

برية الأردن
Wild Jordan



الجمعية الملكية
لحماية الطبيعة
RSCN



Helping Nature...Helping People نساعد الطبيعة... نساعد الناس

الجمعية الملكية لحماية الطبيعة

The Royal Society for the Conservation of Nature

RSCN



- مؤسسة غير حكومية مستقلة.
- تأسست عام 1966 ، تحت رعاية الراحل جلالة الملك الحسين طيب الله ثراه.
- مفوضة من قبل الحكومة الأردنية بحماية الحياة البرية و التنوع الحيوي في كافة مناطق المملكة.
- كسبت شهرتها العالمية لريادتها في تكامل برامج حماية الطبيعة مع التنمية الاقتصادية الاجتماعية.

- RSCN is an independent NGO
- Established in 1966
- Authorized by the government to protect the Kingdom's natural heritage
- Integrate conservation programs with socio-economic development



Our Mission

RSCN aims to conserve the biodiversity of Jordan and integrate its conservation programs with socio-economic development, while promoting wider public support and action for the protection of the natural environment within Jordan

رسالتنا

تسعى الجمعية الملكية لحماية الطبيعة إلى الحفاظ على التنوع الحيوي في الأردن وتكامله مع التنمية الاقتصادية الاجتماعية، والحصول على دعم شعبي عملي لبرامج حماية البيئة الطبيعية في المملكة الأردنية الهاشمية وفي الدول العربية المجاورة.



The Dead Sea Panoramic Complex

DSPC



Vision behind DSPC

- Establish a museum to educate visitors and increase their awareness about the Dead Sea and its region.
- Create a strategic road (parkway) to link Dead Sea hotels, baptism site, Mujib reserve to hot springs, Ma'in and Madaba city.
- Create a local hub for tourism in the Dead Sea region



Background and purpose of the PV system project

The Japanese Government announced “Cool Earth Partnership” in January 2008, which is one of the Japanese Government’s approaches to the developing countries contributing to the stabilization of climate conditions in the combination of the reduction of greenhouse gas emissions and the economic growth.

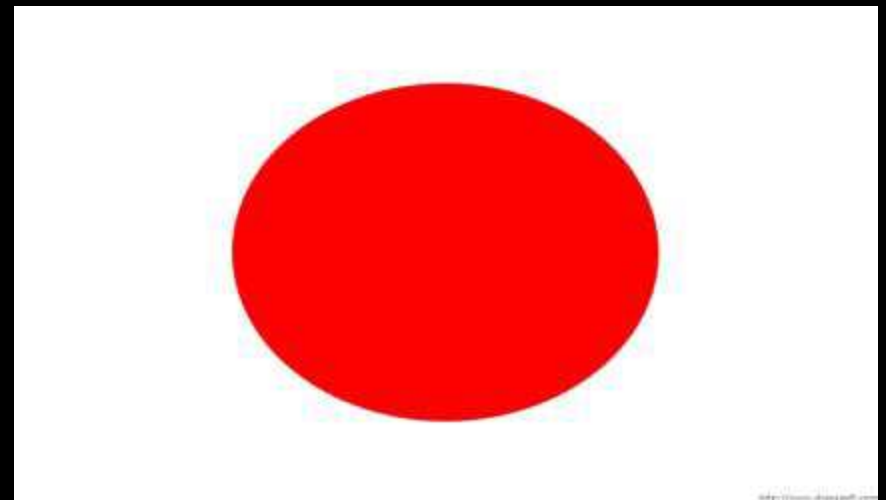
The Japanese Government declared the intention of assistance to the Hashemite Kingdom of Jordan in a manner of “Cool Earth Partnership” according to the idea proposed by Japan and had intention of introducing the Photovoltaic technology which can be positively applied as the international cooperation. This initiative named as Japan’s Grant Aid for the clean promotion using solar photovoltaic system.



Grant

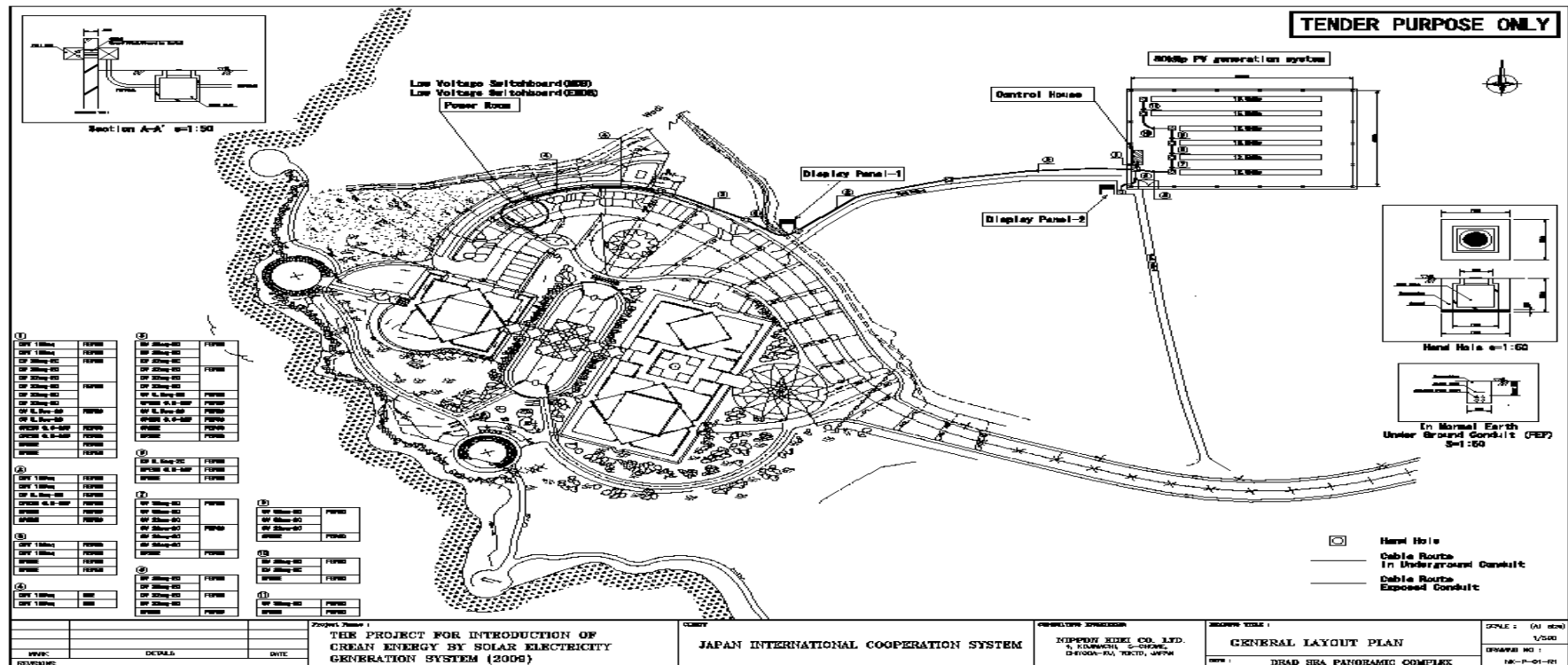
For the purpose of contributing to the implementation of the project for introduction of clean energy by solar electricity generation system by the Government of the Hashemite Kingdom of Jordan, the Government of Japan will extend a grant of (¥ 640,000,000) Japanese Yen which equals (\$ 7,000,000) US dollars according to the Japanese Government laws and regulations.

The amount above will be split between the two selected sites (DSPC & EHSC) upon project scale and specifications.



Schedule of Implementation plan (2011 - 2012)

Phase	Action	Implantation period (2011)
1	Basic civil works (preparation)	April
2	Manufacturing	May
3	Installation (major civil work)	October
4	Completion and handover	December



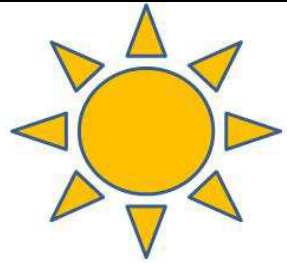
PV project general info and specifications

- 100kwp system is located north of the DSPC's main entrance, the PV system will supply all generated power to the Complex to be consumed therein. The generated power from
- the PV system will be supplied in the daytime, while commercial power will be supplied to the Complex when PV power is not being generated, for instance during nighttime. Controlled by an automatic mechanism, a non-reverse power system has been adopted for this system because this offers protection for the country's grid system. When the Complex's power consumption is lower than the solar-power generated, the PV system will be cut off by the non-reverse power system.

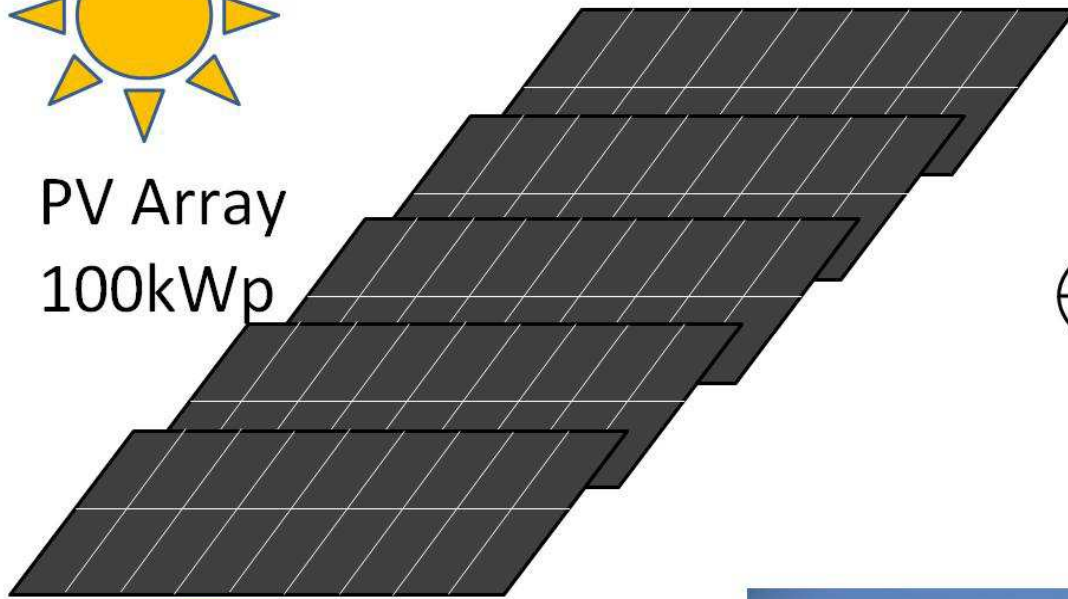
Reduced Power Consumption

- Currently, the Dead Sea Panoramic Complex's annual power consumption is approximately 382,000 kWh.
- The expected power generation of the DSPC's Photovoltaic system is 75,800 KWh, saving the Complex on average 30% to 40% of its total annual power consumption. As a result of the Solar Energy Project's Photovoltaic system, it is estimated that the total amount of carbon dioxide (CO²) to be reduced per year is as much as 90 tons.
- Moreover, in its role as a major touristic hub, the Dead Sea Panoramic Complex's aims to contribute to the promotion of clean, renewable energy and public awareness on climate change issues by educating the Complex's visitors on the project and Photovoltaic technology.

PV mechanism and operating system

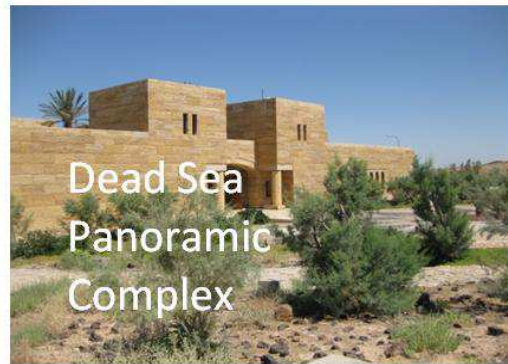


PV Array
100kWp



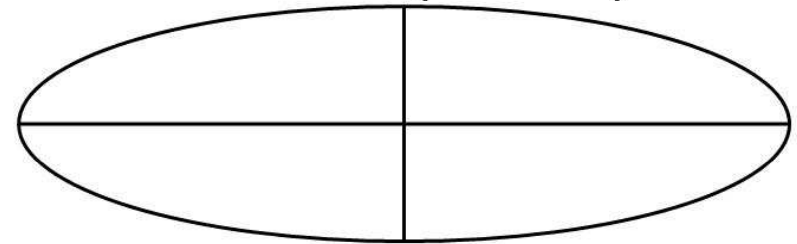
Generated Power

150,000 kWh/year
(Estimated)



Dead Sea
Panoramic
Complex

GRID (JEPCO)



Commercial Power

Non-reverse Power
System



Expected results from DSPC PV system (JICS)

Reduction of Power Consumption

Installing 100kWp PV System enables the Panoramic complex to reduce its power consumption at approx. 40%.

Reduction of CO₂

100kWp PV System reduces 90 ton of CO₂ per year.

Promotion of Renewable Energy





















Monitoring & reporting

Daily examination report

622
102

EXAMINATION REPORT [DAILY]									
DATE (YY, M, D): 2014 / 5 / 21								Approval	Confirm
INSPECTOR: Mahmoud									
SITE: DEAD SEA PANOROMIC COMPLEX SOLAR GENERATION SYSTEM 100kW									

1. External Visual Check (CHECK ONCE A DAY) TIME: 9:27

J	U	N	C	T	I	O	N	B	O	X

2. PV PROTECTION BOARD (CHECK ONCE A DAY) TIME: 9:17

PV	ALARM LAMP ON/OFF	RESET	UVR	RPR	UPR1	UPR2	memo

3. POWER CONDITIONER / DISPLAY PANEL / DATA COLLECTION DEVICE (CHECK 3 TIMES/DAY)

P	V	P	C	TIME	V (DC)	V I (DC)	A W (DC)	V I (AC)	A W (AC)	W	memo
				9:22	514 V	16.8 A	5.2 kW	7.12 V	6.4 A	4.5 kW	
				:	V	A	kW	V	A	kW	
				:	V	A	kW	V	A	kW	
				UNIT No. RUN (1) (2) (3) (4) (5)							
				9:32	299 V	16.4 A	5.1 kW	4.1 V	6.8 A	4.5 kW	
				:	V	A	kW	V	A	kW	
				:	V	A	kW	V	A	kW	
				UNIT No. RUN (1) (2) (3) (4) (5)							

DATA COLLECTION DEVICE (CHECK 3 TIMES/DAY)

P	C	TIME	Power Output	kW	Total Power / Day	kWh/Day
		9:25	46	kW	25	kWh/Day
		:	:	kW	:	kWh/Day
		:	:	kW	:	kWh/Day
		0.60	kWh/m ²	26	°C	
		:	kWh/m ²	:	°C	
		:	kWh/m ²	:	°C	

DISPLAY PANEL (CHECK 3 TIMES/DAY)

1	TIME	Power Output	kW	Total Power / Day	kWh/Day
	9:27	19.7	kW	19.9	kWh/Day
	:	:	kW	:	kWh/Day
	:	:	kW	:	kWh/Day
	0.55	kWh/m ²	12.2	kg/Day	
	:	kWh/m ²	:	kg/Day	
	:	kWh/m ²	:	kg/Day	

2

TIME	Power Output	kW	Total Power / Day	kWh/Day
9:29	20.7	kW	21	kWh/Day
:	:	kW	:	kWh/Day
:	:	kW	:	kWh/Day
0.57	kWh/m ²	12.8	kg/Day	
:	kWh/m ²	:	kg/Day	
:	kWh/m ²	:	kg/Day	

4. OTHER COMMENTS

5.89	24.5	339.6	2014-5-19
5.97	23.2	332.1	2014-5-20

Monitoring & reporting

Measurement
DATA – PV control
house (per day,
month, year)

Photovoltaic Measurement DATA (2013)

DATE(Month)	Solar radiation (kWh/m ²)	Temperature (deg.C)	DC Energy (kWh)	AC Energy (kWh)	CO2 reduction n (kg-CO2)	CO2 reduction n (kg-CO2)	P1_DC_kWh (kWh)	P1_AC_kWh (kWh)	P2_DC_kWh (kWh)	P2_AC_kWh (kWh)
January	135.29	14.2	4501.1	3807.9	2322.8	3	1131.9	959.4	1020.4	860.3
February	156.23	16.7	4370.0	3742.0	2282.6	3	1224.4	1051.7	902.9	771.9
March	184.41	19.8	5402.1	4563.8	2783.9	4	1377.5	1168.4	1406.8	1187.1
April	178.66	21.5	5640.9	4762.4	2905.1	4	1422.6	1204.9	1324.3	1108.6
May	183.83	27.0	11790.1	9796.0	5975.6	8	1511.4	1241.4	1630.1	1339.6
June	175.43	28.5	11899.3	9800.9	5978.5	8	1523.8	1240.8	1530.5	1243.4
July	181.69	29.0	10730.4	8845.3	5395.6	7	1576.0	1289.7	1582.7	1291.6
August	189.10	29.7	13553.3	11283.8	6883.1	9	1584.4	1304.8	1594.4	1309.4
September	190.25	27.4	12956.6	10896.0	6646.5	9	1539.8	1284.7	1541.3	1283.2
October	31.94	24.5	1960.6	1654.7	1009.4	8	268.3	225.4	266.9	223.7
November	128.50	21.2	5148.3	4369.1	2665.2	4	984.1	832.6	1085.4	916.2
December	116.76	13.3	3454.4	2840.6	1732.8	2	2.3	1.2	2.4	1.2
MAX	190.25 Sep.	29.7 Aug.	13553.3 Aug.	11283.8 Aug.	6883.1 Aug.	9 Aug.	1584.4 Aug.	1304.8 Aug.	1630.1 May	1339.6 May
AVERAGE		22.7				6				
TOTAL	1852.11		91407.1	76382.5	46581.1		14146.6	11804.9	13888.1	11536.2

Monitoring & reporting

Monthly report
(system efficiency
on energy saving
+CO2 reduction)

MONTH	Consumption	JIPCO	Monthly Bill	PV Production (energy)			
	KW	rate / kw	JD	KW	CO ₂ / kg	Savings	
						%	JD
JAN	20000	0.125	2504.00	3808	2322.8	19%	476.75
FEB	15820	0.124	1968.96	3742	2282.6	24%	465.73
MAR	18500	0.125	2312.00	4564	2784.0	25%	570.36
APR	20600	0.125	2580.80	4762	2905.1	23%	596.64
MAY	34120	0.126	4311.36	9796	5975.6	29%	1237.81
JUN	33740	0.126	4262.72	9801	5978.5	29%	1238.25
JUL	24540	0.138	3391.04	8845	5395.6	36%	1222.28
AUG	36750	0.139	5090.22	11284	6883.1	31%	1562.91
SEP	30450	0.145	4410.15	10896	6646.6	36%	1578.09
OCT	22680	0.144	3267.96	10230	6240.3	45%	1474.04
NOV	21120	0.144	3038.64	4369	2665.2	21%	628.60
DEC	16780	0.145	2425.28	2841	1732.8	17%	410.56
	295,100		39,563	84,938	51,812	26%	11462.04

“PV” Project outcomes

- Enrich visitors experience
- Add on more activities to support the educational and public awareness programs
- Additional selling point that might encourage more corporate business companies who are interested in as well prefer to hold events in green facilities
- Set a model to encourage the development of sustainable energy system in the Dead Sea region as a development zone



solar energy project

Harnessing the sun's energy using Photovoltaic technology

Dead Sea Panoramic Complex

The Dead Sea Panoramic Complex was built taking nature conservation into consideration; no animals, plants, or geological landscape have been harmed during its construction.

The stone used in building the complex is called travertine and is found naturally in Jordan. Its color is in perfect harmony with the surrounding landscape, allowing the Complex to blend into its environment.

In an effort to be more environmentally friendly, the Dead Sea Panoramic Complex is powered by clean energy systems using photovoltaic technology. The Japanese government, through the International Cooperation System (JICS), funds this project.



The Royal Society for the Conservation of Nature (RSCN)

Is an independent, non-government organization devoted to the conservation of Jordan's wildlife and wild places. It was founded in 1966 under the patronage of His Majesty the late King Hussein and has been given responsibility by the government to establish and manage protected areas and enforce environmental laws. As such, it is one of the few voluntary organizations in the Middle East to be granted such a public service mandate.

Wild Jordan is part of RSCN and is responsible for socio-economic programs, including eco-tourism and handicraft enterprises, which link the protection of nature with improving the livelihoods of local communities.

Working Hours:
Dead Sea Panoramic Complex is open daily from 9:00 am to 4:00 pm winter time, 9:30 am to 5:00 pm summer time.

Contact us:
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We have flexible booking arrangements for our facilities.
www.rscn.org.jo



Implementation

After visiting several candidate sites for the Photovoltaic system, under the guidance of Jordan's Ministry of Planning, two locations were selected to host this initiative: El Hassan Science City (EHSC) and Dead Sea Panoramic Complex (DSPC). The eventual aim of the Solar Energy Project is to install both a 100kWp Photovoltaic system at the Dead Sea Panoramic Complex and a 280kWp Photovoltaic system in El Hassan Science City.



Reduced Power Consumption

Currently, the Dead Sea Panoramic Complex's annual power consumption is approximately 380,000 kWh. The expected power generation of the DSPC's Photovoltaic system is 75,800 kWh, saving the Complex on average 30% to 40% of its total annual power consumption. As a result of the Solar Energy Project's Photovoltaic system, it is estimated that the total amount of carbon dioxide (CO₂) to be reduced per year is as much as 90 tons. Moreover, in its role as a major tourist hub, the Dead Sea Panoramic Complex aims to contribute to the promotion of clean, renewable energy and public awareness on climate change issues by educating the Complex's visitors on the project and Photovoltaic technology.

Background

In January 2008, the Japanese government announced their Cool Earth Partnership with Jordan, which aimed to support the country's efforts to reduce greenhouse gas emissions and tackle climate change issues. Under the Program Grant Aid for Environment & Climate Change aid for developing countries where capital to achieve greenhouse gas reduction and economic growth is insufficient — this partnership's main focus was the introduction of Photovoltaic (PV) technology to the Hashemite Kingdom.

In February 2010, the Japanese government pledged to extend a grant of 640,000,000 JPY (5,000,000 USD) to encourage the country's effort to improve efficiency of energy supply, further clean energy by solar electricity generation, and conserve energy.

The Solar Energy Project, as the PV technology project has been dubbed today, was officially launched in February 2011 under the patronage of HE the Minister of Tourism & Antiquities (MOTA) of Jordan and HE, the Ambassador of Japan to Jordan.

PV technology in DSPC

Located north of the DSPC's main entrance, the PV system will supply all generated power to the Complex to be consumed therein. The generated power from the PV system will be supplied in the daytime, while commercial power will be supplied to the Complex when PV power is not being generated, for instance during nighttime. Controlled by an automatic mechanism, a non-reverse power system has been adopted for this system because this offers protection for the country's grid system. When the Complex's power consumption is lower than the solar power generated, the PV system will be cut off by the non-reverse power system.



International Cooperation

The Solar Energy Project at the Dead Sea Panoramic Complex has been implemented through cooperation among Japan International Cooperation System (JICA), the Ministry of Planning and International Cooperation (MOPIC), the Ministry of Tourism and Antiquities (MOTA). On board at the project's consultant is Japan's Nippon Koei, and Marubeni company has been commissioned as contractor.





A photograph of a large group of people, mostly men in business attire, seated in rows in a conference hall. The room has a high ceiling with recessed lighting and a large window in the background. A green diagonal banner with white text is overlaid on the image.

Unique selling point for corporate business

An aerial photograph of a coastal city at sunset. The sun is low on the horizon, casting a warm, golden glow over the water and the city. The city is built on a peninsula, with a long road and a bridge leading to it. The water is calm, reflecting the light from the sun. A green text box with white text is overlaid on the image.

Set a model

THANK YOU

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