



SUSTAINABLE SOLAR — EUROPE 2024

Session 1: Meeting Sustainability Requirements From End-Users: PV Sustainability and Resilience in Public Procurement

12 December 2024



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Position Paper on Public Procurement (Art. 25 NZIA Implementing Act)






Key messages:

- SolarPower Europe suggests criteria in public procurement that are **clear, transparent, technology-specific** and **harmonised** to set EU-wide rules for more sustainable and resilient public procurement.
- Such non-price criteria should **be aligned with EU legislation**, such as PV Ecodesign and the CSDDD, to further ensure harmonisation and operationality.
- SolarPower Europe suggests taking a **‘quality over quantity’ approach**: employ as few, but as effective, criteria as possible.
- SolarPower Europe suggests a **carbon footprint criterion** as the dominant factor under the sustainability criterion.
- Much of the **EU Rooftop Solar Standard** expansion will be driven by public procurements conducted under Art. 25 of the Net-Zero Industry Act.
- The Implementing Act has to provide **clear guidelines for public authorities** on how to implement these principles and make them operational.



Non-Price Criteria in Public Procurement

Position Paper

Area		Compliance with legislation	Minimum mandatory requirements for public procurement	Comment
	Environmental Sustainability	Carbon footprint threshold under upcoming PV Ecodesign	Carbon footprint performance criteria that are stricter than general market access standards under the upcoming PV Ecodesign carbon footprint measures.	Specified in Implementing Act
	Resilience	[Lacking of reference standard or methodology for defining origin of components]	At least 50% of the value of the main specific components of the specific net-zero technology have to be manufactured outside the dominant source of supply, in e.g. EU countries or other signatory countries of the GPA or similar international trade agreements.	Already applied since publication in 06/2024
	Social or employment-related considerations	Corporate Sustainability Reporting Directive Corporate Sustainability Due Diligence Directive Forced Labour Ban OECD Due Diligence UN Due Diligence	Forced labour-free product should be set as minimum requirement for public procurement.	A choice for authorities amongst three options.
	Data Security	NIS2, CRA, RED, NCCS, GDPR	Relevant operational data of EU PV power plants and should remain in the EU or jurisdictions.	A choice for authorities amongst three options.
	Cybersecurity – product and corporate security		Certification under a standard for Internet of Things (IoT) applications, or Industrial Automation and Control Systems (IACS) and ISO 27001.	A choice for authorities amongst three options.



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Sustainable, Circular and Fair Solar

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City of
Amsterdam

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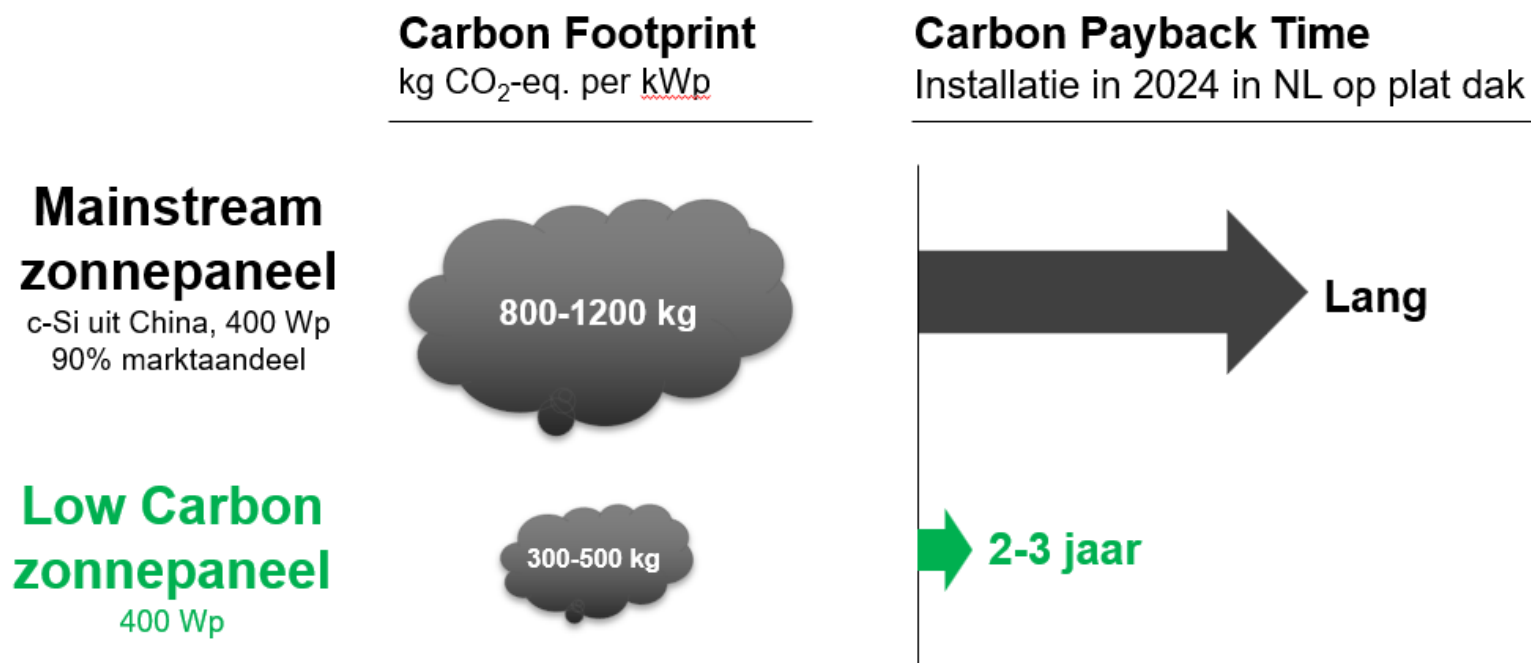
Sustainable, Circular and Fair Solar in Amsterdam

- “Sustainable, unless...” procurement policy
- Carbon pricing for projects above € 1 million
- CircuLaw – Law analysis
- 100% locally owned renewable energy
- Sustainable Solar Subsidy
 - Support in surcharge expenses
 - Awareness and information campaign
- Established reuse chain
 - with local partners
 - with European partners
- Apply sustainable and circular solar template in procurement
 - Requirements
 - Award criteria





Increased carbon payback time





Sustainable solar list *Amsterdam 2024*

■ A

■ B

■ C

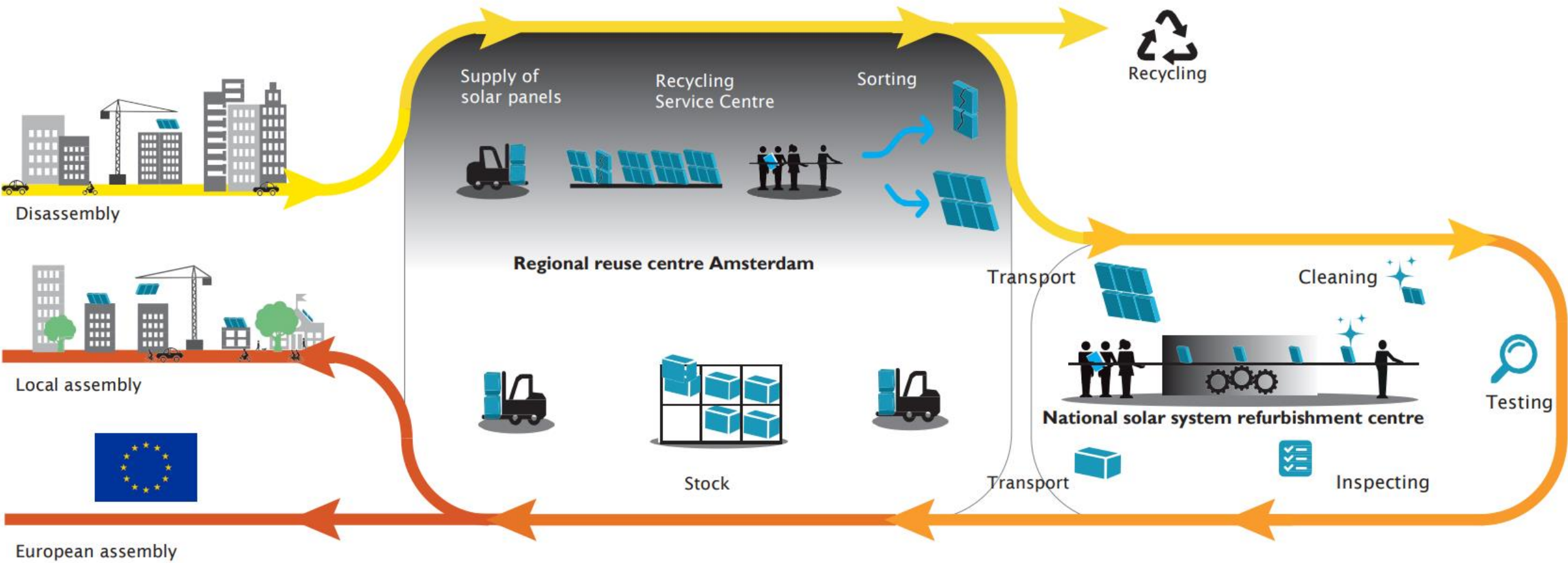
■ D

Producent	Paneelserie/naam	Carbon Footprint	Vermijdbare schadelijke stoffen			Forced Labour Risk Assessment	Module-efficiency	Duurzaamheidslabel	Meerprijs vs. mainstream	Verkrijgbaar via
		kg CO ₂ -eq per kWp	PFAS-vrije backsheet	Loodvrije soldeer	Antimoon-vrij glas		% @ STC			
MeyerBurger	alle	470-480	✓	✓	✓	Laag	21-22	A	€€€	diverse groothandels
Maxeon	SPR3/SunPower (niet 'Performance')	335-345	✓	✓	✗	Laag	22-23		€€€€	diverse groothandels
Solarge	Solo Ultra-Low Carbon 525-550	440-490	✓	✓	✓	Laag	18-20		€€€	sales@solarge.com
First Solar	alle	260-280	✓	✓	✓	Laag	18-19	B	€	www.pvo-int.com
Avancis	alle	420	✓	✓	✓	Laag	15-16		€€€€	sales@avancis.de
Heliatek	alle	250	✓	✓	✓	Laag	7-8		€€€€€	sales@heliatek.com
Longi	LR5-54HTH-430M CRE	480	✗	✗	✗	?	22	C	€	Solarclarity (en evt andere groothandels)
GCL	NT10/72GDF	460	✓	✗	✗	?	22		€	div groothandels (evt op bestelling)
Risen	RSM40-8-xxxM	520-550	✗	✗	✗	?	21-22		€	div groothandels (evt op bestelling)
JASolar	JAM54S0/MR	520-550	✗	✗	✗	?	21-22		€	div groothandels (evt op bestelling)
NB: Trina, Jinko, CSI en diverse andere grote Chinese PV producenten hebben een specifiek low carbon moduleserie.				[X]	[X]	?	[20-22]		€	div groothandels (evt op bestelling)
Mainstream: 90% van alle kristallijn silicium zonnepanelen, oa van Longi, GCL, Risen, JASolar, Trina, Jinko, CSI en andere Aziatische merken, en ook diverse Europese merken.		[800- 1200]		[X]	[X]	?	[20-22]	D	-	div groothandels
Legenda										
€ meerprijs 1-4 ct/Wp										
€€ meerprijs 5-20 ct/Wp										
€€€ meerprijs 21-30 ct/Wp										
€€€€ meerprijs 31-40 ct/Wp										
€€€€€ meerprijs >40 ct/Wp										
[...] Typische waarden										



Solar Systems Reuse Chain

The first reuse chain of solar systems in the Netherlands is made possible by working together in the chain. The City of Amsterdam is working with Stichting ZonNext, Recycling Service Centrum, WEEE Nederland and Refurn for this. Within the chain, social labour and high-quality equipment are used to ensure quality towards the new destinations. Want to donate panels or know of a suitable destination? Then please contact ZonNext.





Procurement Template – Requirements and Award Criteria for Sustainable Solar

A B		C	D	E	F	G	H	I	J	K
		Tenderer instructions: Enter the details of the PV system you are proposing in column I. Fill the grey and yellow cells will be calculated automatically for your offer. Column H contains a fictional example. You can 'play' with this Excel file by also filling in ficti							Template of requirements and award criteria for PV projects Version: 0.99	
		Offer details	Unit	Requirement	Weighting (%)	Points	Example	Your offer	Offer tenderer A	Offer tenderer B
12		Name of tenderer			100%		Example B.V. 4-5-2021		Tenderer A	Tenderer B
13		Date								
14										
15										
16		1. Cost per kWh (simplified LCOE)	Unit		70%	70	Example	Your offer	Offer tenderer A	Offer tenderer B
17		Tender amount	EUR				1.620.000			
18		Solar panel power offered (watt-peak)	kW _p	See requirement 1.2			1.020			
19		Inverter power offered (watt-peak)	kW _p	See requirement 1.4			870			
20		Nominal GHI in De Bilt (GHI _{nom} , your reference point)	kWh/m ² /year				1.030			
21		Nominal energy year 1 (E ₀)	kWh/year	See requirement 1.3			950.000			
22		AC/DC ratio	%				85%			
23		Specific nominal yield year 1 (Y ₁)	kWh/kW _p				931			
24		Nominal performance ratio (PR _N)	%				90,4%			
25		GHI reference for the Royal Netherlands Meteorological Institute station in C	kWh/m ² /year				1.050	1.050	1.050	1
26		Standardised nominal energy year 1 (E _{0,s})	kWh/year				968.447	-	-	
27		Standardised specific nominal yield year 1 (Y _{1,s})	kWh/kW _p				949	0	0	
28		Efficiency of the panels	%				21,1%			
29		First year panel degradation	%				1,1%			
30		Panel degradation after first year	%/year				0,5%			
31		Expected standardised nominal yield in year 30 (E _{0,s,30})	kWh/year				836.447			
32		Total yield over 30 years	kWh				27.073.409			

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6. Requirements – Compl & insp

7. Requirements – M & M

8. Requirements – Ecol & biodiv

9. Award criteria

10. Tender documents

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Template – Award Criteria for Sustainable Solar

Template of requirements and award criteria for PV projects Version: 0.99									
Offer details	Unit	Requirement	Weighting (%)	Points	Example	Your offer	Offer tenderer A	Offer tenderer B	Offer tenderer C
2. Carbon footprint (CFP) of the solar panels used			10%	10					
CFP of the proposed solar panels according to the Simplified Carbon Assessment (ECS CRE4, see ...)		CO ₂ -eq / kW _p			400	300	250	200	
Score calculation		see also requirement 3.5							
o If greater than 550 kg CO ₂ -eq / kW _p , tender not valid									
o Maximum number of points go to the tenderer with the lowest score (lowest CO ₂ -eq/									
o Values in between are determined by the formula: points*(550 - CFP_tender / 550 - C									
CFP score					4	7	9	10	0
3. Technical lifespan			10%	10					
Glass-glass solar panel?				2	Yes	Yes	Yes	Yes	No
Product warranty (workmanship warranty) of 30 years or more?				2	Yes	No	Unknown	Unknown	Yes
Rigorous Accelerated Stress Testing certificate; according to PVEL PQP or IEC 63209 or 3* EN				6	Yes	No	Yes	Yes	Unknown
Lifespan score					10	2	8	8	2
4. Avoidable harmful materials			10%	10					
Halogen-free plastics used in the cables?					Yes	Yes	Yes	Yes	No
< 1% lead by weight in the solder?					Yes	No	Unknown	Unknown	Yes
< 0.05% antimony by weight in the glass?					Yes	No	Yes	Yes	Unknown
Avoidable harmful materials score					10	3	7	7	3
5. Optional criteria from your organisation			0%	0					
					Yes	Yes	Yes	Yes	No
					Unknown	No	Unknown	Unknown	Yes
Score for optional criteria from your organisation					0	5	5	5	5



6. Requirements – Compl & insp

7. Requirements – M & M

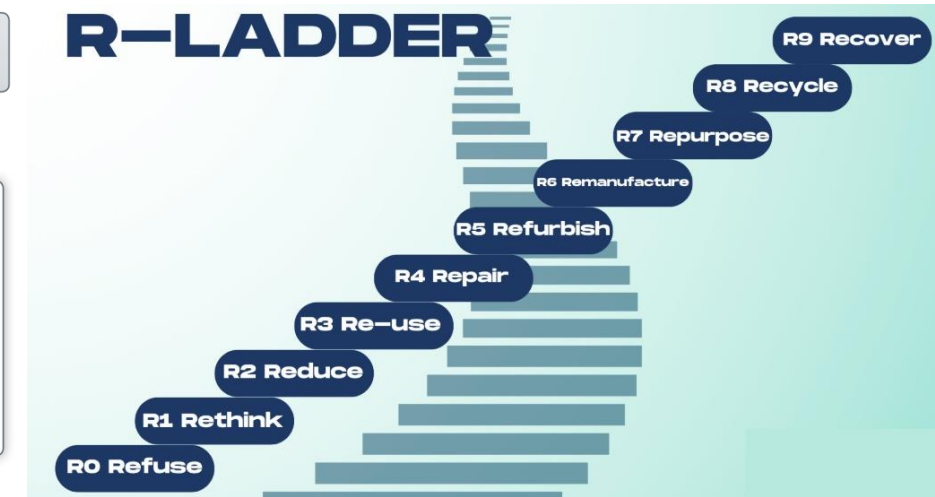
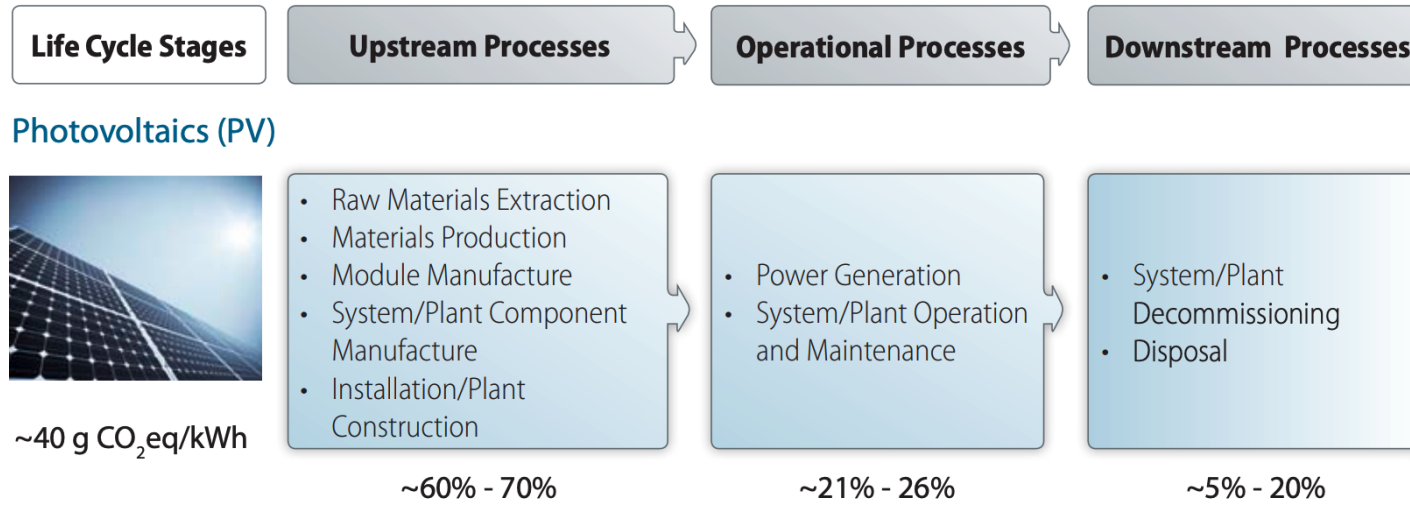
8. Requirements – Ecol & biodiv

9. Award criteria

10. Tender documents



City of Amsterdam – Award Criteria for Circular Solar



The tenderer has to submit a plan of action, describing the contribution to making the service as circular as possible. Elements to be highlighted in the plan are (where applicable):

- What is the current level of circularity of the solar installation to be delivered?
- To what extent is the solar installation to be supplied modularly designed?
- How does Tenderer ensure maximum life extension of the solar installations through repair, maintenance and damage work?
- What concrete improvements and/or achievements on circularity are there going to be over the term of the contract? This could include: production phase, usage phase and the reuse/end-of-life phase.
- What cooperation with chain partners does the tenderer have for achieving the circular performance?
- What considerations tenderer makes to achieve sustainability optimization (e.g. choice of sustainable materials vs. weight, impact production phase vs. impact use phase).'



Questions?

Relevant links

- openresearch.amsterdam - openresearch.amsterdam
- [Regulations for a circular economy](#)
- [Community of Public Buyers for Sustainable Solar PV | Public Buyers Community](#)
 - Sustainable procurement template 24 European languages: [How to prepare and start a PV project: A sustainable solar guide and templates available in 24 languages | Public Buyers Community](#)

Thank you!

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Panel discussion



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THANK YOU



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