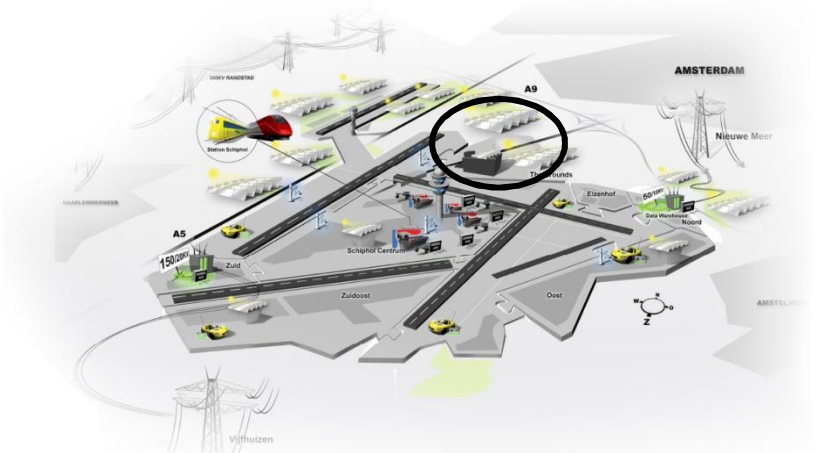
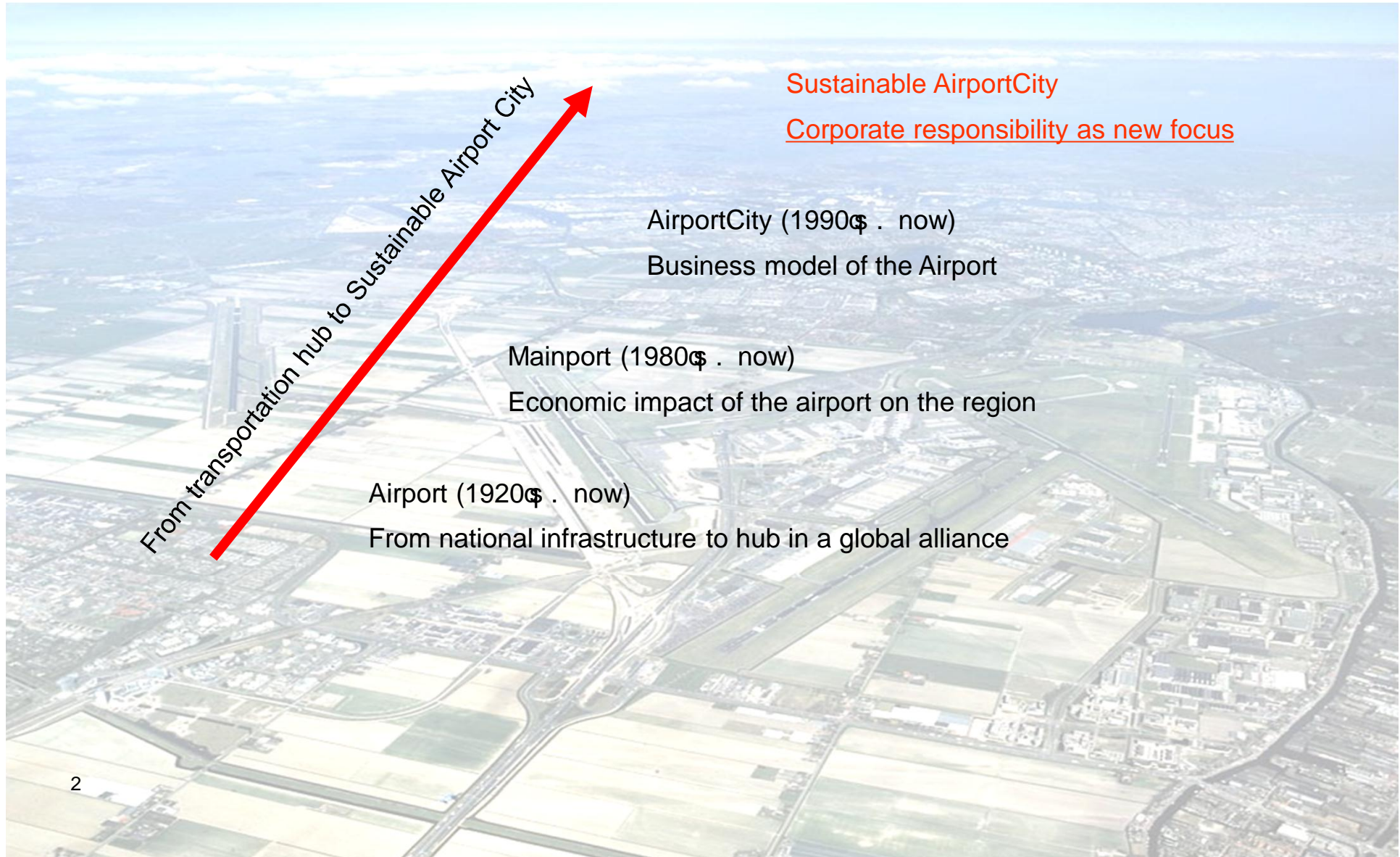


energyGROUND

11 januari 2011



Achtergrond: A sustainable AirportCity



Uitdaging: becoming a sustainable AirportCity

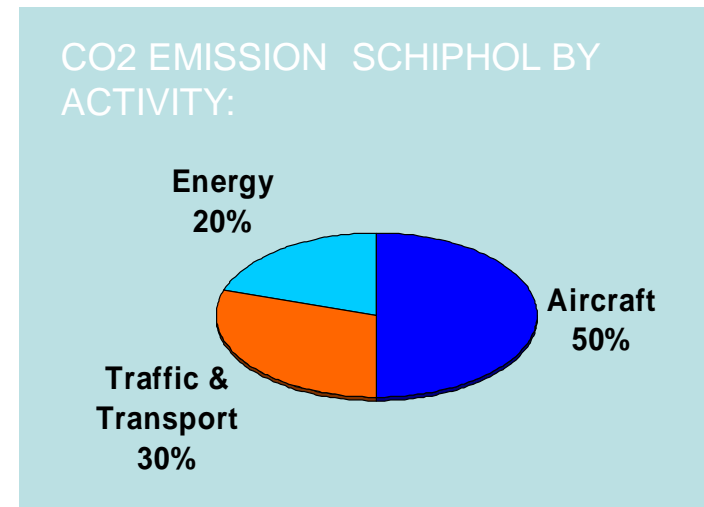
Veiligstellen van license-to-operate bij groei en reputatie behoud

- “ Climate ambitions:
 - “ By 2020: 20% renewable energy
 - “ By 2012: CO2 neutral for our own activities
 - “ Climate adaptable airport

- “ Competitive cost level
 - “ Contributing on core activities and cost efficiencies

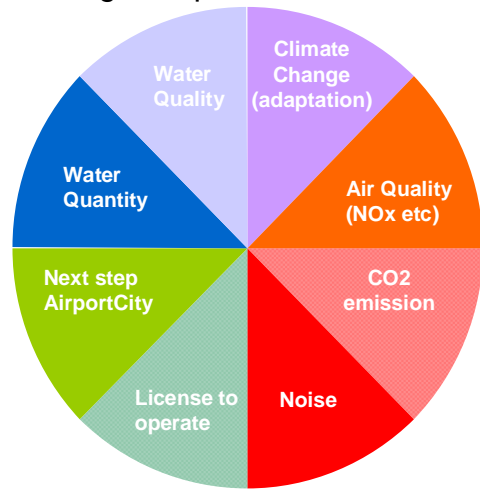
- “ Creating preference for Schiphol
 - “ Enhancing brand value for customers and employees
 - “ Differentiating products

- “ New options
 - “ Innovation through partnerships
 - “ New products & markets

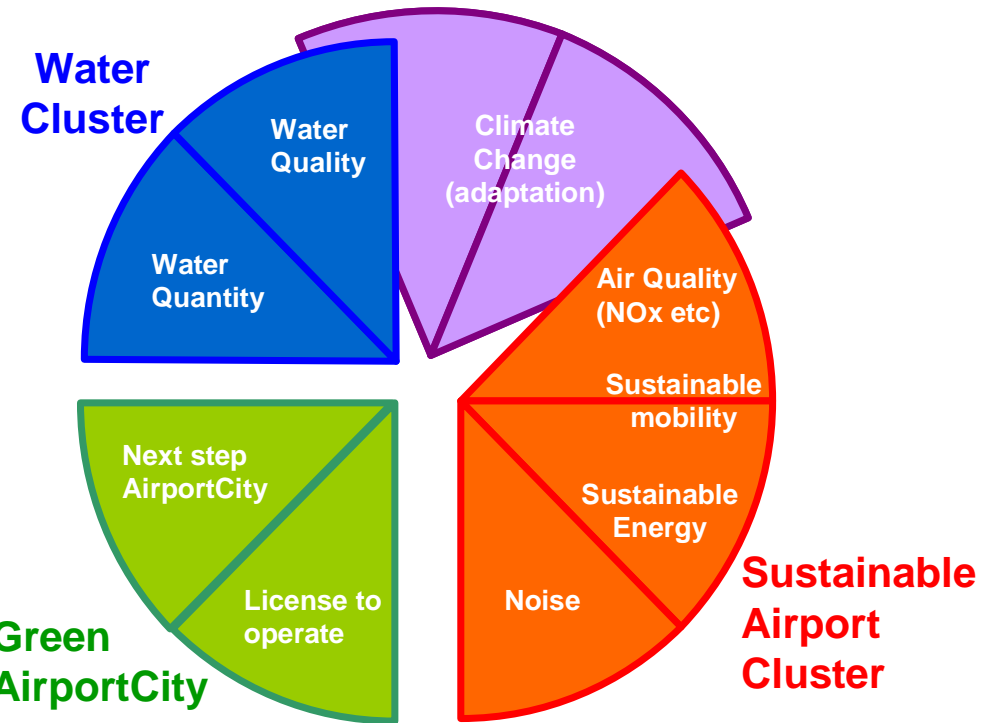


Oplossing: creëren innovatie cluster

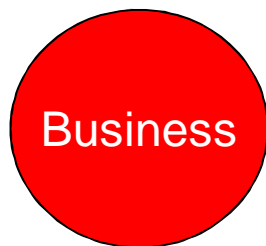
Corporate responsibility challenges airport



Market / Reputation opportunities



Demand market & grants government



Cluster is also a network and community which will scale up innovations at the airport

theGROUNDS



theGROUNDS bestaat uit:

- “ Cluster van bedrijven/instellingen met sterke focus op innovatie & duurzaamheid (Founding Fathers: Imtech, WUR, TU Delft en TNO) welke willen bijdragen aan CR doelstellingen van Schiphol
- “ theGROUNDS Incubator in gebouw ~~Outlook~~op Schiphol Centrum
- “ Seed capital fund ~~Mainport Innovation fund~~+in samenwerking met KLM, TU Delft, Rabo Bank and Technopartner (EZ).
- “ Projecten. Voorbeelden:
 - “ Sustainable Urban Area Development Concept (theGROUNDS Partners + World Business Council for Sustainable Development, EIT Climate KIC).
 - “ Sustainable Energy Service Company project by Imtech / Schiphol Group
 - “ Sustainable Mobility concepts
- “ Sustainable Area Development (Algae bath, PV field, bio energy plant, R&D facilities)

→ *energyGROUNDS*



Wat is energyGROUNDS?

É *Onderdeel van theGROUNDS*

É *Testgebied voor ontwikkeling & realisatie van duurzame energie assets*

É Uitvoering van ideeën vanuit theGROUNDS (SG & Partners)

É Hoog innovatie gehalte

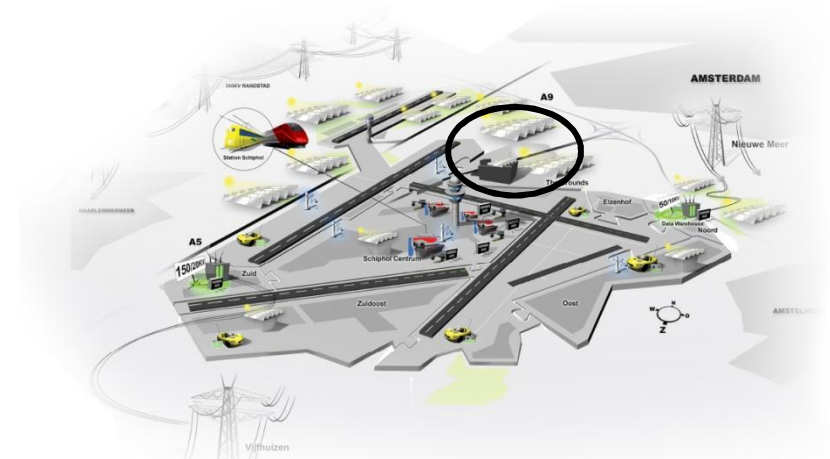
É Exposure voor de luchthaven en haar partners

É *Special Purpose Company (energyGROUNDS B.V.)*

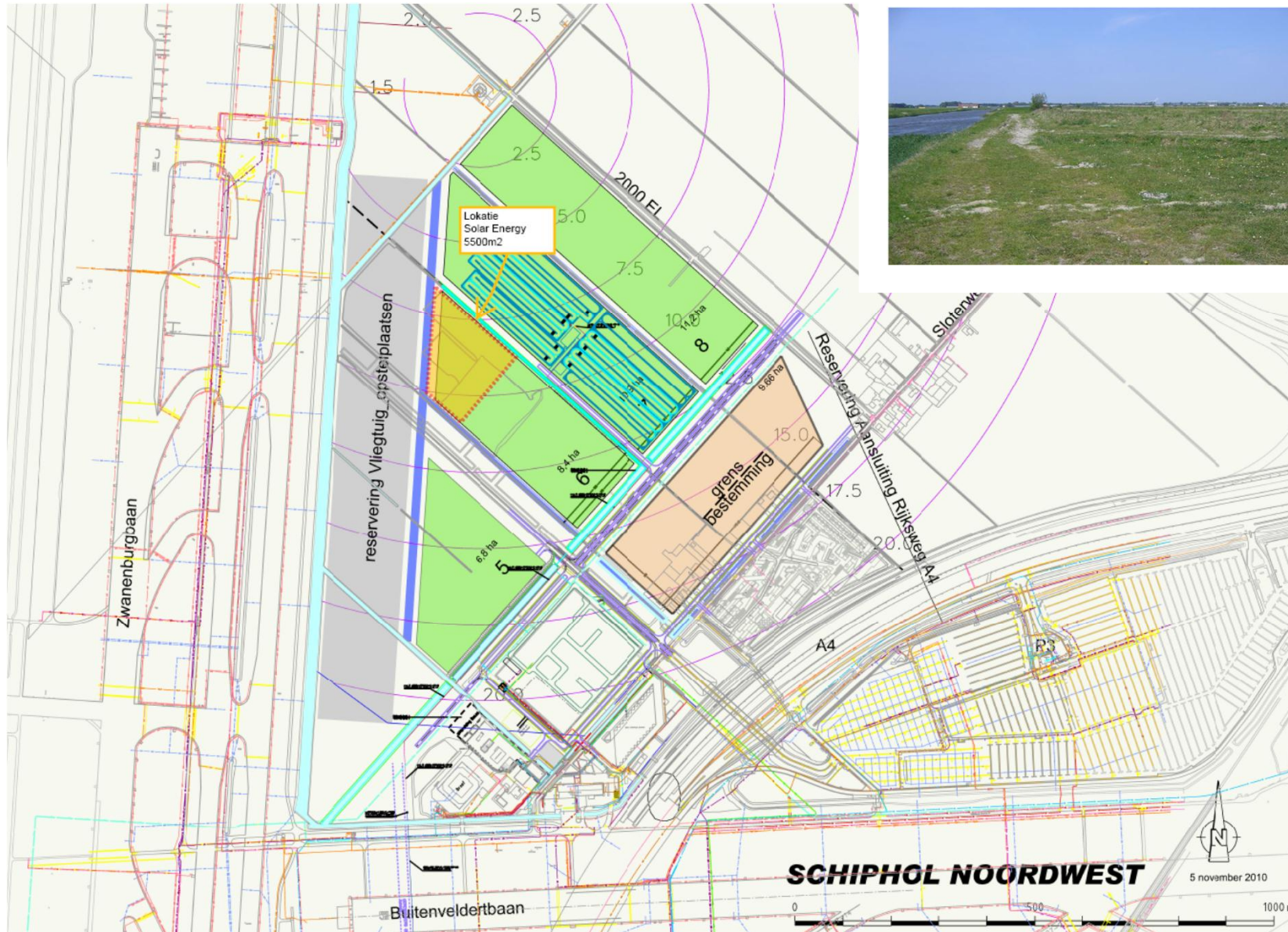
É Meerdere partners mogelijk → complementair rollen binnen projecten

É Risico management

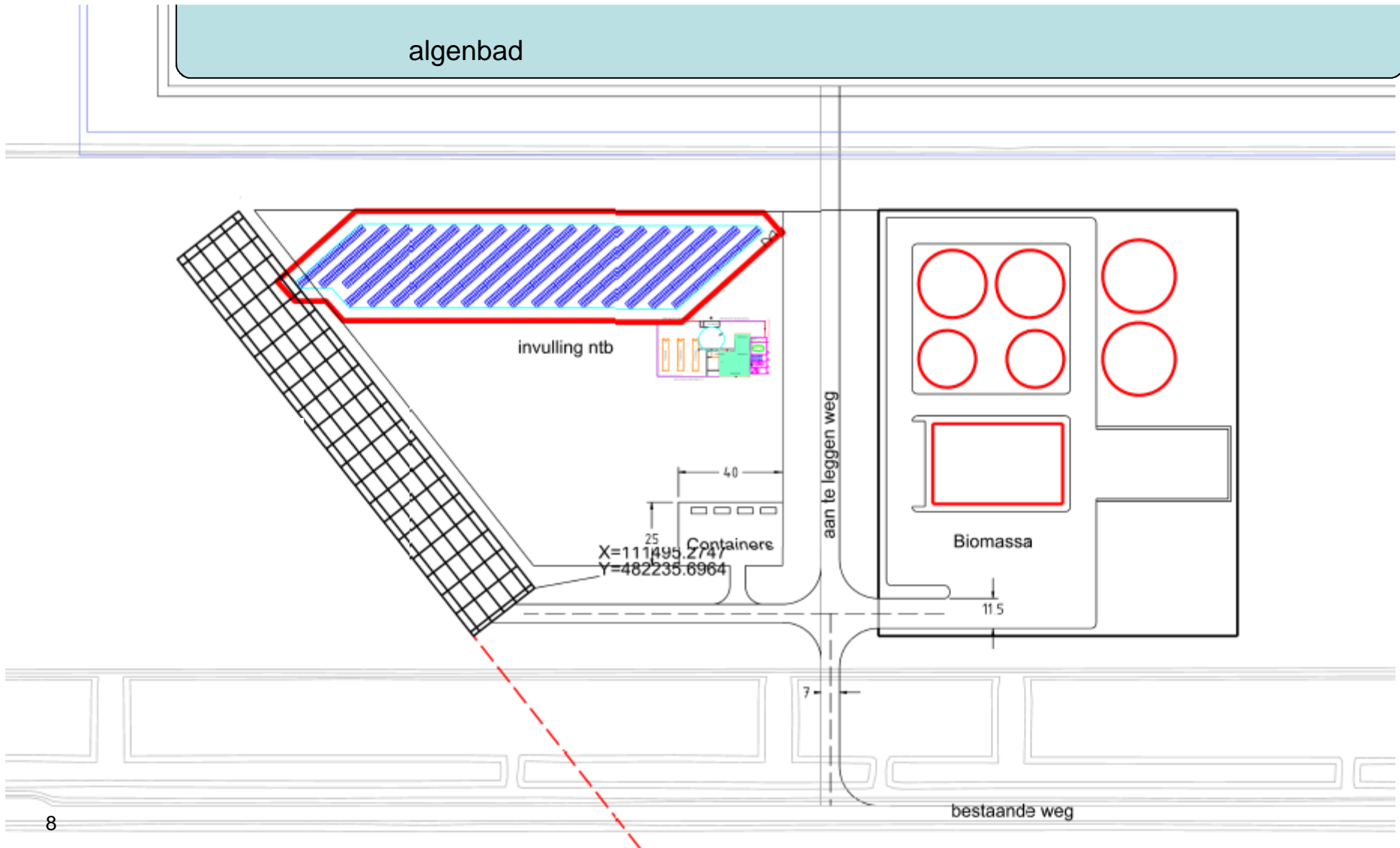
É Flexibele contract vormen tussen partners



Waar? (I)



Waar? (II)



Welke projecten?

Algenkwekerij

- ” Doel: op duurzame wijze de . icing vloeistof verwerken
- ” Status: aanvraag marktpartijen (request for information)
- ” Oplevering: 2012

Zon PV project (in samenwerking met Imtech & Hublink)

- ” Doel: opwekken van duurzame elektriciteit mbv zonnepanelen
- ” Status: project wordt gerealiseerd
- ” Oplevering: Q1 2012

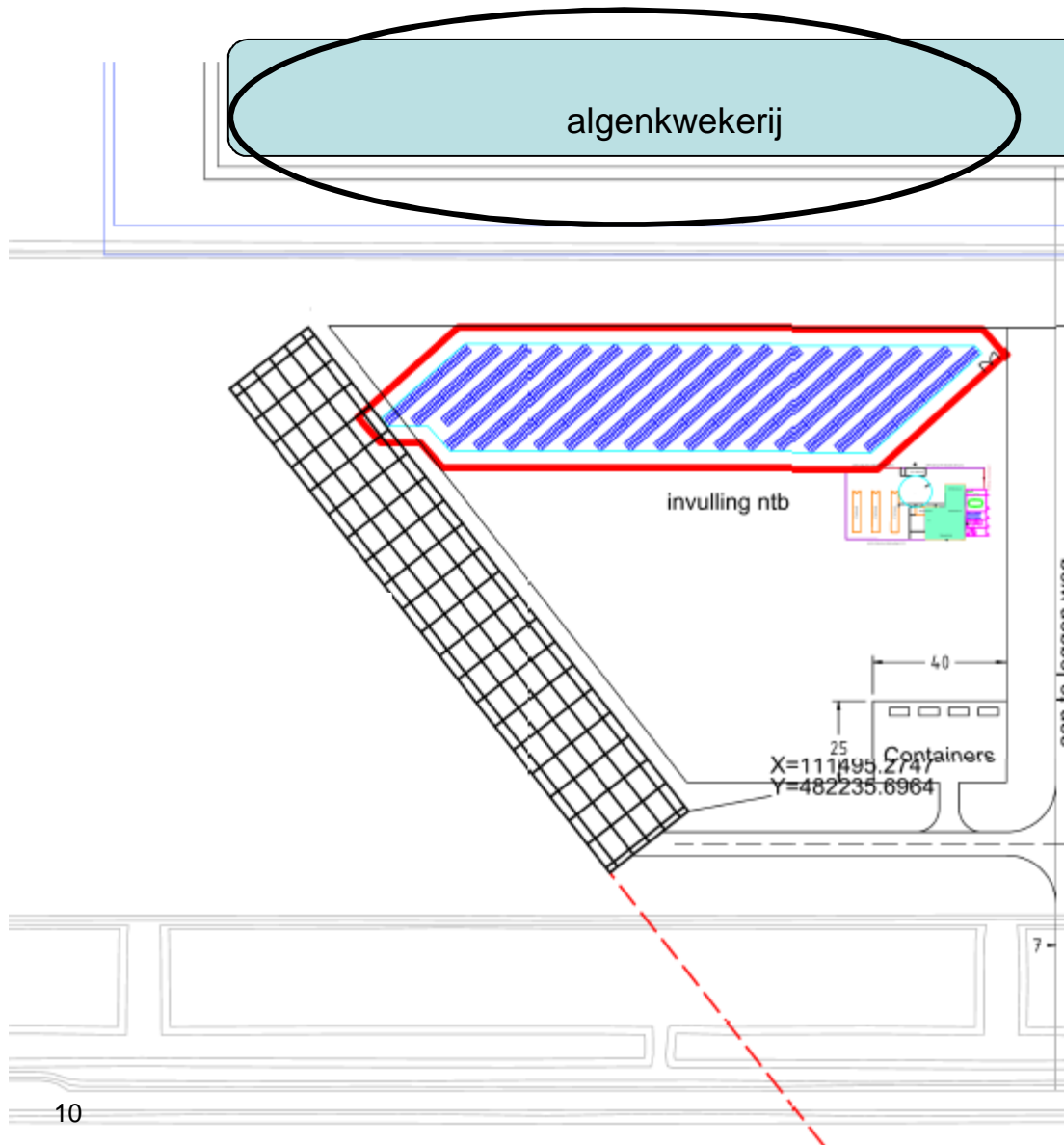
Bio energie centrale (in samenwerking met Imtech)

- ” Doel: bio energie stromen vergisten & omzetten naar duurzame warmte/elektriciteit
- ” Status: vergunning aanvraag & indienen subsidie verzoek
- ” Oplevering: Q4 2012

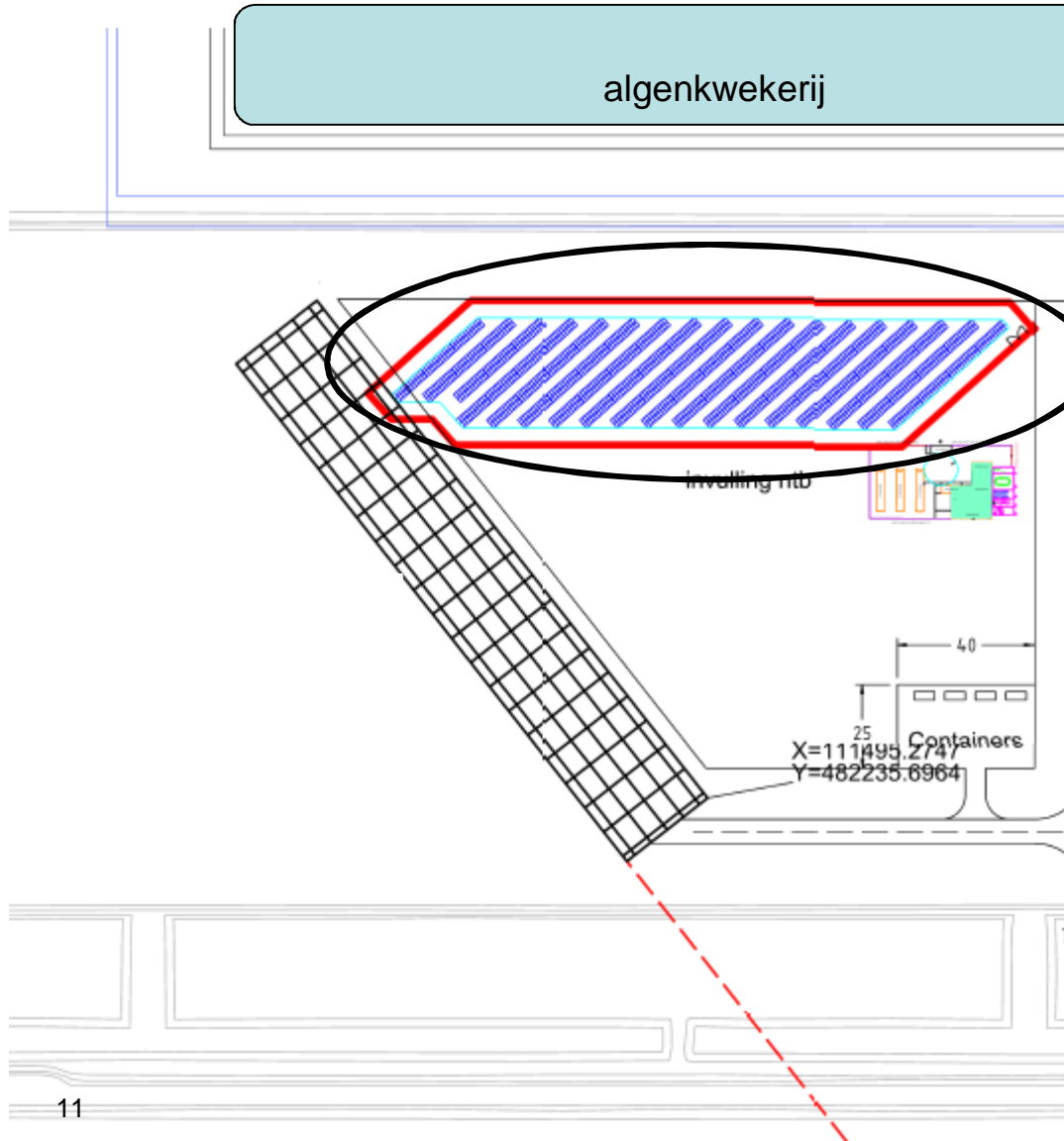
Test containers

- ” ES2020 test lab: Testen nieuwe producten en concepten met besparings potentieel

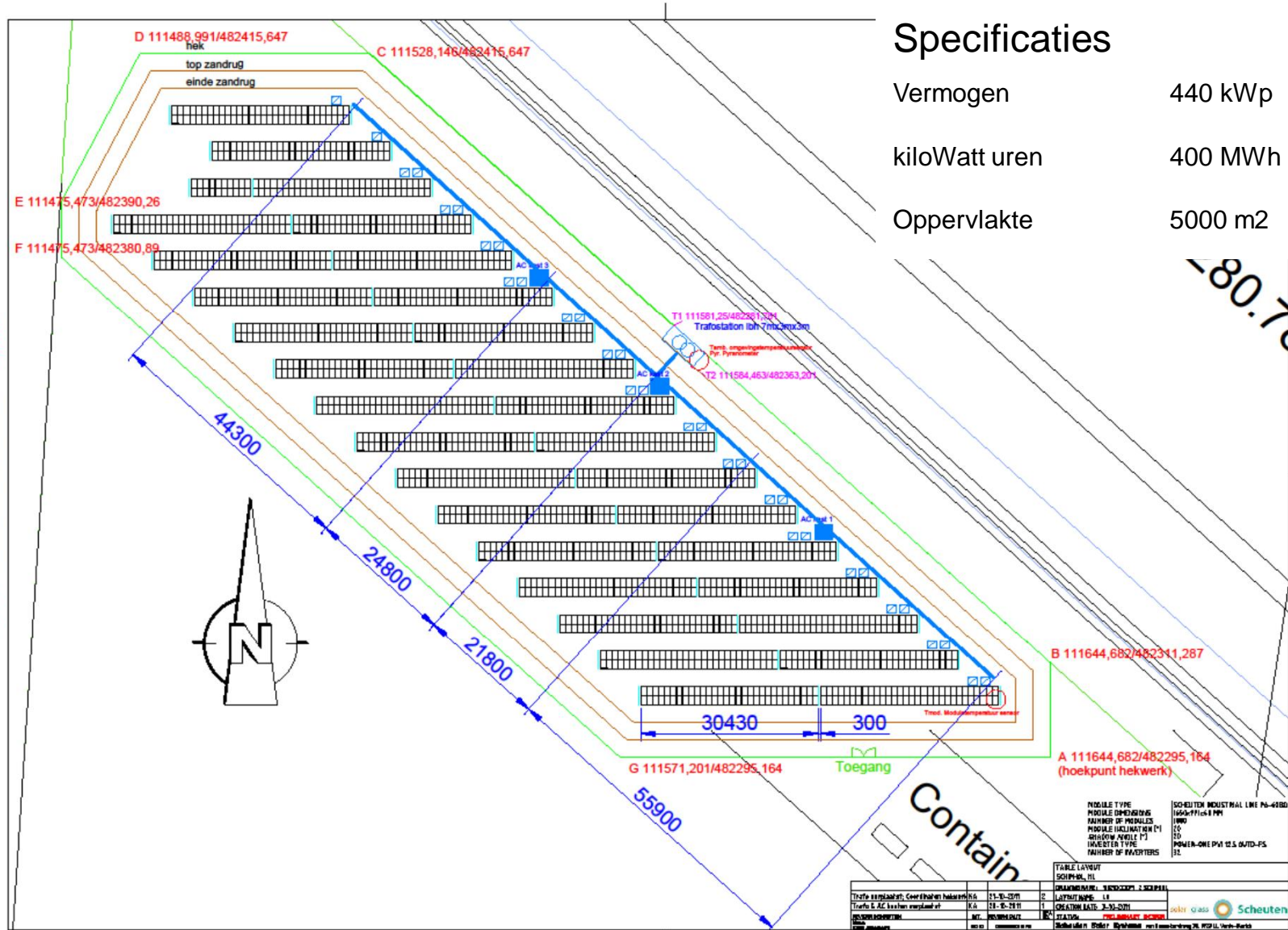
Algenkwekerij



Zon PV (I)



Zon PV (II)



Specificaties

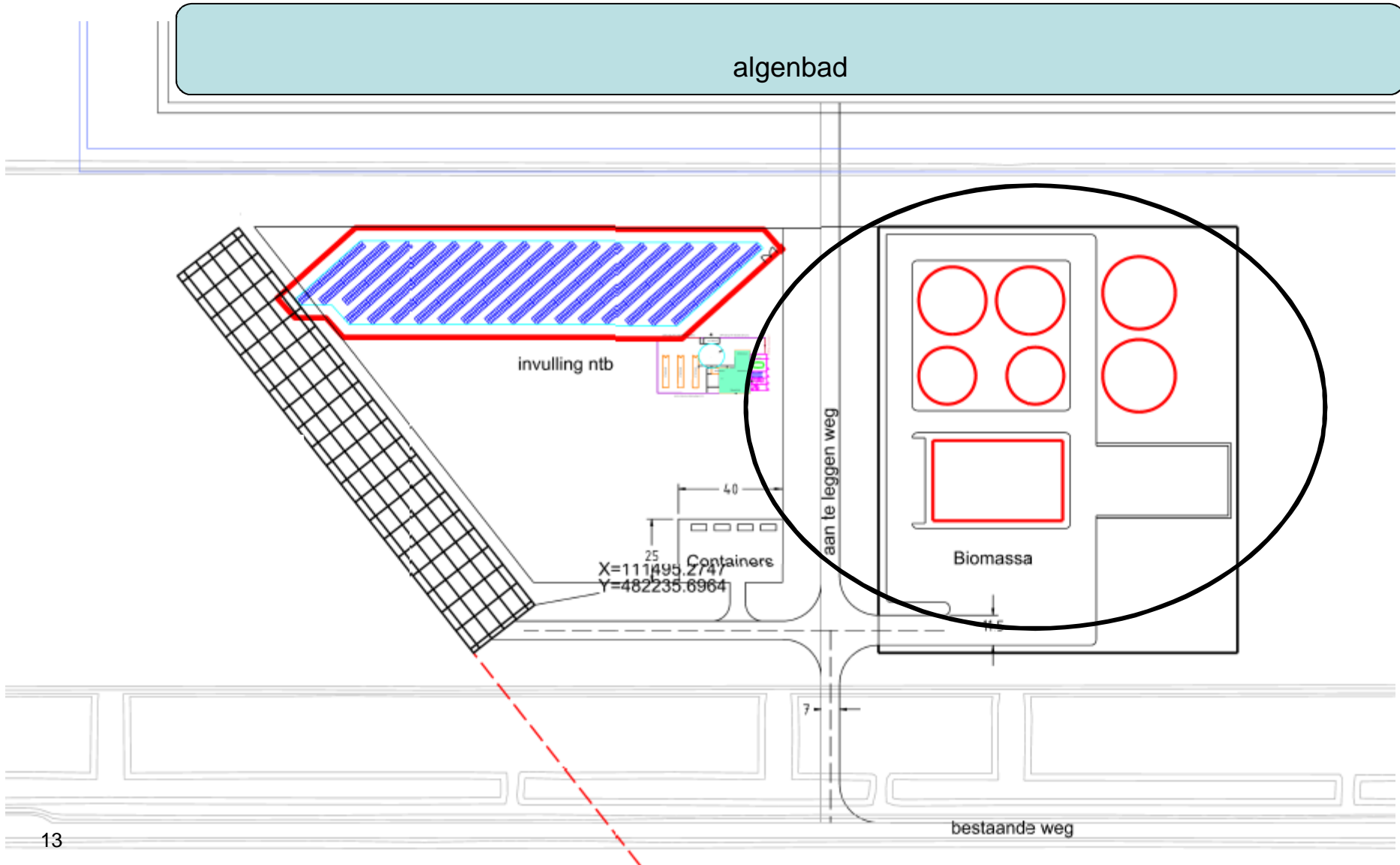
- Vermogen 440 kWp
- kiloWatt uren 400 MWh
- Oppervlakte 5000 m²

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IN ANY FORM WHATSOEVER IS NOT PERMITTED
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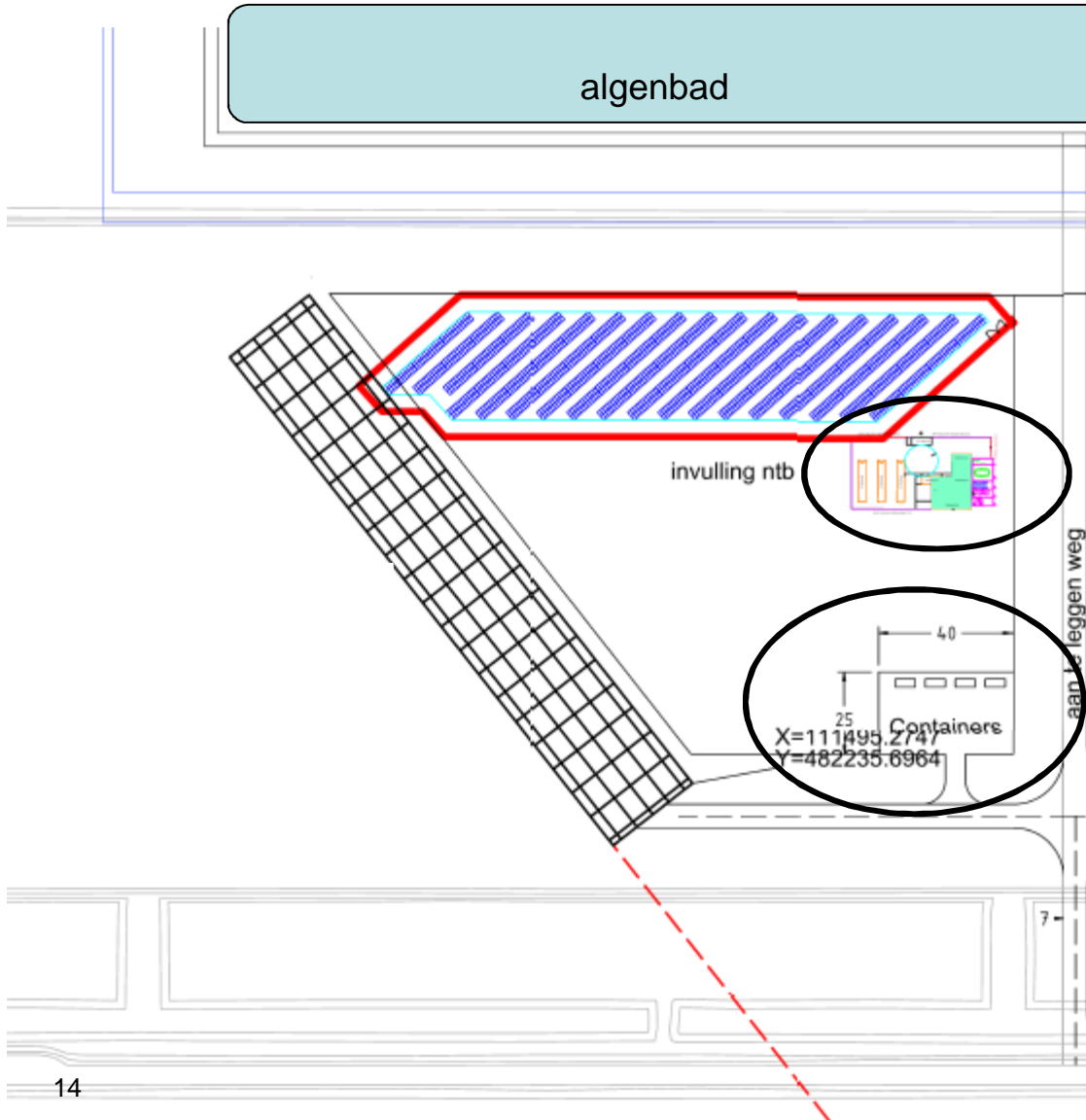
MODEL TYPE	SCHEUTEN INDUSTRIAL LINE P8-4000
MODEL OPERATING	1650/1100/1.00
NUMBER OF MODULES	1000
MODULE INCLINATION (°)	15
SHADOW PANEL (%)	10
INVERTER TYPE	POWER-ONE PWT 12.5 OUTD-PS
NUMBER OF INVERTERS	12

TABLE LAYOUT	SCHEUTEN, ILL
DATE	2023-03-01
PROJECT	Zon PV (II)
CLIENT	Schiphol
DESIGNER	Imtech
SCALE	1:1000
STATUS	Final

Bio - energie centrale



Testcontainers



Vragen?

