



SHORE POWER FACTSHEET

last modified 02/23

	AKUREYRI ICELAND	ÅLESUND NORWAY	ANTWERP BRUGES BELGIUM	BERGEN NORWAY
OPS (Onshore Power System)	Yes / No	Yes	No	Yes
Shore power within the next 5 years	Working currently on two shore connections according to IEC-80005-1-2-3	-	Yes, 2026	-
Defined Compatibility Assessment process for each berth and ship combination to IEC/IEEE 80005-1	Yes, in the future	All connections according to IEC/IEEE 80005-1	-	Yes
Information/documentation from the ship for the port before the first connection	On request	Test process, compatibility study	On request	Test process, compatibility study for the first call
Connection time from all fast to full operational SSE (Shore Side Electricity)	-	30-60 min	-	30-60 min
Disconnection time	-	30-60 min	-	30-60 min
Additional requirements for first-time connection/max. duration between connections before process reapplies	Minimum: 6 h, Requirements on request	First call test, reapplies if ship has not been connected for one year	-	First call test, reapplies if ship has not been connected for one year
Uninterrupted power supply guaranteed by shore power provider whilst connected	-	No	-	No
Weather conditions/restrictions/other limitations for safe use of SSE	Yes, if weather is exceptionally bad	-	-	No
Penalties in case of failure to connect by the ship: weather/itinerary changes/technical issues	-	-	-	Varies from case to case
Insurance covering any potential damage caused by the SSE	-	-	-	No

last modified 02/23

	AKUREYRI ICELAND	ÅLESUND NORWAY	ANTWERP BRUGES BELGIUM	BERGEN NORWAY
Current cost per kWh	-	On port website	-	On port website
Pricing model	-	-	-	Market based
Costs associated with the Compatibility Assessment/Testing process	-	-	-	On port website
Shore power hook up fee	-	On port website	-	On port website
Utility standard/usage fees in addition to kWh rate	-	No	-	No
Tax/duty fees applicable	-	Yes, according to Norwegian taxes	-	Yes, according to Norwegian taxes
Other fees related to shore power	-	No	-	No
Discounts/incentives linked to shore power usage	-	-	-	Indirectly, linked to the reduction of air emission, based on reporting to EPI
Berthing policy linked to shore power usage	-	-	-	Yes, shore power ships will tape preference
Confirmation time of the vessel for planned shore power usage before ETA	2 years	4 weeks	48 h	4 weeks

last modified 02/23	FLÅM NORWAY	HAMBURG GERMANY	KIEL GERMANY	LISBON PORTUGAL
OPS (Onshore Power System)	No	Yes	Yes	No
Shore power within the next 5 years	Yes, 2024/25 depending on 2026 decision	Yes, 2023 & 2025	-	Yes, 2026
Defined Compatibility Assessment process for each berth and ship combination to IEC/IEEE 80005-1	-	-	Yes	-
Information/documentation from the ship for the port before the first connection	-	Completed compatibility assessment form	-	-
Connection time from all fast to full operational SSE (Shore Side Electricity)	-	45 min	Depends on ship	-
Disconnection time	-	45 min	Depends on ship	-
Additional requirements for first-time connection/max. duration between connections before process reapplies	-	-	Integration test, reapplies after 12 months	-
Uninterrupted power supply guaranteed by shore power provider whilst connected	-	No	Depends on shore power provider	-
Weather conditions/restrictions/other limitations for safe use of SSE	Maximum area load limits might occur during winter	No	No, unless ship specifies these restrictions	-
Penalties in case of failure to connect by the ship: weather/itinerary changes/ technical issues	-	Charges may apply based on time and cause of cancellation	-	-
Insurance covering any potential damage caused by the SSE	-	Customary insurance cover, terms of liability specified in supply contract	-	-

last modified 02/23

	FLÅM NORWAY	HAMBURG GERMANY	KIEL GERMANY	LISBON PORTUGAL
Current cost per kWh	1,68 NOK/kWH (2021)	Market based	Market based	-
Pricing model	-	Electricity price + handling & opex charge	-	-
Costs associated with the Compatibility Assessment/Testing process	-	Yes, variable depending on staff hours consumed	-	-
Shore power hook up fee	-	No	-	-
Utility standard/usage fees in addition to kWh rate	-	No	-	-
Tax/duty fees applicable	No	Energy tax of 2,05 ct/kWh or 0,05 ct/kWh if cruise company is exempt	-	-
Other fees related to shore power	-	Shore power order fee of 1000 EUR/order (will be waived if order is cancelled on time or deducted from electricity bill if service was rendered)	-	-
Discounts/incentives linked to shore power usage	EPI	-	-	-
Berthing policy linked to shore power usage	-	-	-	-
Confirmation time of the vessel for planned shore power usage before ETA	-	72 h	72 h	-

	OLDEN NORWAY	PORTSMOUTH UNITED KINGDOM	ROTTERDAM NETHERLANDS	SOUTHAMPTON UNITED KINGDOM
last modified 02/23				
OPS (Onshore Power System)	No	No	No	Yes
Shore power within the next 5 years	Yes, 2025/26	Yes, 2025	Yes, Q2 2024	-
Defined Compatibility Assessment process for each berth and ship combination to IEC/IEEE 80005-1	Future installation will be in compliance with International Standard	Yes	Yes	Yes
Information/documentation from the ship for the port before the first connection	-	-	Test process, compatibility information, further information to be defined	Information directly available from ABP
Connection time from all fast to full operational SSE (Shore Side Electricity)	-	15 min	-	1 h
Disconnection time	-	Yes	-	Yes, 16.00 is the standard unless agreed seperately
Additional requirements for first-time connection/max. duration between connections before process reapplies	-	-	-	Compatibility assessment, check safety systems, reapplies after 12 months
Uninterrupted power supply guaranteed by shore power provider whilst connected	-	No	Intention is to always be able to provide shore power, subject to any hick-ups or technical difficulties etc.	Uninterrupted supply is normal, this is not guaranteed
Weather conditions/restrictions/other limitations for safe use of SSE	-	-	-	Yes, these are specific to the ship/berth and are detailed with the operator directly
Penalties in case of failure to connect by the ship: weather/itinerary changes/technical issues	-	-	-	Cancellation charge if booking is not completed by the operator, which covers fixed costs only
Insurance covering any potential damage caused by the SSE	-	-	-	-

last modified 02/23

	OLDEN NORWAY	PORTSMOUTH UNITED KINGDOM	ROTTERDAM NETHERLANDS	SOUTHAMPTON UNITED KINGDOM
Current cost per kWh	-	£0.50	-	Varies and is based on the actual cost of power
Pricing model	-	-	-	Pass through at cost
Costs associated with the Compatibility Assessment/Testing process	-	-	-	Yes, varies based on the costs and are specific to each call
Shore power hook up fee	-	-	-	Yes
Utility standard/usage fees in addition to kWh rate	-	-	-	No
Tax/duty fees applicable	-	-	-	No
Other fees related to shore power	-	-	-	No
Discounts/incentives linked to shore power usage	-	It is hoped that this will be introduced	Yes, when in place	No
Berthing policy linked to shore power usage	-	No, not at present, but in the future	No	No
Confirmation time of the vessel for planned shore power usage before ETA	-	24 h	-	Usually at point of vessel booking but this varies + usually no less than 7 days notice

last modified 02/23

	TROMSØ NORWAY	TRONDHEIM NORWAY		
OPS (Onshore Power System)	Yes, but only for smaller vessels, Low voltage up to 1 MVA	Yes		
Shore power within the next 5 years	Yes, 2024 & 2027	Yes, main cruise quay 68: 2025-2030		
Defined Compatibility Assessment process for each berth and ship combination to IEC/IEEE 80005-1	Yes, shore power at quay 8 will fulfill the IEC80005-1 annex C	Yes		
Information/documentation from the ship for the port before the first connection	Will try to obtain as similar procedure as the other Norwegian SSE ports	Kind of plug system, type and number of plugs, location of plug, max power, Electrical noise filter		
Connection time from all fast to full operational SSE (Shore Side Electricity)	-	Quay 1/2: 15-20 min		
Disconnection time	-	Quay 1/2: 15-20 min		
Additional requirements for first-time connection/max. duration between connections before process reapplies	-	No		
Uninterrupted power supply guaranteed by shore power provider whilst connected	-	Quay 1/2: Generally, yes, unforeseen blackout can occur, no UPS system		
Weather conditions/restrictions/other limitations for safe use of SSE	-	Quay 1/2: max. wind speed NW: Beaufort 5 Quay 68: max. wind speed NW: Beaufort 7		
Penalties in case of failure to connect by the ship: weather/itinerary changes/ technical issues	-	No		
Insurance covering any potential damage caused by the SSE	-	No		

last modified 02/23

	TROMSØ NORWAY	TRONDHEIM NORWAY		
Current cost per kWh	-	Quay 1/2 at Pir I: 2.5 NOK/kWh in 2022, 2023 and onward not clarified Quay 68: Not clarified		
Pricing model	-	-		
Costs associated with the Compatibility Assessment/Testing process	-	Just for connecting/disconnecting and power consumption as per 2022, power consumption while testing		
Shore power hook up fee	-	-		
Utility standard/usage fees in addition to kWh rate	-	-		
Tax/duty fees applicable	-	No		
Other fees related to shore power	-	-		
Discounts/incentives linked to shore power usage	-	Yes, EPI or cruise vessels		
Berthing policy linked to shore power usage	-	Yes, gives priority to the quay		
Confirmation time of the vessel for planned shore power usage before ETA	-	Initial compatibility assessment: 6 months ahead of the call commitment to undergo testing: 72 h prior to call upon regular call (after successful testing phase): 24 h		



AKUREYRI



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HOOKUP LOCATIONS

On request



CRUISE PIERS

TANGABRYGGJ

(in progress)

Draft -

LOA -

TORFUNFSBRYGGJU

(in progress)

Draft -

LOA -



SHORE POWER

MAX. POWER

1,5 MVA LVSC

VOLTAGE

11 kv

FREQUENCY

50 hz

250A plug on 400V
(no shore connection according
to IEC-80005-1-2-3)



PORT CONTACT

NAME

-

E-MAIL

-

PHONE

-



ENERGY SOURCES

**RENEWABLE SOURCES:
HYDRO + GEOTHERMAL**



INFRA FINANCING

-



PLANT BUILDER

-



SHIP LIMIT

**ONE SHIP SUPPLIED AT THE
SAME TIME ON EACH PIER**

**ÅLESUND**

© Ålesund

HOOKUP LOCATIONS

On request

**CRUISE PIERS****STORNESKAIEN***Draft 13 m +
LOA 665 m**PRESTEBRYGGA***Draft 13 m +
LOA 665 m

*with additional mooringbuoy

**SHORE POWER****MAX. POWER**

9,6 / 16 MVA

VOLTAGE

6,6 / 11 kv

FREQUENCY

50 / 60 hz

**PORT CONTACT****PORTS OF ÅLESUND (NORWAY)**Synnøve Johnsen,
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Manager Cruise**E-MAIL**

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**ENERGY SOURCES****HYDROPOWER****INFRA FINANCING**COMBINATION OF PUBLIC
OR PRIVATE FINANCING,
SUBSIDY/GRANT, LOAN**PLANT BUILDER****PSW****SHIP LIMIT**TWO SHIPS SUPPLIED
AT THE SAME TIME



ANTWERP BRUGES



HOOKUP LOCATIONS

-



CRUISE PIERS

SWEDISH QUAY

(by early 2026)

Draft 11 m

LOA 725 m

+ Second OPS installation at the same location, offered at a later stage but before 2030



SHORE POWER

MAX. POWER

16 MVA (from 2024)

VOLTAGE

6,6 / 11 kv

FREQUENCY

60 hz



PORT CONTACT

PORT OF ANTWERP BRUGES (ZEEBRUGGE PLATFORM)

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Cruise Manager

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ENERGY SOURCES

ENERGY PROVIDED WILL
LARGELY BE SOURCED FROM
RE GENERATED BY THE PORT
AUTHORITY, SHARED TO THE
LOCATION THROUGH VIRTUAL
CONTRACTS



INFRA FINANCING

PORT AUTHORITY FUNDS
+ SUBSIDIES AFIF



PLANT BUILDER

-



SHIP LIMIT

-

**BERGEN****HOOKUP LOCATIONS**

On request

**CRUISE PIERS****JEKTEVIKEN**

(2 connection points)

Draft -

LOA -

SKOLTEN

(2 connection points)

Draft -

LOA -

BONTELABO

(1 connection point)

Draft -

LOA -

**SHORE POWER****MAX. POWER**

9,6 / 16 MVA

VOLTAGE

6,6 / 11 kv

FREQUENCY

50 / 60 hz

**PORT CONTACT****NAME**

-

E-MAIL

-

PHONE

-

**ENERGY SOURCES****HYDROPOWER****INFRA FINANCING**

COMBINATION OF PUBLIC
OR PRIVATE FINANCING,
SUBSID /GRANT, LOAN

**PLANT BUILDER****POWERCON****SHIP LIMIT**

THREE SHIPS SUPPLIED
AT THE SAME TIME

**FLÅM****HOOKUP LOCATIONS**

On request

**CRUISE PIERS****FLÅM CRUISE PORT**

Draft 12 m

LOA 110 m

Depending on the process the plan until 2026 is to expand the pier with 50-100 m as part two of implementation of OPS

**SHORE POWER****MAX. POWER**

16 MVA

VOLTAGE

11 / 22 kv

FREQUENCY

60 hz

**PORT CONTACT****PORT OF FLÅM**

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Manager Port Operations

Mikkel Tokvam,

Port Director

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**ENERGY SOURCES****HYDROPOWER****INFRA FINANCING****PUBLIC FINANCING****PLANT BUILDER****HAFSLUND E-CO AURLAND**

I, II, III, IV, V, VI

**SHIP LIMIT**

**ONE SHIP SUPPLIED
AT THE SAME TIME**



HAMBURG



HOOKUP LOCATIONS

Flexible cable car



CRUISE PIERS

CRUISE CENTER ALTONA

(already operating)

Draft 9,5 m (low water)

LOA 300 m

CRUISE CENTER STEINWERDER

(available 2023 Q3)

Draft 14,7 m (low water)

LOA 405 m

CRUISE CENTER HAFENCITY

(available 2025)

Draft 10,3 m (low water)

LOA 345 m



SHORE POWER

MAX. POWER

12 / 16 MVA (2024)

VOLTAGE

11 / 6,6 kv

FREQUENCY

60 / 50 hz



PORT CONTACT

CRUISE GATE HAMBURG

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Managing Director

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ENERGY SOURCES

**100% RENEWABLE
SOURCES**



INFRA FINANCING

PUBLIC FINANCING



PLANT BUILDER

SIEMENS

+

POWERCON

+

NOT YET DECIDED



SHIP LIMIT

**LIMIT OF SHIPS SUPPLIED
SIMULTANEOUSLY**

No limitation

**KIEL****HOOKUP LOCATIONS**

35 m cable distance from
connection boxes

**CRUISE PIERS****BERTH 27 (LP27)**

Draft 9 m
LOA 359 m

BERTH 28 (LP28)

Draft 9 m
LOA 284 m

BERTH 1 (LP1)

(Shore power is in progress and
fully operational by Sept. 2023)

Draft 960 m
LOA 399 m

**SHORE POWER****MAX. POWER**

16 MVA

VOLTAGE

6,6 / 11 kv

FREQUENCY

50 / 60 hz

**PORT CONTACT****PORT OF KIEL**

Nicole Claus,
Director Cruise

E-MAIL

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PHONE

-

**ENERGY SOURCES**

**HYDROPOWER
(FROM SCANDINAVIA)**

**INFRA FINANCING**

**COMBINATION OF PUBLIC
SUBSIDIES AND PORT-OWN
FINANCING**

**PLANT BUILDER**

SIEMENS AG

**SHIP LIMIT**

**ONE SHIP SUPPLIED
AT THE SAME TIME
(ONE SHORE POWER CAR
FOR BOTH BERTHS)**



LISBON



© ATL

HOOKUP LOCATIONS

On request



CRUISE PIERS

LISBON CRUISE TERMINAL

(shore power from 2026,
4 berths considered)

Draft - (-12) ZH

LOA no limit



SHORE POWER

MAX. POWER

16 MVA

VOLTAGE

11 kv

FREQUENCY

-

3 scenarios in progress

- 1.** 2 berths 1 LT - 1 MVA
+ 1 MT - 16MVA
- 2.** 3 berths 1 LT - 1MVA
+ 2 MT - 16MVA
- 3.** 1 LT and 3 MT



PORT CONTACT

PORT OF LISBON

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Cruise Manager

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ENERGY SOURCES

-



INFRA FINANCING

-



PLANT BUILDER

-



SHIP LIMIT

-



OLDEN



HOOKUP LOCATIONS

-



CRUISE PIERS

OLDEN CRUISE PIER

Draft 11 m
LOA 121 m



SHORE POWER

MAX. POWER

-

VOLTAGE

-

FREQUENCY

-



PORT CONTACT

PORT OF OLDEN

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ENERGY SOURCES

HYDROPOWER



INFRA FINANCING

-



PLANT BUILDER

-



SHIP LIMIT

-

**PORTSMOUTH****HOOKUP LOCATIONS**

-

**CRUISE PIERS****BERTH 2 (AYRTON BERTH)**

Draft 8,7 m

LOA 300 m

**SHORE POWER****MAX. POWER**

14.75 / 15 MW

VOLTAGE

11 kv

FREQUENCY

60 hz

**PORT CONTACT****PORTSMOUTH
INTERNATIONAL PORT**

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**ENERGY SOURCES**

**80% CURRENTLY
RENEWABLE ENERGY
FROM SUPPLIER (MIXED)**

**INFRA FINANCING**

-

**PLANT BUILDER**

-

**SHIP LIMIT**

**ONE SHIP SUPPLIED
AT THE SAME TIME**

**ROTTERDAM****HOOKUP LOCATIONS**

-

**CRUISE PIERS****CRUISE TERMINAL ROTTERDAM**

Draft - 11,45 m

LOA - no limit

**SHORE POWER****MAX. POWER**

16 MVA

VOLTAGE

11 kv

FREQUENCY

60 hz

**PORT CONTACT****CRUISE PORT ROTTERDAM**

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**ENERGY SOURCES**

-

**INFRA FINANCING**

**SUBSIDY AND INVESTMENT
FROM PORT**

**PLANT BUILDER**

-

**SHIP LIMIT**

**ONE SHIP SUPPLIED
AT THE SAME TIME**

**SOUTHAMPTON****HOOKUP LOCATIONS**

-

**CRUISE PIERS****HORIZON
CRUISE TERMINAL**

Draft -
LOA -

**MAYFLOWER
CRUISE TERMINAL**

Draft -
LOA -

Operators should contact
ABP directly for details

**SHORE POWER****MAX. POWER**

-

VOLTAGE

-

FREQUENCY

-

**PORT CONTACT****PORT OF SOUTHAMPTON**

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**ENERGY SOURCES**

**MIX OF CERTIFIED
RENEWABLE SOURCES**

**INFRA FINANCING**

**PORT OWNER
+
OPERATOR - ABP**

**PLANT BUILDER**

POWERCON

**SHIP LIMIT**

-


TROMSØ


© Kari Schibevaag

HOOKUP LOCATIONS

-


CRUISE PIERS
**QUAY 8
(CENTRE OF TROMSØ)**

Draft -
LOA 230 m

Plans until 2024 & 2027:
Quay 8: under construction
(up to 8 MVA)
Breivika area: Larger shore
power facility under planning,
set to be installed in 2027
(12-16 MVA)


SHORE POWER
MAX. POWER

-

VOLTAGE

11 kv

FREQUENCY

-

5MVA, 6,6/11 kV, 50/60 Hz
(high voltage)
1,7 kMVA, 690/440 V, 50/60Hz
(low voltage)


PORT CONTACT
PORT OF TROMSØ

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ENERGY SOURCES

-


INFRA FINANCING

-


PLANT BUILDER

-


SHIP LIMIT

YES

**TRONDHEIM**

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HOOKUP LOCATIONS

On request

**CRUISE PIERS**

QUAY 1* (at Pier I)
Draft 8 m
LOA 135 m

QUAY 2* (at Pier I)
Draft 8 m
LOA 135 m

MAIN CRUISE QUAY 68
(from 2025-2030)
Draft 13 m
LOA 96 m

*only after 1 pm or ETA before
6:30 and ETD after 1 pm)

**SHORE POWER**

MAX. POWER
16 MVA

VOLTAGE
11 kv

FREQUENCY
60 hz

Quay 1: 690 V, 50 Hz, 6 IEC-
plugs 350A, max 2500 kvA

Quay 2: 690 V, 50 Hz, 4 IEC-
plugs 350 A, max. 2500 Kva

**PORT CONTACT**

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**ENERGY SOURCES**

WIND + HYDRO POWER

**INFRA FINANCING**

PRIVAT FINANCING
+
ENOVA SUBSIDY

**PLANT BUILDER**

PSW

**SHIP LIMIT**

**ONE SHIP SUPPLIED
AT THE SAME TIME**