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TRAINING & WORKFORCE ► CLEANPOWER PREVIEW

TRANSFERABLE SKILLS AND RENEWABLES

Technical skills are particularly valuable in the renewable-energy sector. (Courtesy: Shutterstock)



As the demand for clean, sustainable energy sources increases, in-demand transferable skills can help with a career in the renewable energy industry.

By **ANDREEA OLARIU**

The renewable energy sector is booming, presenting a wealth of opportunities for those ready to make a career switch. But how do you transition into this growing industry? What skills do you need to thrive in renewable energy roles?

The answer lies in transferable skills — abilities you've gained from past experiences that can be applied to new roles.

UNDERSTANDING TRANSFERABLE SKILLS

Transferable skills are abilities you've developed in one setting that can be applied to another. They can be gained from previous jobs, volunteer work, or even hobbies. These skills are crucial when transitioning to a new industry like renewable energy, allowing you to leverage your existing expertise and adapt to new roles more easily.

The renewable energy sector is experiencing rapid growth worldwide, driven by increasing awareness of climate change and the need for sustainable energy solutions. In Australia, the renewable energy industry is projected to create 193,900 jobs by 2050. This presents a wealth of opportunities for individuals with a diverse range of skills, making it an attractive field for career transition.

TECHNICAL SKILLS THAT TRANSITION WELL

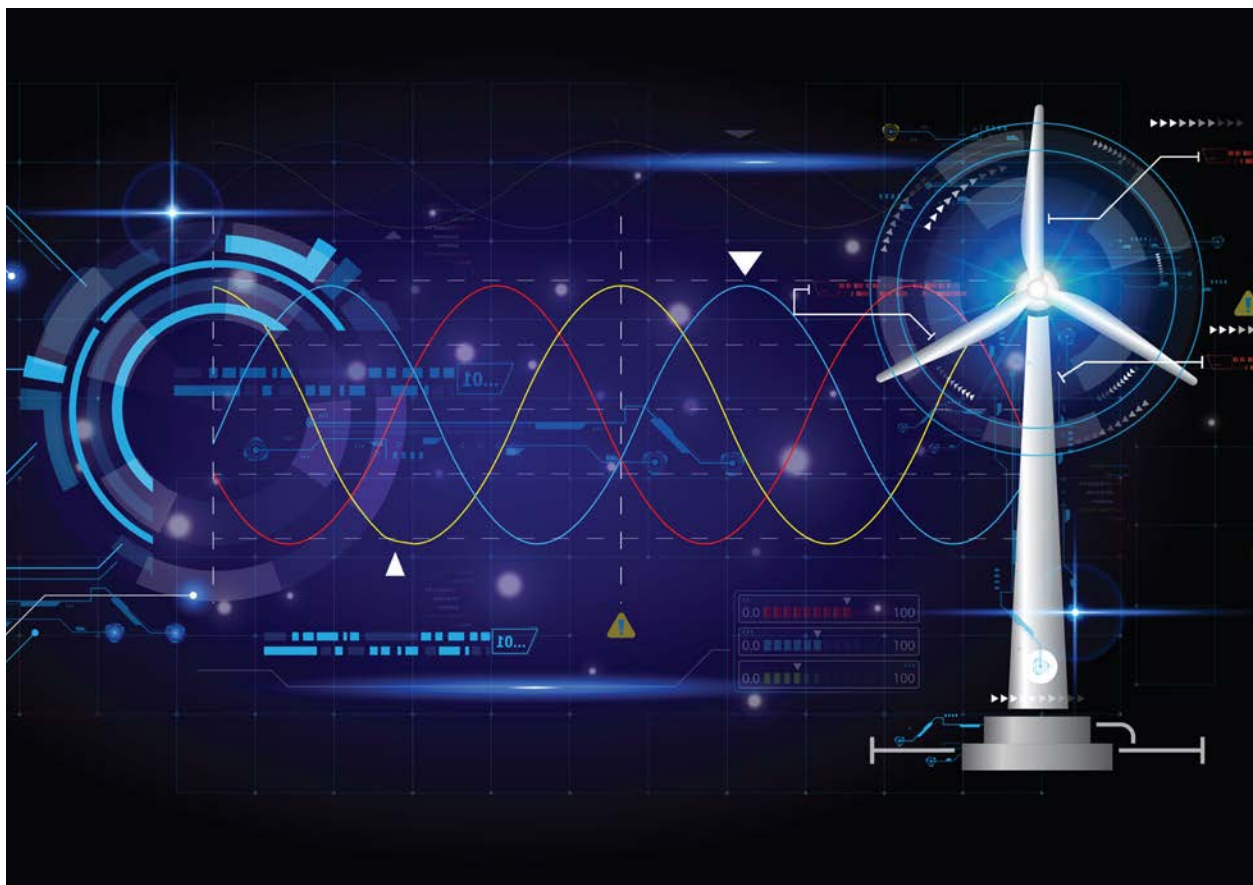
Technical skills are particularly valuable in the renewable-energy sector. This industry is driven by technology and innovation, making technical expertise highly sought after.

According to the International Renewable Energy Agency (IRENA), the renewable energy sector is expected to create about 40 million jobs worldwide by 2050. This growth underscores the importance of technical skills in driving the industry's expansion and innovation.

DATA ANALYSIS

Skills in data analysis are crucial for optimizing energy production and distribution. Data analysts in the renewable-energy sector use advanced analytics to monitor and improve the efficiency of energy systems.

For instance, they might analyze data from wind turbines to predict maintenance needs and prevent downtime, or optimize the performance of solar panels based on weather patterns.



Automation and artificial intelligence (AI) are becoming increasingly important in the renewable energy sector. (Courtesy: Shutterstock)

The ability to interpret and act on data is essential for improving the reliability and efficiency of renewable energy sources. In Australia, for example, the demand for data analysts in the energy sector is projected to grow by 15 percent over the next five years.

ENGINEERING PRINCIPLES

Engineering principles are fundamental to the design and operation of renewable energy systems. Engineers in this field apply their knowledge to develop and maintain technologies such as wind turbines, solar panels, and bioenergy systems.

For example, mechanical engineers might design more efficient turbine blades, while electrical engineers work on improving grid integration for renewable energy sources.

RENEWABLE ENERGY TECHNOLOGY

Technical expertise in renewable energy technology is highly valued. This includes knowledge of specific technologies such as photovoltaic systems, wind energy, and energy-storage solutions. Professionals with experience in these areas are essential for advancing the development and deployment of renewable energy projects.

For instance, expertise in battery technology is critical for improving energy storage solutions, which are key to managing the intermittent nature of renewable energy sources. The global market for energy storage is expected to grow from 4 GW in 2019 to 15 GW by 2024, highlighting the increasing demand for technical skills in this area.

AUTOMATION & ARTIFICIAL INTELLIGENCE

Automation and artificial intelligence (AI) are becoming increasingly important in the renewable energy sector. These technologies can enhance the efficiency and reliability of energy systems.

For example, AI can be used to predict energy demand and optimize the operation of renewable-energy plants. Automation can streamline maintenance processes and reduce operational costs. The integration of AI and automation in renewable energy is expected to create new job opportunities and require a workforce skilled in these advanced technologies.

TECHNICAL PROJECT MANAGEMENT

Technical project management skills are also highly valuable. Project managers in the renewable energy sector over-



As you prepare to enter the renewable-energy job market, it's important to understand the specific skills and qualifications employers are seeking. (Courtesy: Shutterstock)

see the planning, execution, and completion of projects. They ensure that projects are delivered on time, within budget, and meet technical specifications.

This role requires a combination of technical knowledge and management expertise. The ability to manage complex projects is crucial for the successful deployment of renewable energy technologies

SOFT SKILLS IN HIGH DEMAND

While technical skills are important, soft skills are equally valuable in the renewable energy sector. These skills facilitate effective teamwork and problem-solving, which are crucial in this field.

In fact, about 36 percent of the world's energy workers are in high-skilled occupations, compared with about 27 percent for the wider economy. This highlights the importance of a well-rounded skill set that includes both technical and soft skills.

COMMUNICATION SKILLS

Communication skills are essential for cross-disciplinary collaboration on renewable energy projects. Effective communication ensures that all team members, regardless of

their technical background, can understand project goals, timelines, and challenges. This is particularly important in renewable energy projects, which often involve diverse teams of engineers, scientists, and business professionals.

According to a report by the International Renewable Energy Agency (IRENA), the renewable energy sector will require a workforce of about 40 million people worldwide by 2050. This growth underscores the need for strong communication skills to manage and coordinate large, multi-disciplinary teams.

ADAPTABILITY

Adaptability is key in an industry that is rapidly evolving and constantly introducing new technologies. The renewable energy sector is characterized by continuous innovation and change, driven by the need to develop more efficient and sustainable energy solutions. Workers who can quickly adapt to new technologies and methodologies are highly valued.

The ability to learn and apply new skills is crucial, as the sector is expected to see significant technological advancements and shifts in the coming years. For instance, the wind-energy workforce is projected to grow by more than 50 percent by 2030, from 360,000 workers in 2024 to 550,000.

This rapid growth will require a workforce that is adaptable and capable of handling new challenges.

PROBLEM-SOLVING

Problem-solving skills are indispensable in the renewable energy sector. This industry faces numerous challenges, from technical issues in energy production to logistical problems in energy distribution.

Effective problem-solving involves not only identifying and addressing these issues but also developing innovative solutions that can improve efficiency and sustainability. Creative and analytical thinking are essential for overcoming the complex problems that arise in renewable energy projects.

TEAMWORK

Teamwork is another critical soft skill in the renewable-energy sector. Successful renewable energy projects often require collaboration between various stakeholders, including engineers, project managers, policymakers, and community members.

The ability to work effectively in a team ensures projects are completed on time and within budget. It also fosters a collaborative environment where ideas can be freely exchanged, and innovative solutions can be developed.

LEADERSHIP

Leadership skills are also in high demand in the renewable-energy sector. Effective leaders can inspire and motivate their teams, manage resources efficiently, and navigate the complexities of large-scale projects.

Leadership is particularly important in this field, where projects often involve significant investment and high stakes. Strong leaders can drive project success and ensure that renewable energy initiatives meet their goals and contribute to a sustainable future.

ADAPTING YOUR SKILLS TO RENEWABLE ENERGY

Adapting your skills to the renewable-energy sector involves understanding how your existing abilities can be applied in this context.

Here are some further examples of professions and related skills that transition well into the renewable energy industry:

PROJECT MANAGEMENT

► **Skills:** Planning, scheduling, budgeting, risk management, leadership.

► **Application:** Project management skills can be used to oversee the development and implementation of renewable energy projects. This includes coordinating teams, managing resources, and ensuring projects are completed on time and within budget. For example, a project manager in the construction industry can transition to managing the installation of solar farms or wind turbines.

Leadership skills, in particular, are important for driving team performance and ensuring projects are completed on time and within budget. These skills are also crucial for managing the complexities and challenges that often arise in renewable energy projects.

ENGINEERING

► **Skills:** Mechanical engineering, electrical engineering, civil engineering, systems design, technical problem-solving.

► **Application:** Engineers can apply their knowledge of principles and practices to the design and operation of renewable energy systems. Mechanical engineers might work on designing more efficient wind-turbine blades, while electrical engineers could focus on improving grid integration for renewable energy sources. Civil engineers can contribute to the construction of infrastructure for renewable energy projects, such as wind farms and solar power plants.

DATA ANALYSIS

► **Skills:** Statistical analysis, data modeling, machine learning, data visualization.

► **Application:** Data analysts can optimize energy production and distribution by analyzing performance data from renewable energy systems. For instance, they might use predictive analytics to forecast energy demand and adjust production accordingly. This role is crucial for improving the efficiency and reliability of renewable energy sources.

ENVIRONMENTAL SCIENCE

► **Skills:** Environmental impact assessment, sustainability practices, regulatory compliance, ecological monitoring.

► **Application:** Environmental scientists can assess the environmental impact of renewable energy projects and ensure compliance with regulations. They play a key role in conducting environmental impact assessments and developing strategies to mitigate negative effects on ecosystems. Their expertise is essential for promoting sustainable practices within the renewable energy sector.

IT & CYBERSECURITY

► **Skills:** Network security, software development, systems administration, cybersecurity protocols.

► **Application:** IT professionals and cybersecurity experts are increasingly important in the renewable energy sector, where digital technologies and smart grids are becoming more prevalent. They ensure the security and reliability of energy-management systems, protect against cyber threats, and develop software solutions for monitoring and controlling renewable energy systems.

SALES & MARKETING

► **Skills:** Market analysis, customer relationship management, sales strategy, digital marketing.

► **Application:** Sales and marketing professionals can help promote renewable-energy products and services. They develop strategies to reach potential customers, manage client

relationships, and analyze market trends to identify new opportunities. Their skills are vital for driving the adoption of renewable energy solutions in both residential and commercial markets.

LEGAL & REGULATORY AFFAIRS

➤ **Skills:** Regulatory compliance, contract negotiation, policy analysis, legal research.

➤ **Application:** Legal professionals can navigate the complex regulatory landscape of the renewable energy sector. They ensure projects comply with local, national, and international regulations, negotiate contracts, and provide legal advice on policy developments. Their expertise helps renewable energy companies operate within legal frameworks and advocate for favorable policies.

FINANCE & ACCOUNTING

➤ **Skills:** Financial analysis, budgeting, investment strategies, risk management.

➤ **Application:** Finance and accounting professionals can manage the financial aspects of renewable energy projects. This includes securing funding, budgeting, and financial planning. They analyze investment opportunities, assess financial risks, and develop strategies to ensure the economic viability of renewable energy initiatives.

SUSTAINABILITY CONSULTANT

➤ **Skills:** Sustainability practices, environmental impact assessment, regulatory compliance, strategic planning, problem-solving.

➤ **Application:** Sustainability consultants advise organizations on how to implement renewable energy solutions and improve their environmental impact. They develop customized sustainability strategies, conduct environmental impact assessments, and ensure compliance with regulations.

Problem-solving skills are essential for identifying and addressing barriers to the adoption of renewable energy technologies. For instance, a sustainability consultant might devise innovative strategies for optimizing energy production from renewable sources or solve technical challenges related to the design and operation of renewable energy systems.

These examples illustrate how various professions and skills can transition into the renewable energy sector. However, they are not exhaustive. The main point is to emphasize that the concept of transferable skills is highly applicable and can open numerous opportunities in this dynamic and growing industry.

ENHANCING YOUR SKILL SET FOR RENEWABLE ENERGY

To enhance your skill set for a career in renewable energy, consider pursuing additional training or certification in relevant areas. This could include courses in renewable-energy technology, sustainability practices, or project management.

You might also consider gaining practical experience

through internships or volunteer work in the renewable-energy sector. This can provide valuable insights into the industry and help you develop a deeper understanding of the skills required.

CONTINUOUS LEARNING & EDUCATION

Continuous learning and education are crucial in the renewable energy sector. This industry is rapidly evolving, with new technologies and practices emerging regularly.

Staying current with these developments requires a commitment to ongoing learning. This could involve attending industry conferences, participating in webinars, or reading industry publications. It's also beneficial to pursue further education, such as advanced degrees or certifications in renewable energy or related fields.

PREPARING FOR THE RENEWABLE-ENERGY JOB MARKET

As you prepare to enter the renewable-energy job market, it's important to understand the specific skills and qualifications employers are seeking. Research job postings in your desired field to identify common requirements and tailor your resume accordingly.

Networking can also be a valuable tool in your job search. Attend industry events, join professional organizations, and connect with professionals in the field to learn about job opportunities and gain insights into the industry.

RESUME & INTERVIEW TIPS

When crafting your resume for a job in renewable energy, highlight your transferable skills and any relevant experience or education. Be sure to provide specific examples of how you've used these skills in past roles.

In interviews, be prepared to discuss your interest in renewable energy and your commitment to sustainability. Employers in this sector value candidates who are passionate about their work and have a clear understanding of the industry and its future potential.

In conclusion, the renewable energy sector is poised for significant growth in the coming years. As the world continues to grapple with the impacts of climate change, the demand for clean, sustainable energy sources is only going to increase.

For those with the right skills and a passion for sustainability, a career in renewable energy offers the opportunity to make a meaningful impact. By identifying and developing your transferable skills, you can position yourself for success in this exciting and rapidly evolving field. ✨

ABOUT THE AUTHOR

Andreea Olariu is a talent acquisition consultant at Anávo. This article (www.anavo.com/learn/most-in-demand-transferable-skills-for-a-career-in-the-renewable-energy-industry/) was originally published by Anávo. For more information on how to discuss your skills and explore the opportunities available in the renewable energy sector, go to www.anavo.com.