EU Energy (part 3) - 2012

Type: Stockshots Référence: I074167 Durée: 55:00 Lieu: Ireland | United Kingdom | Denmark | Portugal | Slovakia | Doel | La Jonquera | Barrow-in-Furness | Heysham | Abadín | Santa Llogaia d'Àlguema | Neubukow | Beveren

This video stockshot on energy illustrates the following chapters:1. Wind Energy Off-Shore - Anholt, Denmark;2. Wind Energy Off-Shore - Walney Offshore Windfarms, Irish Sea, UK;3. Wind Energy Inland - Germany;4. Wind Energy Inland - Abadin, Spain;5. Nuclear Power Plant - Mochovce, Slovakia;6. Nuclear Power Plant - Sizewell, United Kingdom;7. Electricity Grid Interconnection - Ireland/United Kingdom;8. Electricity Grid Interconnection - Spain/France;9. Electricity Grid Interconnection - Portugal/Spain;10. Mixed Sources of Energy.

HEURE	DESCRIPTION	DUREE
00:00:00	Title Dong energy is to build Denmark's next large-scale offshore wind farm between Djursland and the island of Anholt in the Kattegat. Anholt Offshore Wind farm will be Denmark's largest offshore wind farm with a total capacity of 400mW. The wind farm will be able to supply more than 400,000 Danish households with CO2-free power every year. This corresponds to 4% of the overall Danish power consumption. The wind farm will be constructed by means of a number of special-purpose vessels designed to handle offshore installation. First, the foundation is built. The foundation consists of a round steel pipe, a monopile with a diameter of approximately 5 metres. a large hydraulic hammer mounted on the installation vessel, Svanen, drives the steel pipe approximately 20-30 metres into the seabed, and a so-called transition piece will be cast onto the monopile. For navigation safety reasons, the transition piece is painted yellow. The wind turbines will then be connected to Energinet.dk's offshore substation via cables laid under the sea. Energinet.dk is constructing the transformer platform and responsible for the export cable and the connection to the national grid at Trige.	00:00:18
00:00:18	Credits and title	00:00:05
	1. Wind Energy Off-Shore - Anholt, Denmark	
00:00:23	On board the ship "Provider", going to the off-shore windpark (2 shots)	00:00:09
00:00:32	The installation vessel, Svanen, installing the foundation of the windmills (5 shots)INFO: The foundation consists of a round steel pipe, a monopile with a diameter of approximately 5 metres. A large hydraulic hammer mounted on the installation vessel, Svanen, drives the steel pipe approximately 20-30 metres into the seabed.	00:00:45

00:01:17	Crew on board "Provider", looking at the installation vessel	00:00:07
00:01:24	Installing the foundation of the windmills (4 shots)	00:00:30
00:01:54	Transformer station (8 shots)INFO: The transformer station gathers the 111 turbines power. There will be combined 400 MW.	00:01:10
00:03:04	Transition pieces off-shore (10 shots)INFO: Transition pieces will be cast onto the monopile. For navigation safety reasons, the transition piece is painted yellow.	00:01:45
00:04:49	The special-purpose vessel "Jumbo" (11 shots)INFO: The ship has a number of yellow transition pieces ready to be mounted on the base tubes. The transition pieces are fixed onto the pipes with concrete.	00:02:03
00:06:52	TitleThe Walney Offshore Windfarms During the years 2010 and 2011, the Walney (UK) Offshore Windfarms Ltd. has constructed the Walney 1 and Walney 2 offshore wind farms, located approximately 15km off Walney Island, Cumbria, in the Irish Sea. Entering into commercial operation at the beginning of 2012, the Walney 1 and Walney 2 offshore wind farms were the world's largest offshore wind farms ever installed with a total capacity of 367.2MW. Walney 1 and Walney 2 both comprise 51 turbines with a total capacity of 367.2MW. The development includes foundations, turbines, export and array cables, offshore substations and onshore connection to grid. Due to their scale, the Walney offshore wind farms will contribute significantly to a low-carbon future. They will help the UK achieve its target of reducing CO2 emissions by providing clean electricity now and in the future for approximately 320,000 UK households, ie one and a half times the number of households in Cumbria. Constructed sequentially With DONG Energy as the leading partner in the construction, the Walney offshore wind farms have been constructed according to the multi-contract principle, working in close cooperation with all the contractors and suppliers. At the same time, the project has optimised the installation time through parallel installation. Crane barges, jack-up vessels and tugs worked out of ports in the East Irish Sea area, primarily Barrow and Mostyn harbours. Credits: DONG Energy / Wainey Offshore Windfarms.	00:00:05
2. Wind Energy Off-Shore - Walney Offshore Windfarms, Irish Sea, UK		
00:06:57	Barrow-in-Furness, United Kingdom: the city centre, the harbour, windpark in the distance (4 shots)	00:00:20
00:07:16	Monopiles in the harbour, transported by barge, pulled by tug boats, driven to the sea bed (13 shots)	00:01:04

00:08:20	Off-shore substation installation (8 shots)	00:00:40
00:09:00	National Grid cable installation at Heysham inland substation (9 shots)	00:00:45
00:09:45	Off-shore windpark: poles, turbines and blades installation. Night and day work (20 shots)	00:01:49
00:11:34	Turbine installation: completion. Bright day (8 shots)	00:00:46
00:12:21	General construction, men at work (14 shots)	00:01:01
00:13:22	Cable laying (13 shots)	00:01:48
00:15:10	Completed turbines and windpark (9 shots)	00:00:58
00:16:07	Aerial shots of the windpark completed (3 shots)	00:01:12
00:17:19	Title E-126 onshore wind farm Neubukow, Germany The German company ENERCON manufactures one 7.5 MW E-126 onshore turbine a month. This number will expand gradually to meet growing international demand. The ENERCON E-126 is the world's most powerful wind turbine model built to date. With a hub height of 135 m, rotor diameter of 126m and a total height of 198m, the E-126 can generate up to 7.5 Megawatts nominal power. The E-126 incorporates state of the art power electronics, as such offering real grid stabilising capabilities. ENERCON wind energy converters do not have permanent magnets, so avoiding rare earth mining. The weight of the foundation of the turbine tower is about 2,500 t, the tower itself 2,800 t, the machine housing 128 t, the generator 220 t, the rotor (including the blade) 364 t. The total weight is about 6,000 t. About Neubukow wind farm: ENERCON has erected an E-126 at Neubukow wind farm (Mecklenburg-West Pomerania). The machine complements an existing wind farm with various wind turbines. The site near the coast of the Baltic Sea offers excellent wind conditions so for the E-126 an annular yield of approx. 20 million kWh is expected. This would be enough to provide more than 18,000 people with environmentally-friendly electricity.	00:00:05
3. Wind Energy Inland - Germany		
00:17:24	Establishing shot of the site with existing (non-ENERCON) windmills in the background (2 shots)	00:00:11
00:17:35	The work area, near the 135 m tower	00:00:05
00:17:41	The tower with a single blade already in place, crane ready for operation	00:00:06
00:17:46	The second blade on the ground	00:00:14

00:18:00	The second blade lifted by the crane (2 shots)	00:00:12
00:18:12	The engine tying the ropes for operation (3 shots)	00:00:15
00:18:27	The second blade going into position, workers assembling the two main parts of the blade (3 shots)	00:00:24
00:18:51	Second blade in position	00:00:06
00:18:56	Crane moving third blade into position	00:00:04
00:19:01	Technicians at work (3 shots)	00:00:18
00:19:19	Aerial lift brings workers to fix the third blade (4 shots)	00:00:21
00:19:40	Converter swivelling (accelerated)	00:00:06
00:19:46	Pan from crane to rotor	00:00:12
00:19:57	Accelerated shot: rotor rotating to present third blade underneath	00:00:06
00:20:03	Worker fixing ropes to the third blade (2 shots)	00:00:14
00:20:17	Third blade being lift up (3 shots)	00:00:27
00:20:44	Workers inside the blade, assembling both parts	00:00:15
00:21:00	Large shot of windmill, with the three blades in place	00:00:06
00:21:06	Title Around the small town of Abadín in North-West Spain, various Wind Parks have been built over the past 10 years. The first windmills had a power of approximately 750 ? 850 Kv. The newest ones develop a 2 MW-3 MW power.	00:00:05
	4. Wind Energy Inland - Abadín, Spain	
00:21:11	Landscapes near Abadín, Lugo Province, Galicia, Spain	00:00:07
00:21:18	Sign mentioning "Windpark - WindEnergy Action of Galicia"	00:00:06
00:21:23	Landscapes of Galicia, with windmills (2 shots)	00:00:12
00:21:35	Converters (4 shots)	00:00:23
00:21:58	Various shots of windmills, windy weather (4 shots)	00:00:27
00:22:24	Various shots of wild horses in the wind park (3 shots)	00:00:21
00:22:46	Car, country road, windmills in the background	00:00:09
00:22:54	Title In the south of Slovakia, between the towns of Nitra and Levice, there are located four PWR units (VVER 440/V-213 pressurised water reactors) of the Mochovce Nuclear Power Plant. The gross power output of Units 1 and 2 was up-rated from 440 to 470 MW per unit. Construction of Units 3 and 4 is under way. Each	00:00:05

	Construction of Units 3 and 4 is under way. Each Mochovce NPP unit generates over 3,500 GWh of electricity annually, which represents approximately 12 % of Slovakia's electricity consumption.	
5. Nuclear Power Plant - Mochovce, Slovakia		
00:22:59	The region of Nitra, Slovakia (2 shots)	00:00:12
00:23:11	Establishing shot of Mochovce nuclear power plant in its natural environment. (2 shots)	00:00:11
00:23:21	The old church of the former village of Mochovce, solar panels and cooling towers in the background.INFO: Cooling towers are 125 meters high.	00:00:05
00:23:27	Wide shot of the Mochovce NPP: on the right, orange building, units 1 and 2 in operation. On the left, red building, unit 3 and 4, under construction.	00:00:05
00:23:32	The cooling towers of Unit 3 and 4, ready for operation.	00:00:06
00:23:38	Reactor hall for unit 3 and 4, under construction.INFO: Mochovce is one of three nuclear power plants currently under construction in the EU. (The other ones are in France and Finland) Commissioning of Unit 3 will start in 2013 and Unit 4 in 2014. Each unit will have 471 MWe output. Annual production of two units will save over 7 million tonnes of CO2 emissions.	00:00:05
00:23:43	Ground plan of unit 3 and 4	00:00:06
00:23:49	Reactor hall of unit 3, under construction, engineers visiting the facilities (2 shots)	00:00:11
00:24:00	Emergency steam release pump ready for installation	00:00:05
00:24:06	Technician welding	00:00:05
00:24:11	Pan: reactor hall, unit 4	00:00:10
00:24:20	Plan of storage shaft	00:00:08
00:24:28	Roof crane in turbine hall of unit 3 and 4, under construction (2 shots)	00:00:11
00:24:39	Wide shot of turbine hall under construction, workers passing by	00:00:07
00:24:46	Technicians at work, turbine hall, ground level (2 shots)	00:00:14
00:25:00	Installation of the body of a turbine, technicians at work (3 shots)	00:00:25
00:25:25	Working on pipes	00:00:05
00:25:30	Welding a pipe (2 close up shots)	00:00:16

00:25:46	Establishing shot of the main building, unit 1 and 2	00:00:05
00:25:52	Flags of the company "Slovenské Elektrárne"	00:00:06
00:25:58	Sign saying "Nuclear Electric Central Mochovce"	00:00:05
00:26:03	Illuminated panel showing the electric power delivered by the 4 turbines of unit 1 and 2, in real time	00:00:09
00:26:11	Simulator facility of the Control Room.INFO: Simulator facility provides trainings for engineers who will work later on the actual control room of the NPP.	00:00:06
00:26:17	Screen showing temperature of the primary circuit	00:00:06
00:26:23	Screen showing graphic of the heart of the nuclear reactor.INFO: Reactor type is PWR (Pressurised Water Reactor). Thermal power of each reactor is 1,471 MWt.	00:00:05
00:26:28	Screen showing the reactor power (Nre 97,67 %) and the electric output of turbines 1 and 2	00:00:06
00:26:34	Simulator facility of the Control Room	00:00:07
00:26:41	Screen showing a graphic of the reactor. Sound: warning simulating a problem at the power plant.	00:00:06
00:26:47	Pan: from the control panel to screens monitoring the reactor	00:00:11
00:26:58	Worker entering the turbine hall of unit 1 and 2	00:00:07
00:27:05	Wide shot of turbine hall, unit 1 and 2, technicians passing	00:00:06
00:27:11	Turbine Nr 1, large shot	00:00:05
00:27:17	Pan from low-pressure recombiners to condensate pump	00:00:12
00:27:29	Pan: three electrical feedwater pumps	00:00:05
00:27:34	Turbine Nr 2: large + pan (3 shots)	00:00:26
00:28:00	Detail of control instruments and valves, turbine 2	00:00:05
00:28:04	Outside unit 3 and 4: electric transformers ready for production	00:00:06
00:28:10	Cooling towers of unit 1 and 2, electric wires in the foreground	00:00:05
00:28:15	Electric wires leaving the NPP to the electric grid	00:00:07
00:28:22	Electric poles carrying electricity from the NPP to the grid, over a wheat field	00:00:07
00:28:29	Electric poles over a sunflower field (2 shots)	00:00:11

00:28:40	TitleSizewell B is a nuclear power plant located near Leiston, Suffolk, Eastern England. Sizewell B is the UK's only commercial Pressurised Water Reactor (PWR) power station, with a single reactor. It was built and commissioned between 1987 and 1995, first synchronised with the national grid on 14 Feb 1995. Sizewell B is the UK's newest nuclear power station.	00:00:05
6. Nuclear Power Plant - Sizewell, United Kingdom		
00:28:45	The East Anglian coast near Sizewell, Suffolk, England, United Kingdom (2 shots)	00:00:09
00:28:55	Beach with Sizewell B NPP in the background (2 shots)	00:00:17
00:29:12	Sea with seagulls flying around Sizewell B NPP (2 shots)	00:00:15
00:29:27	View of Sizewell NPP from the cliff	00:00:05
00:29:32	View of Sizewell NPP from the nature reserve	00:00:06
00:29:38	Sign: "You are entering a nuclear licensed site (Nuclear installations, Act 1965, as amended) - Sizewell B - Nuclear safety is our overriding priority"	00:00:12
00:29:51	Car entering the site, British flag in the background	00:00:05
00:29:56	Sign: "EDF Energy - Welcome to Sizewell B power station"	00:00:05
00:30:01	Workers on site	00:00:06
00:30:07	Establishing shot, dome in the background	00:00:05
00:30:12	The reactor dome	00:00:05
00:30:17	The reactor building	00:00:05
00:30:22	Maintenance workers on tricycles (with baskets for their tools), passing by the turbine hall	00:00:04
00:30:26	Worker walking along turbine hall	00:00:05
00:30:31	Inside the turbine hall: worker opening door	00:00:06
00:30:38	Worker walking in the turbine hall, large shot of the turbine hall.INFO: The site has one reactor, powering two identical turbines. Net electrical output of the power station is 1191 MW, and is capable of supplying over 2.5 million homes - roughly the equivalent of the daily domestic needs of Suffolk and Norfolk. The station is capable of supplying just under 3% of the UK's entire electricity needs.	00:00:09
00:30:46	Detail on the turbine Nr 2	00:00:05
00:30:51	Pan: workers in turbine hall	00:00:09

00:31:00	Detail of AC pipe	00:00:05
00:31:05	Detail of HP Heater Flash Vessel	00:00:05
00:31:10	Workers adjust the controls in the turbine hall	00:00:05
00:31:15	Turbine Nr 1 (3 shots)	00:00:16
00:31:31	Generator (2 shots)	00:00:10
00:31:40	Warning sign: "High voltage"	00:00:06
00:31:47	The output from the turbine is constantly monitored (2 shots)	00:00:14
00:32:01	Operations Training Facility building, establishing shot	00:00:07
00:32:08	Sign: "Main Control Room"	00:00:05
00:32:13	Sign on door "MCR Simulator", door opening	00:00:10
00:32:23	Door opening, contract partner comes in	00:00:07
00:32:30	Establishing shot: Control Room simulator room, 3 engineers at work	00:00:10
00:32:41	Engineers controlling instruments (2 shots)	00:00:10
00:32:51	Engineer simulating the closing of a pump (3 shots)	00:00:28
00:33:19	Engineer with talky walky radio	00:00:06
00:33:25	Details on different control screens (2 shots)	00:00:18
00:33:43	Engineer doing a full control procedure, aloud	00:00:30
00:34:13	Details on the control panel (4 shots)	00:00:25
00:34:38	Wide shot of the control room, with 3 engineers	00:00:07
00:34:46	Outside pool, water coming from the sea for cooling the secondary circuit	00:00:11
00:34:57	Sea water filters (2 shots).INFO: Sea water is used to cool down the secondary water circuit. It is never in contact with the reactor. The water goes back to sea at approximately the same temperature as it was taken. Filters are used to prevent foreign matter, such as fish and weeds, getting into the system. Sizewell is located behind a man-made sand dune (or bund) and also has back-up cooling systems.	00:00:10
00:35:07	Generator transformer (2 shots)	00:00:10
00:35:17	Sizewell B reactor dome behind electric poles (2 shots)	00:00:10
00:35:27	Detail of electric pole	00:00:05
00:35:32	Electric poles, Sizewell B reactor dome in the background	00:00:05

00:35:37	Electric power lines	00:00:05
00:35:42	TitleEirGrid is building an electricity link called the East-West Interconnector between the electricity grids of Ireland and Britain. The Interconnector is a 500 MW regulated HVDC link which will be fully compliant with all EU legislation and provide an increased opportunity to market participants to trade electricity. The Interconnector. It took 3 weeks to lay the marine cable from Ireland to the coast of Wales and the work is now completed. The interconnector is expected to go live towards the end of September 2012.	00:00:05
	7. Electricity Grid Interconnection - Ireland/United Kingdom	
00:35:47	The Irish Sea coast, off Rush, North of Dublin (5 shots)	00:00:27
00:36:14	Various shots of the "AMC connector" ship, a special vessel designed for laying undersea cables (8 shots).INFO: The Offshore Construction Vessel is a multi purpose vessel designed for ultra deep water and represents a step-change in capacity, workability, safety and comfort for offshore construction and installation work. Max speed: 17 knots Flexible Deployment System (FDS): 300t capacity with double tensioners. 350 t A&R winch. 3 000t under deck turntable 4 500t side-loaded deck carousel.	00:01:08
00:37:22	Staff from Eirgrid including CEO showing a cross section of the Interconnector cable (4 shots)	00:00:30
00:37:52	Vessel preparing for the laying of the cables, distant shots of crew on board (15 shots)	00:01:43
00:39:35	TitleThe project MAT (high tension line) facilitates electric exchange between France and Spain and consists of three phases : the construction of electrical substations in the towns of Santa Llogaia (Spain) and Baixas (France) and the drilling of the tunnel that be conducted by two TBMs. The first tunnelling operation is at La Jonquera. It began drilling from Spanish territory to meat up with the that will start from France. Work on French side have not yet begun but it is anticipated that that tunnel will be the completed by the end of 2013.	00:00:05
	8. Electricity Grid Interconnection - Spain/France	
00:39:40	The region of Santa Llogaia, Pyrenees, Spain (2 shots).INFO: Work area electrical sub-station, Santa Llogaia, Spain.	00:00:11
00:39:51	Construction foundations (5 shots)	00:00:28

00:40:19	Large shot of the town of La Jonquera.INFO: Work area tunnel boring machine, La Jonquera, Spain.	00:00:06
00:40:24	Wide shot work area, tunnel boring machine	00:00:06
00:40:30	Group of visitors in the work area	00:00:09
00:40:39	Tunnel boring machine	00:00:06
00:40:45	Crane at work (3 shots)	00:00:14
00:40:59	Workers building the back-up system of the tunnel boring machine (5 shots)	00:00:30
00:41:28	Tunnel boring machine	00:00:05
00:41:33	Poster saying "Co-financed by the EU"	00:00:05
00:41:39	The circular cross section of the tunnel boring machine (2 shots)	00:00:11
00:41:50	Sign saying "Reinforcing the electric interconnection France/Spain"	00:00:05
00:41:55	The tunnel boring machine seen from inside the tunnel	00:00:06
00:42:01	The first few meters of the tunnel	00:00:06
00:42:06	TitleIn Portugal, the company REN (Redes Energeticas Nacionais) guarantees the security of supply and quality and distribution of electricity. Interconnection of grids between Portugal and Spain has been reinforced over the Douro valley, the border river between the two member states. New overhead line work has been completed in 2011 and a new substation build in Lagoaça. REN can only build power lines in corridors approved by the Portuguese Environmental Agency.	00:00:05
9. Electricity Grid Interconnection - Portugal/Spain		
00:42:11	The region of the Douro valley, North-East of Portugal	00:00:05
00:42:17	The small town of Lagoaca, Portugal	00:00:05
00:42:22	Establishing shot Lagoaça substation (2 shots).INFO: The Lagoaça Substation began operations in December 2009 and is a point of reception, distribution of energy at Very High Voltages coming from the Douro Internacional, Production Interconnector with Aldeadavila (Spain).	00:00:10
00:42:32	The newly built Lagoaça substation (2 wide shots)	00:00:14
00:42:46	Sign: "High voltage area, risk of death"	00:00:06
00:42:52	The substation control room, two workers on duty (2 shots)	00:00:10

00:43:02	Details on screen during a disconnection operation (2 shots)	00:00:08
00:43:10	Disconnection operation: close up on electric arc forming (2 shots)	00:00:16
00:43:26	Team preparing for intervention on the electric park (3 shots)	00:00:21
00:43:48	Technicians isolating a circuit (8 shots)	00:00:55
00:44:43	Man working around a three-pole circuit breaker (2 shots)	00:00:15
00:44:58	Details on transformers (2 shots)	00:00:15
00:45:13	Engine driven into the electric park	00:00:10
00:45:23	Technicians preparing for operation, protective gears (2 shots)	00:00:12
00:45:35	Maintenance operation on one transformer circuit (7 shots)	00:00:45
00:46:20	Re-connection operation: electric arc forming	00:00:16
00:46:37	Three transformers.INFO: The Lagoaça Substation has three 400/200/20kV 450 MVA auto-transformers.	00:00:11
00:46:48	Technician controlling the transformer's instruments	00:00:13
00:47:01	Technician controlling the cooling fans (3 shots)	00:00:17
00:47:18	Pan from the substation to the electricity pylons	00:00:12
00:47:30	Sign on new electricity pylons mentioning EU contribution (2 shots)	00:00:11
00:47:41	Pan: electricity pylons carrying power lines between Portugal and Spain	00:00:14
00:47:55	High tension cables carrying electricity from Spain to Portugal, over the Douro valley (5 shots)	00:00:36
00:48:31	Pan from electricity pylons to a dam on the Douro river, the border between Spain and Portugal	00:00:13
00:48:44	Detail of a tourist boat on the Douro river	00:00:05
00:48:50	Timelapse shot of the Douro valley, with dam and hydroelectric power station.INFO: A small hydroelectric plant on the Douro river produces electricity that is sent to the Aldeadavillà substation in Spain. From there, 400 Kv of power can be transferred to Portugal over the power lines in the valley.	00:00:05
00:48:55	Hydroelectric dam on the Douro river	00:00:06
00:49:01	Small hydroelectric power plant above the Douro river	00:00:06

00:49:06	Birds of prey flying over high tension cables (2 shots).INFO: REN was permitted to erect power lines only in corridors approved by the Portuguese Environmental Agency. An environmental Impact Assessment was made prior to the work in the Douro valley - a nature reserve and home to many birds of prey.	00:00:12
00:49:19	Title	00:00:05
10. Mixed Sources of Energy		
00:49:24	LPG tanker (Gas Grouper) berthing at BASF Terminal	00:00:05
00:49:29	BASF windmills, BASF tanks in the foreground + BASF terminal	00:00:06
00:49:35	LPG tanker (Sturgeon) crossing the frame with windmills background. Other vessels crossing the frame.	00:00:08
00:49:43	BASF LPG tanks + windmills and pipelines (4 shots)	00:00:30
00:50:13	BASF refinery + windmills; petrol barge in the foreground	00:00:05
00:50:18	BASF pipelines, steam rejects, windmills in the background	00:00:05
00:50:23	Cooling towers of the Nuclear Power Plant of Doel seen from opposite bank of the Schelde, barge passing.	00:00:28
00:50:51	Copyright	00:00:07

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