BC02: North Brigantine Natural Area, Brigantine City, Atlantic County, New Jersey

Environmental Data

Date Taken: 08/18/2020 Time: 12:00 PM Temperature: 84°F Humidity: 53% Visibility*: 10+ miles Wind Direction: West-southwest Wind Speed: 3 mph Conditions Observed: Fair

Camera Information Camera: Canon EOS 5D Mark IV Resolution: 30.4 Megapixels Lens Focal Length: 50 mm Camera Height: 11.06 feet AMSL

Key Observation Point Information

County: Atlantic Town: Brigantine City State: New Jersey Location: North Brigantine Natural Area Latitude, Longitude: 39.42954°N, 74.33968°W Direction of View (Center): East (92.5°) Field of View: 124° x 55°

Visual Resources Character Area: Undeveloped Beach, Seascape (SCA) User Group: Residents/Tourists, Fishermen Visually Sensitive Resource: North Brigantine State Natural Area



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	Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP**	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Scenario 2	Atlantic Shores Offshore Wind South (OCS-A 0499)	2025-2027	1,047	205	205	9.0	23.8
	Ocean Wind (OCS-A 0498)	2023-2025	906	111	111	15.7	28.1
Commine 1	Empire Wind (OCS-A 0512)	2024-2025	951	0	72	Not Visible	Not Visible
	Empire Wind II (OCS-A 0512)	2023-2027	951	0	104	Not Visible	Not Visible
	Skipjack (OCS-A 0519)	2024-2030	853	0	33	Not Visible	Not Visible
	Garden State (OCS-A 0482)	2023-2030	853	0	80	Not Visible	Not Visible
	US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
Scenario 3	Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	164	164	11.3	27.2
Scen	Ocean Wind II (OCS-A 0532)	2026-2030	906	111	111	11.1	36.3
	Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
	Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
	Attentive Energy (OCS-A 0538)	by 2030	853	0	101	Not Visible	Not Visible
	Bight Wind Holdings (OCS-A 0539)	by 2030	853	0	148	Not Visible	Not Visible
	Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	71	95	37.5	43.0
	Invenergy Wind Offshore (OCS-A 0542)	by 2030	853	4	99	41.6	43.0

Notes

- Offshore Substation location and dimensions are based or considered in this photosimulation are subject to potential modification. *Historical meteorological data predicts visibility within a limit of 10 statute miles. However, visibility may e
- ulations are based on a refraction value of 7/6 or an app

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

ATLANTIC SHORES

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Reasonably Foreseeable Projects Represented in Photosimulation

that the viewshed analysis results which use a ined by human verified computer generated or CHITCS while in the respective views due to r the respective ... are in the upright position v tion. Inis count may vary from the actual number of W1Gs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that app holograph. Additionally, the WTG counts assumed rate of the WTG blacks are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this c one of view indicated on the Key Observation Point Context map indicates the horizontal extent of view indicates the horizontal extent of view indicates of the horizontal extent of view indicates on the new rozent as a strange to the strange to





Notes: • Photosimulation Size: 66' in width by 29.3' in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.



Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

BC02: North Brigantine Natural Area, Brigantine City, Atlantic County, New Jersey

Existing Conditions (Panorama 1)

Simulation Size 66° in width by 29.3° in height images thou the viewed from a distance of 18 inches in order to obtain the proper perspective.









BC02: North Brigantine Natural Area, Brigantine City, Atlantic County, New Jersey

Photosimulation (Panorama 1): Scenario 1: 2023-2025 Project Construction (Ocean Wind, Empire Wind, Empire Wind II)



- Notesi
 Photosimulation Size: 66° in width by 29.3° in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
 Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available. WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
 WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Bland Wind Farm. This refraction quality is that the viewshed block bland whold Farm. This refraction quality is the site of the constructed Block Bland Wind Farm. This refraction quality is the block bland whold Farm. This refraction quality is the site of the constructed Block Bland Wind Farm. This refraction quality is the site with the second construction coefficient of 0.11 are used to 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Bland Wind Farm. This refraction may block and an artification. This counts performed in the 3D Camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual runber of WTGs visible in the respective views due to masking completed during post processing which may include people, wave, boats, or other mining the larges WTG in the curvature of duditionally, the WTG counts assumed the WTG blades are in the upright postion whereas the photosimulations assume a random rotation pattern. Considering the larges WTG in the curvature of the carth and WTG counts assumed the WTG blades are in the upright postion whereas the photosimulations assume a random rotation pattern. Considering the largestructures of WT

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	lotal Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	15.7	28.1
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible











BC02: North Brigantine Natural Area, Brigantine City, Atlantic County, New Jersey

Photosimulation (Panorama 1): Scenario 2: Atlantic Shores Construction (2025-2027) added to Scenario 1 (Ocean Wind, Empire Wind, Empire Wind II, Atlantic Shores South)



Notes:
Photosimulation Size: 66' in width by 29.3' in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WIGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
WTG positions in the photosimulations are based on a refraction coefficient may yield more conservative wisbility results (i.e. greater turbine wisbility) that the viewshed analysis results which use a refraction coefficient of 0.3.
WTG tower, Ibades, and nacelle use the BOEM and FAA required color RAL 900. The base and platform use RAL 1023 in accordance with USC anglations: a resulting through the screate with USC anglations. The number of WTGs wisible from the KOP was defining screenby realining from vegetation, structures, or the same direction. This is according the screate the the two ways from the actual number of WTG counts assumed the WTGs bades are in the uprojet position whereas the photosimulation assume a random rotation opatem. Considering the larged visibility for the number of WTG counts assumed the WTG bades are in the uprojet position whereas the photosimulation assume a random rotation opatem. Considering the larged visibility in the rotation position.
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The resolution of the curvalivation balances the size and usability of the documents with turbine may appear bury or difficult to dicipher utor toxicolution.
The conduct on the key Observation Point Context map indicates the horizontal extent of wisb modisting the photosin

Project	Year of Development	Max Blade Tip Height (feet)	Of WTGs & OSSs Visible from KOP*	Number of WTGs & OSSs in Project	to Nearest Visible WTG (miles)	to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	205	205	9.0	23.8
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	15.7	28.1
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible









BC02: North Brigantine Natural Area, Brigantine City, Atlantic County, New Jersey

Photosimulation (Panorama 1): Scenario 3: 2024-2030 Project construction added after the construction of Atlantic Shores South (Full Lease Build-out Including Atlantic Shores South)

Simulation Size: 66' in width by 29.3' in height. Image this locarboald be viewed from a distance of 18 inches on the priorid in order to obtain the proper perspective. percenta

Notesi
Photosimulation Size: 66° in width by 29.3° in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available. WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Bland Wind Farm. This refraction quality is that the viewshed block bland whold Farm. This refraction quality is the site of the constructed Block Bland Wind Farm. This refraction quality is the block bland whold Farm. This refraction quality is the site of the constructed Block Bland Wind Farm. This refraction quality is the site with the second construction coefficient of 0.11 are used to 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Bland Wind Farm. This refraction may be a refraction resolution of the constructed second the BOEM and FA required color RAL 9010. The base and platform with RAL 1023 in accordance with USCG regulations.
"The number of WTGs visible from the CVD was determined by human verified computer generated curvature of the earth and refraction. This count may vary from the cathat Investor WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the curvature of value account for up to 236 t, (27 m) in lost maximum height depending on the rotation position.
The resolution of the curvature of WTG visibility.
The resolution of the curvature of WTG visibility.
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Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	205	205	9.0	23.8
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	15.7	28.1
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible
Skipjack (OCS-A 0519)	2024-2030	853	0	33	Not Visible	Not Visible
Garden State (OCS-A 0482)	2023-2030	853	0	80	Not Visible	Not Visible
US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	164	164	11.3	27.2
Ocean Wind II (OCS-A 0532)	2026-2030	906	111	111	11.1	36.3
Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
Attentive Energy (OCS-A 0538)	by 2030	853	0	101	Not Visible	Not Visible
Bight Wind Holdings (OCS-A 0539)	by 2030	853	0	148	Not Visible	Not Visible
Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	71	95	37.5	43.0
Invenergy Wind Offshore (OCS-A 0542)	by 2030	853	4	99	41.6	43.0

Key Observation Point Context









BC02: North Brigantine Natural Area, Brigantine City, Atlantic County, New Jersey

Photosimulation (Panorama 1): Scenario 4: Full buildout of all lease areas without Atlantic Shores South

Simulation Size: 66° in width by 29.3° in height. Images that doubt the viewed from a distance of 18 inches on the prevent in order to obtain the proper perspective. percentra

- Notesi
 Photosimulation Size: 66° in width by 29.3° in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
 Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available. WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
 WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Bland Wind Farm. This refraction quality is that the viewshed block bland whold Farm. This refraction quality is the site of the constructed Block Bland Wind Farm. This refraction quality is the block bland whold Farm. This refraction quality is the site of the constructed Block Bland Wind Farm. This refraction quality is the site with the second construction coefficient of 0.11 are used to 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Bland Wind Farm. This refraction may block and an artification. This counts performed in the 3D Camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual runber of WTGs visible in the respective views due to masking completed during post processing which may include people, wave, boats, or other mining the larges WTG in the curvature of duditionally, the WTG counts assumed the WTG blades are in the upright postion whereas the photosimulations assume a random rotation pattern. Considering the larges WTG in the curvature of the carth and WTG counts assumed the WTG blades are in the upright postion whereas the photosimulations assume a random rotation pattern. Considering the largestructures of WT

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTO (miles)
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	15.7	28.1
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible
Skipjack (OCS-A 0519)	2024-2030	853	0	33	Not Visible	Not Visible
Garden State (OCS-A 0482)	2023-2030	853	0	80	Not Visible	Not Visible
US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	164	164	11.3	27.2
Ocean Wind II (OCS-A 0532)	2026-2030	906	111	111	11.1	36.3
Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
Attentive Energy (OCS-A 0538)	by 2030	853	0	101	Not Visible	Not Visible
Bight Wind Holdings (OCS-A 0539)	by 2030	853	0	148	Not Visible	Not Visible
Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	71	95	37.5	43.0
Invenergy Wind Offshore (OCS-A 0542)	by 2030	853	4	99	41.6	43.0











BC02: North Brigantine Natural Area, Brigantine City, Atlantic County, New Jersey

Photosimulation (Panorama 1): Scenario 5: Atlantic Shores South without the construction of other foreseeable planned activities



Notest
Photosimulation Size: 66' in width by 29.3' in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
WTG positions in the photosimulations are based on a refraction coefficient davel for modes reations of the constructed Bock Island WInd Farm. This refraction coefficient davel for modes reations of the constructed Bock Island WInd Farm. This refraction coefficient davel for modes reations of the constructed Bock Island WInd Farm. This refraction coefficient davel for modes reations of the constructed Bock Island WInd Farm. This refraction coefficient davels in currently available, the computer generated analysis results which use a refraction coefficient of 0.13.
WTG tower, Iblades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 102 in accordance with USC equations.
The number of WTGs visible from the KOP was deteng screeping requiring from vepetation, structures, comature of the senth and effaction. This count may vay from the actual number of WTG counts assumed the with Boldes are in the upright position whereas the photosimulation sasume a random rotation pattern. Considering the larged visibility for the net photosimulation stasume a random rotation pattern. Considering the larged visibility is the rotation position.
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The conduction of the current and TG in the currentive eavains for cound accoun

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	205	205	9.0	23.8







BC02: North Brigantine Natural Area, Brigantine City, Atlantic County, New Jersey

Environmental Data

Date Taken: 08/18/2020 Time: 12:00 PM Temperature: 84°F Humidity: 53% Visibility*: 10+ miles Wind Direction: West-southwest Wind Speed: 3 mph Conditions Observed: Fair

Camera Information Camera: Canon EOS 5D Mark IV Resolution: 30.4 Megapixels Lens Focal Length: 50 mm Camera Height: 11.06 feet AMSL

Key Observation Point Information

County: Atlantic Town: Brigantine City State: New Jersey Location: North Brigantine Natural Area Latitude, Longitude: 39.42954°N, 74.33968°W Direction of View (Center): South-southeast (155.2°) Field of View: 124° x 55°

Visual Resources Character Area: Undeveloped Beach, Seascape (SCA) User Group: Residents/Tourists, Fishermen Visually Sensitive Resource: North Brigantine State Natural Area





Empire Wind (OCS-A 0512)

Empire Wind II (OCS-A 0512)

Skipjack (OCS-A 0519)

Garden State (OCS-A 0482)

US Wind (OCS-A 0489 and

0490)

Atlantic Shores Offshore Wind North (OCS-A 0549)

Ocean Wind II (OCS-A 0532)

Mid-Atlantic Offshore Wind

(OCS-A 0544)

Ocean Wind East (OCS-A 0537)

Attentive Energy (OCS-A 0538)

Bight Wind Holdings (OCS-A 0539)

Atlantic Shores Offshore Wind Bight (OCS-A 0541)

Invenergy Wind Offshore (OCS-A 0542)

Offshore Substation location and dimensions are based on considered in this photosimulation are subject to potential *Historical meteorological data predicts visibility within a limit of 10 statute miles. However, visibility may extend beyond this dis

WTG positions in the photosimulations are based on a refraction value of 7/6 or an approx W Lp positions in the photoamulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility must be unservated and wind Farm. This refraction coefficient may yield more conservative visibility must be unservated and the unservative of the area fraction coefficient of 0.13. "The number of WTGs visible from the KDP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the eart fraction coefficient during post processing which may include people, waves, boats, or other minor obstructions that use a fractional visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that count ray vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that coefficient of 2.3. "The count of visible visible in better spective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that coefficient of 2.3. The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility. The Key Observation Point Context map considers certein, yewer height, and turbine height, Landscape screening features are not considered. Therefore, in this view, the number of visible turbines lepicted on the map any not match the table due to the presence of landscape screening features.

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

ATLANTIC SHORES

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Reasonably Foreseeable Projects Represented in Photosimulation

Year of evelopment	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP**	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
2025-2027	1,047	205	205	9.0	23.8
2023-2025	906	111	111	15.7	28.1
2024-2025	951	0	72	Not Visible	Not Visible
2023-2027	951	0	104	Not Visible	Not Visible
2024-2030	853	0	33	Not Visible	Not Visible
2023-2030	853	0	80	Not Visible	Not Visible
2024	938	0	101	Not Visible	Not Visible
2025-2030	1,047	164	164	11.3	27.2
2026-2030	906	111	111	11.1	36.3
by 2030	853	0	104	Not Visible	Not Visible
by 2030	853	0	82	Not Visible	Not Visible
by 2030	853	0	101	Not Visible	Not Visible
by 2030	853	0	148	Not Visible	Not Visible
by 2030	853	71	95	37.5	43.0
by 2030	853	4	99	41.6	43.0

ary publicly available project data. Projects for whi





Notes: • Photosimulation Size: 66° in width by 29.3° in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.



Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

BC02: North Brigantine Natural Area, Brigantine City, Atlantic County, New Jersey

Existing Conditions (Panorama 2)

Simulation Size 66° in width by 29.3° in height images thou the viewed from a distance of 18 inches in order to obtain the proper perspective.





Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

BC02: North Brigantine Natural Area, Brigantine City, Atlantic County, New Jersey

Photosimulation (Panorama 2): Scenario 1: 2023-2025 Project Construction (Ocean Wind, Empire Wind, Empire Wind II)

Simulation Size: (6⁴ in width by 29.3¹ in height, Images should be viewed from a distance of 18 inches in order to obtain the proper perspective.

- Vates: Photosimulation Size: 66' in width by 29.3' in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen. Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification. WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may wided more conservative visibility results (Le orgenet truting visibility) that the viewshed

Wi La positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island WinF Jam. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) that the viewshed analysis results which use a refraction coefficient of 0.13.
WiTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
The number of WITGs visible from the KOP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation. Structures, curvature of the earth and refraction. This count may vary from the actual number of WITGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WITG counts assumed the WITG blades are in the unpittel position whereas the photosimulations assume ar andom rotation pattern. Considering the largest WITG in the cumulative array, this could account for up to 236 ft. (27 m) in lost maximum height depending on the rotation position.
The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WITG visibility to human vision, very distant turbines may appear blury or difficult to decipher due to resolution limitations.
The Key Observation Point Considers may any considered. Therefore, in this view, the number of visibility thorins depited on the rotating by curvature of the earth, viewer height, and turbine height. Landscape screening features are not considered. Therefore, in this view, the number of visibility turbines depited on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	15.7	28.1
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible









Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

BC02: North Brigantine Natural Area, Brigantine City, Atlantic County, New Jersey

Photosimulation (Panorama 2): Scenario 2: Atlantic Shores Construction (2025-2027) added to Scenario 1 (Ocean Wind, Empire Wind, Empire Wind II, Atlantic Shores South)



Notes:
 Photosimulation Size: 66° in width by 29.3° in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
 Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available. WTGs are used for all foundation positions. OS5 positions and dimensions considered in this photosimulation are subject to potential modification.
 WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block shand Wind Farm. This refraction coefficient may vield more conservative visibility results (i.e. greater turbine visibility) that the viewshed

Wi Lp positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) that the viewshed analysis results which use a refraction coefficient of 0.13.
WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
The number of WTGs visible from the KOP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upripit position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (27 m) in lost maximm height depending on the rotation position.
The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
The resolution of the cumulative photosimulations blances the size and usability of the documents with the need for high resolution to see distart project components. Similarly to human vision, very distant turbrines may appear blurry or difficult to decipher due to resolution limitations.
The Key Deservation Point Context map considers acceening by curvature of the earth, viewer height, and turbrine height, Landscape screening features are not considered. Therefore, in this view, the number of visible turbrines depicted on the map may not m

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	205	205	9.0	23.8
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	15.7	28.1
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible







Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

BC02: North Brigantine Natural Area, Brigantine City, Atlantic County, New Jersey

Photosimulation (Panorama 2): Scenario 3: 2024-2030 Project construction added after the construction of Atlantic Shores South (Full Lease Build-out Including Atlantic Shores South)

Simulation Size: 66' in width by 29.3' in height. Image this locarboald be viewed from a distance of 18 inches on the priorid in order to obtain the proper perspective. percenta

Vates: Photosimulation Size: 66' in width by 29.3' in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen. Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification. WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may wided more conservative visibility results (Le orgenet truting visibility) that the viewshed

- Wi to positions in the photosimulations are based on a refraction value of 7/6 or an approximate
 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction
 coefficient may yield more conservative visibility results (i.e. greater turbine visibility) that the viewshed
 analysis results which use a refraction coefficient of 0.13.
 WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform
 use RAL 1023 in accordance with USCG regulations.
 *The number of WTGs visible from the KOP was determined by human verified computer generated
 counts performed in the 3D camera views considering screening resulting from vegetation, structures,
 curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in
 the respective views due to masking completed during post processing which may include people,
 waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts
 assumed the WTG blades are in the upripht position whereas the photosimulations assume a random
 rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236
 ft, (72 m) in lost maximm height depending on the rotation position.
 The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of
 view only and does not indicate the extent of WTG wiss blances the size and usability of the documents with
 the need for high resolution to see distant project components. Similarly to human visin, very distant
 turbines may appear blurry or difficult to decipher due to resolution limitations.
 The Key Observation boilt Context map considers are not considered. Therefore, in this view, the number
 of visible subjected on the map may not match the table due to the presnee of landscape
 screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	205	205	9.0	23.8
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	15.7	28.1
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible
Skipjack (OCS-A 0519)	2024-2030	853	0	33	Not Visible	Not Visible
Garden State (OCS-A 0482)	2023-2030	853	0	80	Not Visible	Not Visible
US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	164	164	11.3	27.2
Ocean Wind II (OCS-A 0532)	2026-2030	906	111	111	11.1	36.3
Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
Attentive Energy (OCS-A 0538)	by 2030	853	0	101	Not Visible	Not Visible
Bight Wind Holdings (OCS-A 0539)	by 2030	853	0	148	Not Visible	Not Visible
Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	71	95	37.5	43.0
Invenergy Wind Offshore (OCS-A 0542)	by 2030	853	4	99	41.6	43.0









Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

BC02: North Brigantine Natural Area, Brigantine City, Atlantic County, New Jersey

Photosimulation (Panorama 2): Scenario 4: Full buildout of all lease areas without Atlantic Shores South

Simulation Size: 66° in width by 29.3° in height. Images that doubt the viewed from a distance of 18 inches on the prevent in order to obtain the proper perspective. percentra

- **Determined State**: 66[°] in width by 29.3° in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
 Ofshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available. WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
 Offsore Substation location and dimensions can be added on a refraction conflictent draved from observations of the constructed Biock land Winf Farm. This refraction conflictent draved from observations of the constructed Biock land Winf Farm. This refraction conflictent analysis estables of an effection the viewbled more conservative visibility results (i.e. greater turbine visibility) that the viewbled analysis estable from the (DN) was determined block kind Winf Farm. This representation of the constructed by was determined by human verified computer generated curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the stD (was determined by human verified computer generated survature of the earth and refraction. This count may vary from the actual number of WTGs visible in the stD camera views considering screening resulting from vegetation, structures, avartate of the earth and refraction. This count may vary from the actual activity for Gounts assumed the WTG blocks are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest MTG in the curvature of duditionally the WTG counts assumed the WTG blocks are in the upright position whereas the photosimulations assume a random for the count and vary visibility.
 The coolid or view indicated to the key Observation Point Context map indicates the horizontal exent of viuv

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	15.7	28.1
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible
Skipjack (OCS-A 0519)	2024-2030	853	0	33	Not Visible	Not Visible
Garden State (OCS-A 0482)	2023-2030	853	0	80	Not Visible	Not Visible
US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	164	164	11.3	27.2
Ocean Wind II (OCS-A 0532)	2026-2030	906	111	111	11.1	36.3
Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
Attentive Energy (OCS-A 0538)	by 2030	853	0	101	Not Visible	Not Visible
Bight Wind Holdings (OCS-A 0539)	by 2030	853	0	148	Not Visible	Not Visible
Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	71	95	37.5	43.0
Invenergy Wind Offshore (OCS-A 0542)	by 2030	853	4	99	41.6	43.0













BC02: North Brigantine Natural Area, Brigantine City, Atlantic County, New Jersey

Photosimulation (Panorama 2): Scenario 5: Atlantic Shores South without the construction of other foreseeable planned activities

Simulation Size: 66' in width by 29.3' in height. Image this locarboald be viewed from a distance of 18 inches on the prirate in order to obtain the prospective. percenta

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	205	205	9.0	23.8

