



Co-funded by
the European Union



P4ELECS

Platform for
Electrification Skills
& Competences

©P4ELECS

www.p4elecs.com

D2.2

**Model for Skills Intelligence Skills
Mapping**

Occupations in the wind energy workforce

Martijn van Bommel - 13 March 2026

ISSO

Occupation:	<u>Onshore wind energy engineer</u>	EQF Level:	6,7	ULOS (Units of Learning Outcomes)		
Tasks and responsibilities:		Level of competence:		Knowledge	Skills	Attitude
a)	The onshore wind energy engineer identifies potential hazards and introduces safety procedures and devices.	1		The onshore wind energy engineer identifies potential hazards during the operation and maintenance of onshore wind turbines.	The onshore wind energy engineer explains safety procedures and devices to support hazard prevention during onshore wind energy operations.	The onshore wind energy engineer follows safety procedures and devices with a reliable and proactive attitude to effectively address potential hazards during onshore wind turbine activities.
b)	The onshore wind energy engineer adjusts engineering designs and voltage parameters to optimise wind turbine performance and ensure compatibility with site-specific conditions and electrical power safety regulations.	2		The onshore wind energy engineer optimises wind turbine performance according to site-specific conditions and electrical power safety regulations.	The onshore wind energy engineer adjusts engineering designs and voltage parameters to ensure compatibility with wind turbine performance requirements.	The onshore wind energy engineer selects voltage parameters in a goal-oriented and efficient manner to comply with site-specific conditions and electrical power safety regulations.
c)	The onshore wind energy engineer approves engineering designs and drawings using technical drawing software to validate compliance with engineering principles, renewable energy standards, and wind energy best practices.	4		The onshore wind energy engineer validates compliance with engineering principles, renewable energy standards, and wind energy best practices through the use of technical drawing software.	The onshore wind energy engineer assesses engineering designs and drawings using technical drawing software to confirm compliance.	The onshore wind energy engineer approves engineering designs and drawings with a thoughtful and organized approach to validate their alignment with best practices and standards.
d)	The onshore wind energy engineer conducts engineering site audits and assesses wind farm locations, integrating data from meteorological instruments and forecast data to inform design and operational decisions.	3		The onshore wind energy engineer examines data from meteorological instruments and forecast data to support design and operational decisions related to wind farm locations.	The onshore wind energy engineer conducts engineering site audits to assess wind farm locations for design and operational planning.	The onshore wind energy engineer undertakes wind farm location assessments as a resourceful and flexible professional , integrating meteorological and forecast data into site audit activities.
e)	The onshore wind energy engineer designs automation components and wind turbines based on aerodynamic principles, civil engineering constraints, and types of wind turbines, while promoting innovative infrastructure design.	5		The onshore wind energy engineer develops wind turbines and automation components based on aerodynamic principles, civil engineering constraints, and turbine types.	The onshore wind energy engineer designs automation components and wind turbines to promote innovative infrastructure design.	The onshore wind energy engineer proposes innovative infrastructure design with a creative and innovative mindset , applying aerodynamic principles and civil engineering constraints.

f)	The onshore wind energy engineer develops and performs test procedures, including testing wind turbine blades and components, recording test data, and reporting test findings to ensure reliability and efficiency.	5	The onshore wind energy engineer structures test procedures for evaluating wind turbine blades and components to ensure reliability and efficiency.	The onshore wind energy engineer builds and performs test procedures while recording data and reporting findings on wind turbine blades and components.	The onshore wind energy engineer verifies test findings as a detail-oriented and reliable team member , upholding the reliability and efficiency of wind turbine components.
g)	The onshore wind energy engineer ensures compliance with environmental legislation, noise standards, and safety legislation by integrating regulatory requirements into engineering processes and monitoring project execution.	4	The onshore wind energy engineer elaborates regulatory requirements to ensure compliance with environmental legislation, noise standards, and safety legislation during engineering processes.	The onshore wind energy engineer ensures compliance with environmental legislation, noise standards, and safety legislation by integrating regulations into engineering processes and monitoring execution.	The onshore wind energy engineer integrates regulatory requirements with a meticulous and proactive attitude , ensuring consistent compliance during project execution.
h)	The onshore wind energy engineer manages engineering projects by applying project management methodologies and performing data analysis to track milestones, budget, and technical performance.	3	The onshore wind energy engineer analyses project milestones, budget, and technical performance using established project management methodologies.	The onshore wind energy engineer manages engineering projects by tracking progress through project management methodologies and data analysis.	The onshore wind energy engineer follows project management methodologies as an organized and goal-oriented professional , maintaining effective tracking of milestones, budget, and technical outcomes.
i)	The onshore wind energy engineer conducts scientific research and simulations related to wind energy, incorporating meteorology, mechatronics, and energy market dynamics to improve design and operational strategies.	3	The onshore wind energy engineer researches meteorology, mechatronics, and energy market dynamics to improve wind energy design and operational strategies.	The onshore wind energy engineer conducts scientific research and simulations to develop improved wind energy design and operational strategies.	The onshore wind energy engineer initiates research activities with an enthusiastic and open-minded approach , incorporating meteorology, mechatronics, and energy market dynamics into wind energy strategies.
j)	The onshore wind energy engineer promotes innovative infrastructure design through the integration of smart grid systems, machine learning, and decision support systems to enhance electricity generation and distribution.	3	The onshore wind energy engineer identifies smart grid systems, machine learning, and decision support systems to support enhanced electricity generation and distribution.	The onshore wind energy engineer constructs innovative infrastructure design by integrating smart grid systems and data-driven technologies.	The onshore wind energy engineer promotes innovative infrastructure design as a goal-oriented professional , advancing electricity generation and distribution through integrated technologies.
k)	The onshore wind energy engineer provides information on wind turbines and renewable energy technologies to stakeholders, supporting education, awareness, and acceptance of sustainable energy solutions.	1	The onshore wind energy engineer explains wind turbines and renewable energy technologies to facilitate stakeholder education, awareness, and acceptance.	The onshore wind energy engineer provides information on wind turbines and renewable energy technologies to engage stakeholders with sustainable energy solutions.	The onshore wind energy engineer chooses information on wind turbines and renewable energy technologies as a supportive and inclusive communicator , fostering awareness and acceptance among stakeholders.
l)	The onshore wind energy engineer reads and interprets engineering drawings and blueprints to coordinate multidisciplinary teams and ensure construction aligns with wind farm collector system requirements.	2	The onshore wind energy engineer demonstrates engineering drawings and blueprints to ensure alignment of construction activities with wind farm collector system requirements.	The onshore wind energy engineer applies engineering drawings and blueprints to coordinate multidisciplinary teams for wind farm construction.	The onshore wind energy engineer reads engineering drawings and blueprints with a collaborative and attentive attitude , ensuring construction aligns with wind farm collector system requirements.

m)	The onshore wind energy engineer researches locations for wind farms, conducting feasibility studies on mini wind power systems and assessing financial viability to support sustainable development goals.	3	The onshore wind energy engineer differentiates locations for wind farms through feasibility studies and assessments of financial viability to support sustainable development.	The onshore wind energy engineer conducts feasibility studies on mini wind power systems to assess suitable locations and financial viability.	The onshore wind energy engineer supports sustainable development goals with a driven and thoughtful perspective , by researching wind farm locations and evaluating mini wind power systems.
n)	The onshore wind energy engineer advises on machinery malfunctions and oversees pre-assembly operations to ensure efficient deployment and maintenance of construction and civil engineering machinery products.	4	The onshore wind energy engineer advises on machinery malfunctions to support the efficient deployment and maintenance of construction and civil engineering machinery products.	The onshore wind energy engineer assesses pre-assembly operations to ensure efficient deployment and maintenance of machinery products.	The onshore wind energy engineer oversees pre-assembly operations as a team player who makes team members feel important , addressing machinery malfunctions and ensuring efficient deployment.
o)	The onshore wind energy engineer coordinates electricity generation and responds to electrical power contingencies, ensuring resilience and reliability through effective contingency strategies.	3	The onshore wind energy engineer specifies contingency strategies to ensure the resilience and reliability of electricity generation during unexpected events.	The onshore wind energy engineer coordinates electricity generation while responding to electrical power contingencies.	The onshore wind energy engineer responds to electrical power contingencies with a calm, flexible, and reliable attitude , safeguarding operational resilience and reliability.
p)	The onshore wind energy engineer monitors electric generators and utilises cloud technologies, data mining, and unstructured data to enhance operational insights and business intelligence.	2	The onshore wind energy engineer monitors electric generators to enhance operational insights and inform business intelligence practices.	The onshore wind energy engineer employs cloud technologies, data mining, and unstructured data to enhance operational insights and business intelligence.	The onshore wind energy engineer reports operational insights while being resourceful and open to constructive feedback , utilising data from electric generators and cloud technologies for informed business intelligence.

Occupation:	<u>Onshore wind farm technician</u>	EQF Level:	5	ULOS (Units of Learning Outcomes)		
Tasks and responsibilities:		Level of competence:		Knowledge	Skills	Attitude
a)	The onshore wind farm technician runs, monitors, and examines various types of energy-generating power plants.	3		The onshore wind farm technician examines energy-generating power plants under operational conditions to identify performance parameters.	The onshore wind farm technician monitors energy-generating power plants during daily operations to ensure consistent power generation.	The onshore wind farm technician demonstrates commitment to operating energy-generating power plants in accordance with safety and efficiency standards.
b)	The onshore wind farm technician runs and manages power-generating systems and equipment to generate and distribute electrical power .	3		The onshore wind farm technician analyses power-generating systems and equipment to specify procedures for generating and distributing electrical power .	The onshore wind farm technician operates and manages power-generating systems and equipment under routine and peak load conditions to ensure electrical power distribution.	The onshore wind farm technician takes part in managing systems and equipment to support the generation and distribution of electrical power .
c)	The onshore wind farm technician manages the start-up and shut-down of power plant equipment, coordinates switching operations, adjusts water levels, and communicates with systems operators to regulate and coordinate transmission loads, frequency, and line voltages.	3		The onshore wind farm technician identifies power plant equipment start-up and shut-down procedures under normal and emergency operations to regulate loads and voltages.	The onshore wind farm technician coordinates switching operations and adjusts water levels during plant start-up and shut-down to ensure operational continuity.	The onshore wind farm technician co-operates with systems operators to coordinate loads, frequency, and voltages under varying operational conditions.
d)	The onshore wind farm technician reads charts, meters, and gauges at established intervals, diagnoses issues, and remedies problems as necessary.	3		The onshore wind farm technician resolves issues using data from charts, meters, and gauges recorded at set intervals to maintain system functionality.	The onshore wind farm technician diagnoses issues using chart, meter, and gauge readings at regular intervals to implement corrective measures.	The onshore wind farm technician accepts responsibility for reporting and resolving system issues based on regular instrument readings.
e)	The onshore wind farm technician documents and maintains station records, logs, and reports, and communicates with other plant personnel to assess equipment operating status.	3		The onshore wind farm technician relates station records, logs, and reports to operational conditions to assess equipment status.	The onshore wind farm technician communicates station status through logs and reports to ensure effective information flow among plant personnel.	The onshore wind farm technician shares operational findings from station logs and reports with other personnel to support team-based equipment
f)	The onshore wind farm technician maintains and services equipment such as generators, turbines, and compressors to prevent equipment failure or deterioration .	2		The onshore wind farm technician maintains equipment such as generators, turbines, and compressors under standard maintenance schedules to prevent equipment failure or deterioration.	The onshore wind farm technician repairs equipment such as generators, turbines, and compressors during routine and non-routine servicing to prevent equipment failure or deterioration.	The onshore wind farm technician assists in servicing equipment such as generators, turbines, and compressors in collaboration with other maintenance team members to prevent equipment failure or deterioration.