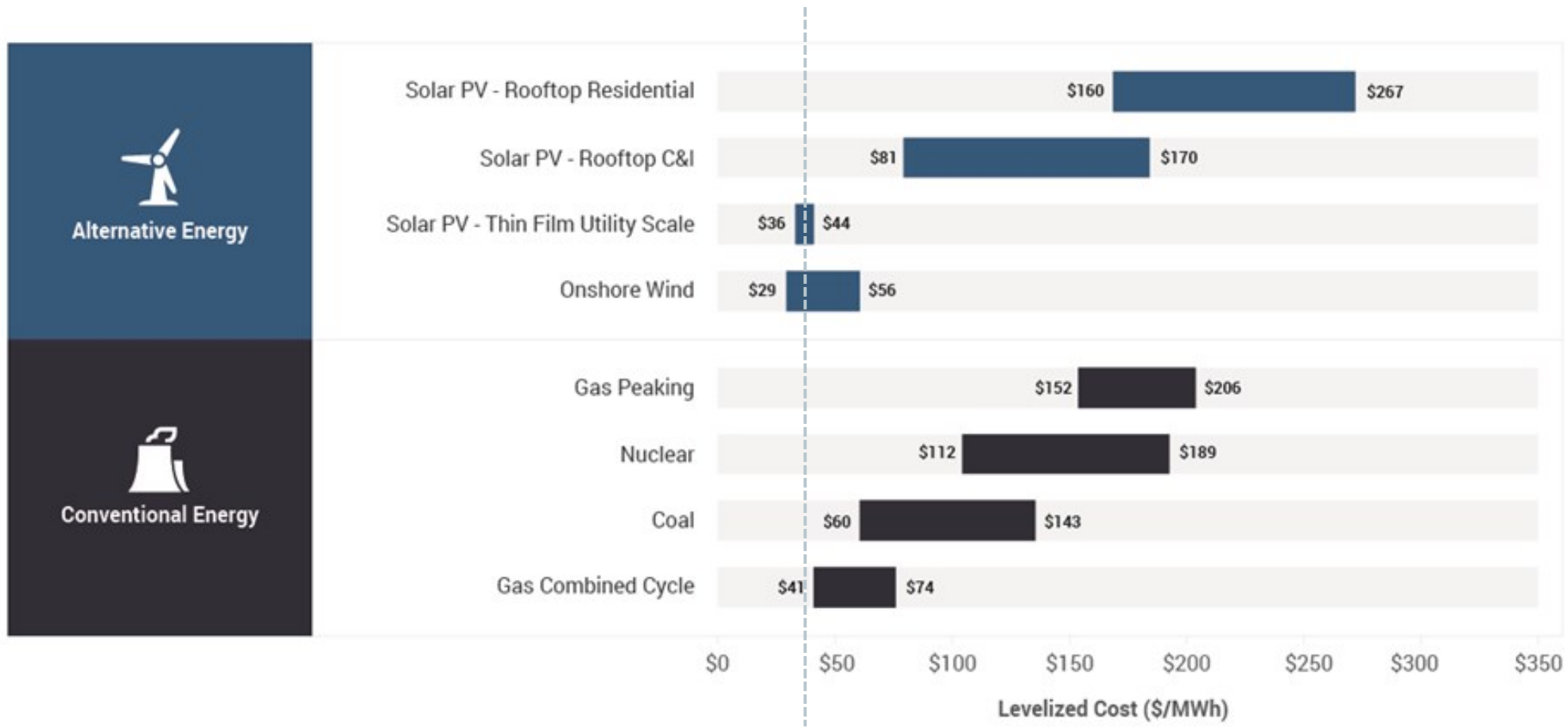
# LCOE of Solar in Europe

€/MWh



Source: Fraunhofer

# LCOE technologies compared



Source: Lazard



## Reason 4

Investor Friendly Business case  
*Solarfarm Molenwaard*





## Facts & Figures

90.132 – Risen Energy 385Wp panels

143 - Huawei 185KTL inverters

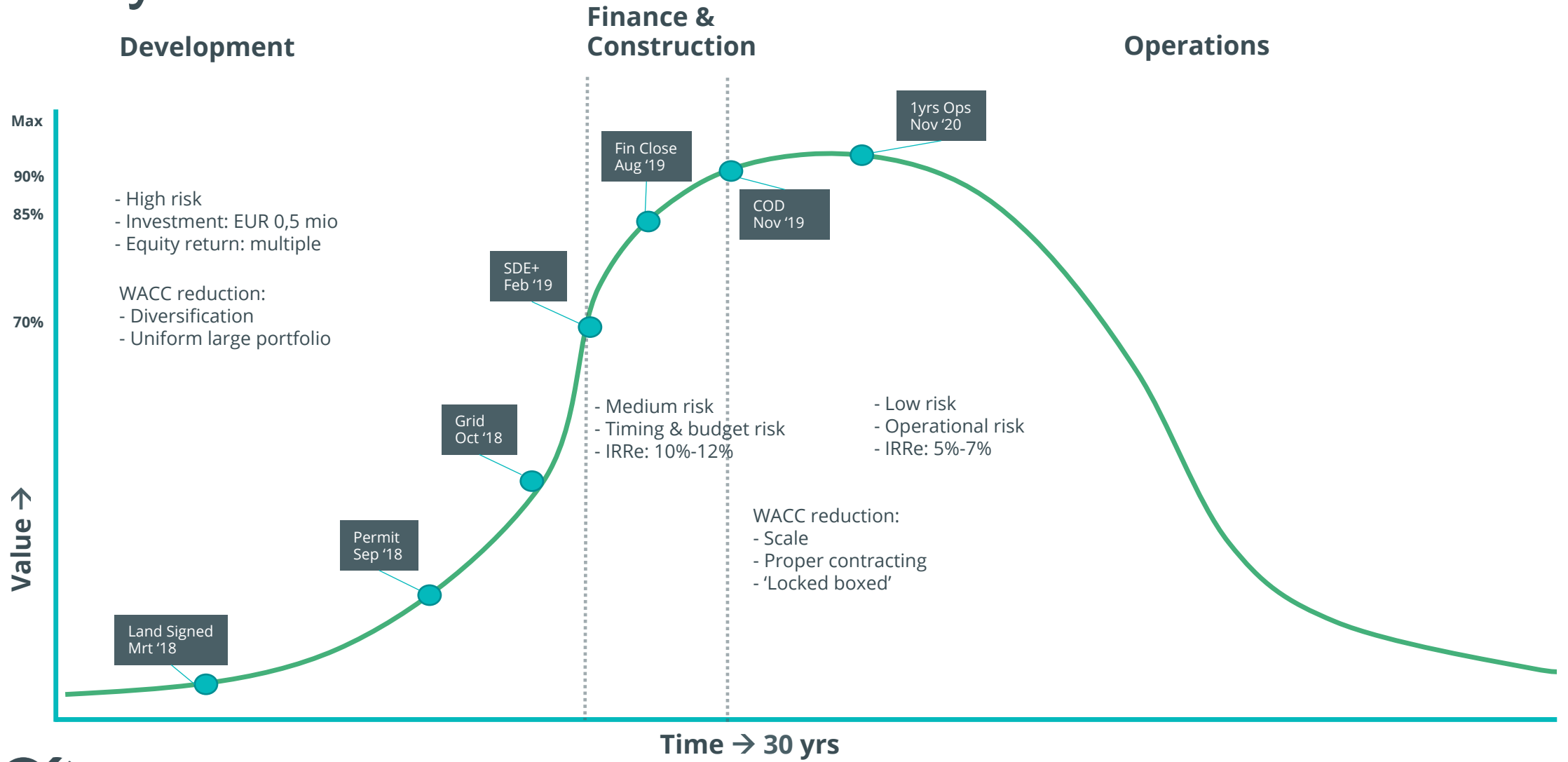
Investment EUR 30 Miljoen

32.000 MWh p/a (*10.000 households*)

17.500.000 kg avoided CO2 p/a

0 'zienswijzen' during planning

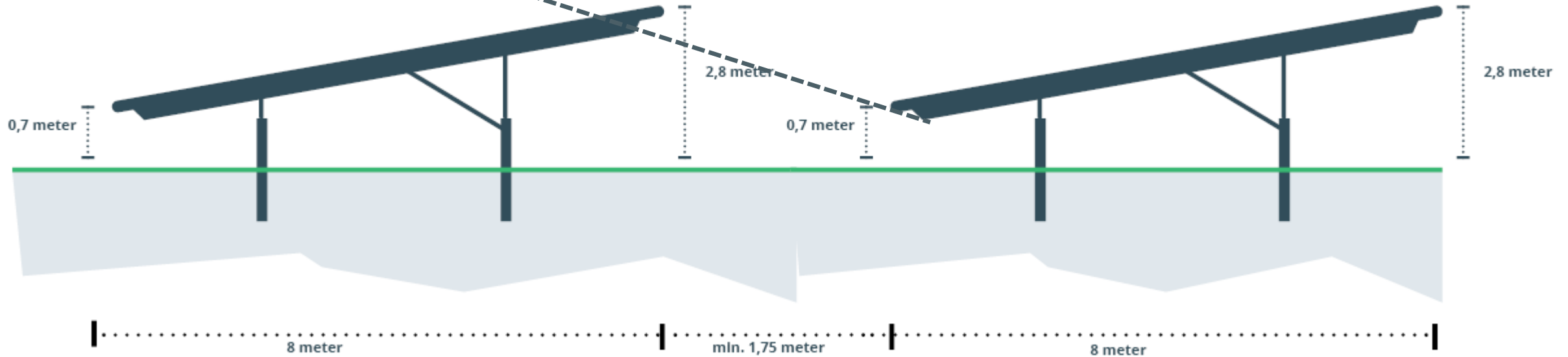
# Life cycle



# Design principles



- Portrait	4p
- Orientation	South
- Tilt (degrees)	15
- Azimuth (degrees)	-3
- Aisle width (m)	1,75
- Table length (m)	8,1



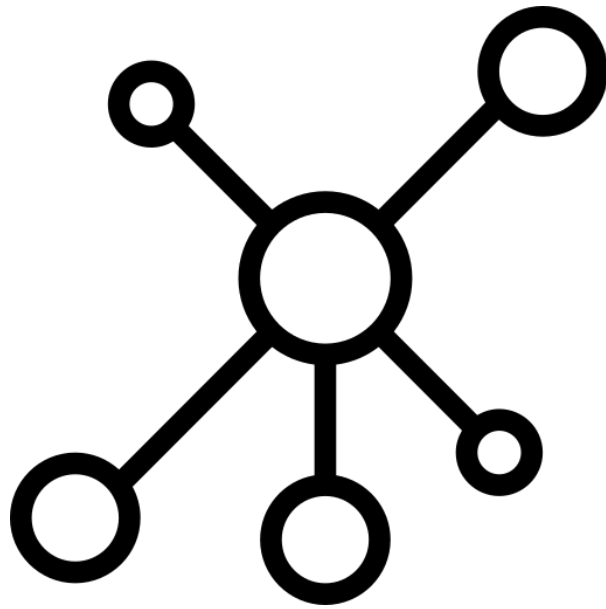
# Business case – ‘Locked box’

		Start	YR 1-16	YR 16-30		
<b>Turnover</b>	Productie <i>(p75 scenario)</i>	GHI	43.000			} - Supplier material warranties - EPC Production guarantees
		System losses <i>(-14%)</i>	(6.300)			
		Degradation <i>(-0,3%)</i>	(100)			
		Availability <i>(-2%)</i>	(600)			
		<b>Yield (MWh)</b>	<b>36.000</b>	<b>34.000</b>	<b>31.000</b>	
	Tariff	ePrice	€ 3,7ct			} - Tariff warranted by Dutch state, 16 yrs - Power Purchase Agreement, 16 yrs
		SDE+ subsidy	€ 5,6ct			
		<b>Tariff</b>	<b>€ 9,3ct</b>	<b>€9,3ct</b>	<b>€5,5ct</b>	
				<b>€3.418.000</b>	<b>€1.512.000</b>	
	Opex	Maintenance	€ 210.000			} - Long term contracts (>16yrs); - Costs linked to turnover
Operations		€ 75.000				
Lease		€ 45.000				
Taxes		€ 95.000				
Other (insurance)		€ 85.000				
		<b>€ 510.000</b>	<b>€ 545.000</b>	<b>€ 585.000</b>		
	<i>(15%)</i>	<i>(16%)</i>	<i>(39%)</i>			
<b>Operational cashflow</b>			<b>€2.873.000</b>	<b>€927.000</b>		
Debt service			€1.820.000	-		
<b>Cashflow for equity (pre-tax)</b>			<b>€1.053.000</b>	<b>€927.000</b>		
<i>Risk/ reward profile (avg. 6,0%)</i>			3-4%	8-9%	← <b>‘Locked’</b>	

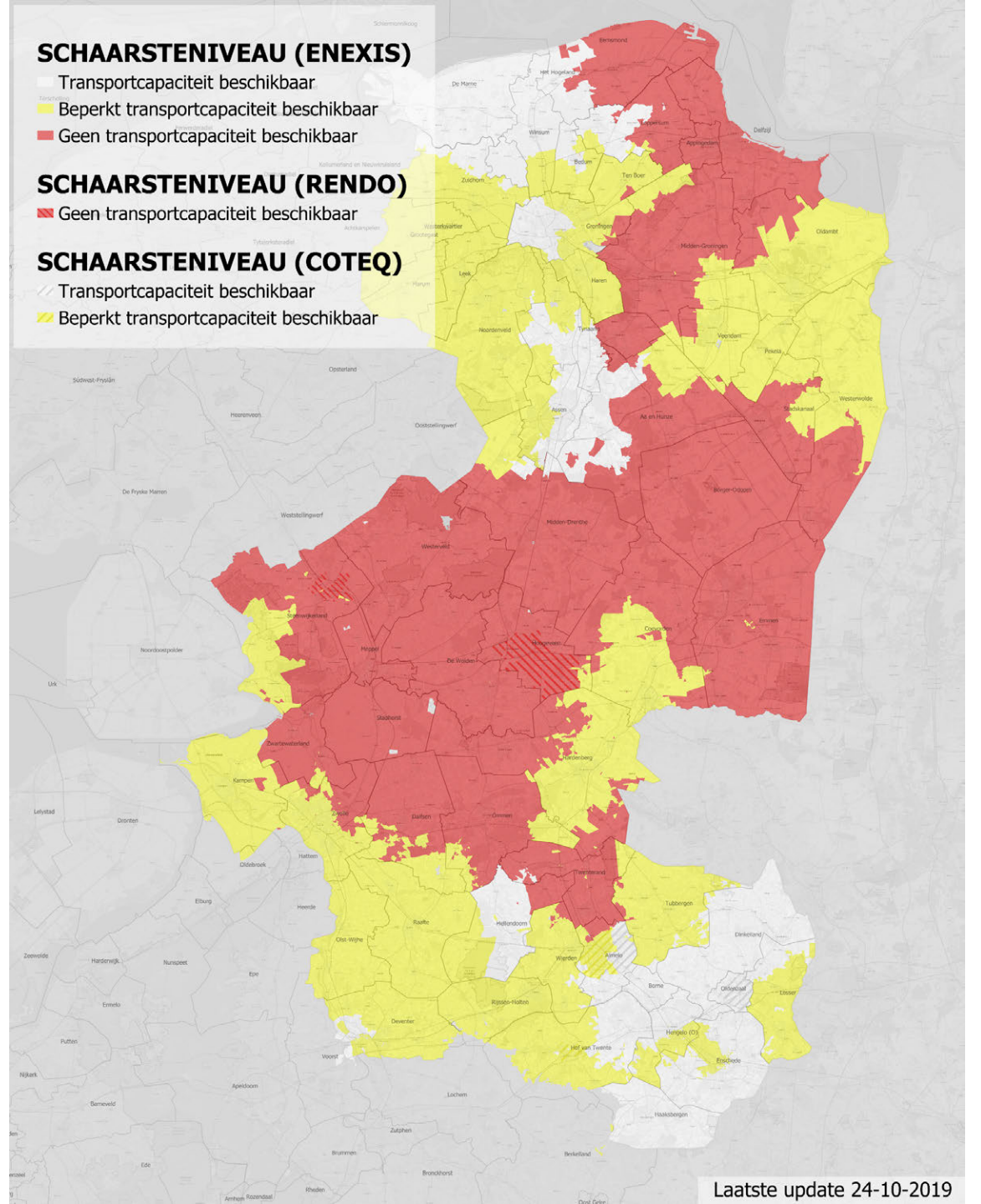


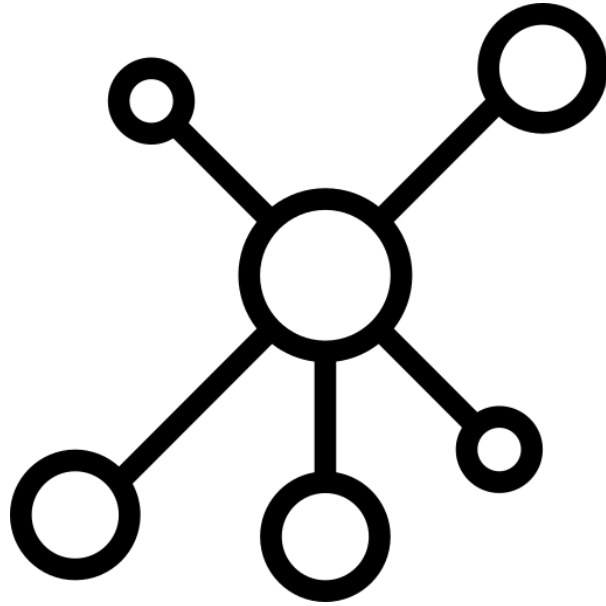
## Reason 5

Hurdles will be taken



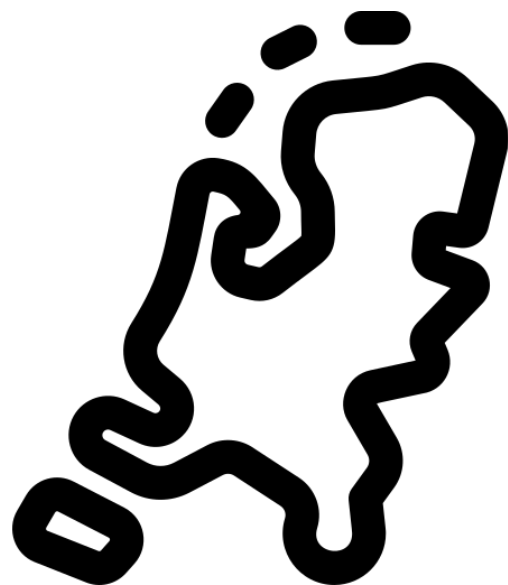
## Grid – Current situation





## Grid Solutions

- ST: Adjustment of legislation:
  - Less redundant capacity
  - GDS (private connections)
  - Direct connection to TSO (Tennet)
- MT: Grid upgrades
- LT: Smart grids
- LT: Storage



## Use of space

Solar relative high M2 per produced kWh ratio

*1 Hectare - 1,3 MWp*

*Efficiency | Technology improvement*

Solution 'dubbel ruimte gebruik'

0,7% of the agricultural area | in comparison: football pitches use 0,5%



A man with a beard and short hair is looking upwards with a thoughtful expression. He is wearing a dark tank top. Above him, several incandescent light bulbs are hanging from the ceiling, some of which are lit, casting a warm glow. The background is a dark, textured wall.

**Where are we  
in 2030?**

realizing renewables **solarfields.nl**



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