

Assessment plan

Junior Energy Manager Apprentice

1. Introduction and Overview

The apprenticeship Standard has been designed to operate as the professional standard for people working as Junior Energy Managers. This Assessment plan document compliments the Standard.

The principles driving the design of the assessment plan are as follows:

1. Maximum relevance to the job wherever possible
2. Integration with day-to-day responsibilities wherever possible
3. Added value to the Junior Energy Manager's journey, both during and at the end of the apprenticeship
4. The expected take up in the first year is thought to be 40 to 80 Junior Energy Managers rising to 100 to 200 the following year. This will be delivered through organisations on the Register of Apprenticeship Assessment Organisations (RoAAO) and specialist training providers across England.

Tools for assessment:

This paper describes the Assessment plan at the level requested for submission. Work is underway by the Junior Energy Manager Trailblazer group to design the tools which we recommend are used for delivering the final Assessment in the live environment. It is anticipated that the tools will be available in late 2015, well in advance of them being required for the first cohort of candidates to complete this apprenticeship.

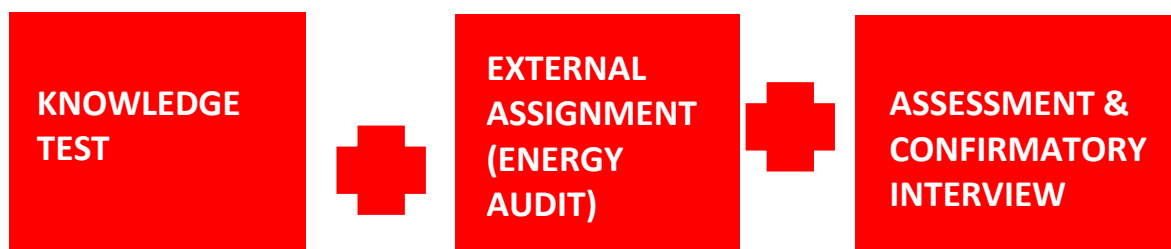
On-program:

PORTFOLIO OF EVIDENCE

Assessment Gateway:

RECORD OF ACHIEVEMENT

Knowledge and Synoptic End Assessment:



2. Learning Content

The indicative content of the standard has been translated into the [Technical Training Programme Specification](#)¹ for the Providers, for assessment organisations on the Register of Apprenticeship Assessment Organisations and Recognised Professional bodies. It will cover the competence, skills and knowledge requirements of the role. There is no requirement for any of the learning content to have to be evidenced through an accredited qualification, though this could be part of a delivery solution.

3. Assessment Methods

	Coverage	Assessed by	Grading	Grade Weighting
Knowledge Test*	Knowledge	RoAAO approved body	Pass/Distinction/Fail	20%
Practical task: Energy Audit*	Synoptic Practical / Applied	RoAAO approved body + Recognised Professional body	Pass/Distinction/Fail	60%
Assessment and Confirmatory Interview* (behaviors, professional attitude, and skills not covered in practical task)	Synoptic	RoAAO approved body + Recognised Professional body	Pass/Distinction/Fail + Agree/refer back on proposed final grade	20%
Portfolio of Evidence +to be reviewed at interview	Discrete competences and Behaviour	Employer/Training Provider(s)		0%

*To be completed within the final three months of the apprenticeship.

The methodology has been designed, taking into account that this is a practical standard that is underpinned by technical knowledge, that will allow the Junior Energy Manager to develop the skills and knowledge across different types of activities and premises. It is recommended that there is a large proportion of on-program assessment, documented in the Portfolio of Evidence, to ensure Junior Energy Managers have demonstrated the application of knowledge and the skills in the workplace under working conditions before being able to access the knowledge and synoptic end assessment.

On-program Assessment

It is recommended that the on-program assessment comprises of a portfolio of evidence which will contain logbooks of work done, performance review records and evidence of discrete competences and discrete occupational tasks being done successfully. This is to ensure candidates' competence across the various tasks in the workplace required in undertaking the role of the Junior Energy Manager (the number and type of acceptable evidence will be specified in the Assessment Strategy² developed by an organization on

¹ The Technical Training Programme Specification can be found at <http://www.theema.org.uk/wp-content/uploads/2015/01/151201-Apprenticeship-Technical-Specification.pdf> .

² The Assessment Strategy and Assessment Specifications will be produced and made freely available alongside the Standard, the Assessment Plan and the Technical Specification prior to the apprenticeship programme launch in late 2015.

the RoAAO, Trailblazer Group and Recognised Professional Body). To ensure assessment is efficient and to minimise any burden upon employers and Junior Energy Managers, the behavioural assessment should be incorporated into the portfolio of evidence. This evidence generated in the workplace will be graded pass/fail and will be verified by a qualified assessor to ensure it is valid and sufficient. Whilst the evidence itself does not contribute to the overall grade, it should be completed in order to progress to the End point assessment.

The assessment of the Junior Energy Manager behaviors will be returned to in the Interview part of the End Assessment where Junior Energy Managers will be orally assessed on performance review records, completed work and evidence of competencies and occupation tasks collected in their portfolio of evidence.

Assessment Gateway

It is recommended that by using the 'Portfolio of Evidence' the employer and assessor organisation should agree and sign off that the Junior Energy Manager has met the requirements of the Standard and Technical Training Specification (skills, knowledge and behaviours). This will then allow Junior Energy Managers to access the End Assessment.

The candidate would be required to demonstrate the skills, knowledge/understanding and behaviours of a competent Junior Energy Manager **before** undertaking the knowledge test, practical assessment and interview, at the gateway stage. If unsuccessful, feedback would be given and remedial action would be required by the apprentice before progressing to the knowledge test, practical test and interview. All criteria of the Technical Specification must be evidenced as per the Assessment Strategy.

End Assessment

End Assessment forms the largest part of the assessment of the Junior Energy Manager. The assessment will be developed, implemented and assessed by organisations on the RoAAO and Recognised Professional Bodies. The assessment comprises three components. **All of the three components will contribute to grading and all components must be passed, for the Junior Energy Manager to be deemed competent.**

The three components of the End Assessment, all contributing to grading, are:

1. A **Knowledge assessment** to consist of multiple-choice or structured questions (short-answer) to assess the bulk of the technical knowledge across the apprenticeship. These will be sat under invigilated conditions and assessed by the chosen RoAAO body (ie. external and independent). This will be graded pass/distinction/fail. There will be a Knowledge test specification available publically on a relevant Recognised Professional Body website, such as the Energy Managers Association (<http://www.theema.org.uk/>).
2. A **synoptic Practical assessment** assessed by independent assessors (RoAAO and Professional Body) in the form of an Energy Audit that requires the Junior Energy Manager to complete a large, synoptic and complex (multi-stage) challenge that draws together core practical occupational responsibilities and is done under controlled conditions. The practical assessment will involve a pre-set assessment with pre-set resources and will include relevant source data provided by the RoAAO body and developed in conjunction with employers. Evidence will be externally marked. This will be graded pass/distinction/fail. There will be a Practical Assessment specification available publically on a relevant Recognised Professional Body website, such as the Energy Managers Association (<http://www.theema.org.uk/>).
3. **Interview** (professional conversation) to assess the Junior Energy Manager on:
 - i. Skills not covered by the Practical assessment
 - ii. Performance in the practical and the knowledge test
 - iii. Behaviours using the portfolio of evidence as a basis for the oral assessment and discussion.

This will be carried out by the independent assessor (RoAAO and representatives from Recognised Professional Body) and represent the third stage of the End Assessment. The interview will have two roles and act as an assessment device and confirmatory device.

The first role of the interview - an assessment device - will orally examine Junior Energy Manager's overall skills, knowledge and behavior and it will be graded as Pass/Distinction and Fail. The 'Portfolio of Evidence' can be used to inform questioning during this interview.

The second role of the interview - a confirmatory device – will check the Distinction/Pass/Fail decisions of the Practical and Knowledge tests, as well as the assessment part of the Interview.

These roles will help to address any issues of coverage and check on the reliability of the grade boundary decisions with the other assessment instruments and the validity of the aggregated proposed final grade. There will be an interview schedule and Specification made available publically.

Key requirements of assessment:

The different assessment components in the apprenticeship will be graded (either pass/distinction or pass/fail) and will contribute to the final overall grade for the Junior Energy Manager. When developing the assessments; opportunities will be sought to differentiate Junior Energy Managers who have improved skills or knowledge (where possible). Where a Junior Energy Manager achieves a variety of grades across the assessments it is expected that the lower grade is carried forward as the overall Junior Energy Manager's grade. Where a Junior Energy Manager fails an assessment, any re-sits will be awarded a maximum of a pass.

The assessments will sample the skills, knowledge and behaviours covered in the Technical Specification, and will cover all of the outcomes set out in the apprenticeship Standard. An Assessment Specification will be developed for the Knowledge assessment to ensure consistency across RoAAO bodies and over time. This will be accessible to all on the Energy Managers Association website (<http://www.theema.org.uk/>). For example:

Junior Energy Manager Knowledge Assessment Specification:

The Knowledge Assessment will consist of 60 multiple-choice questions, 90 min duration, closed book.

Section	Number of questions/marks	Weighting
01 Understand the roles, responsibilities and reporting of a Junior Energy Manager	10	17%
02 Understand how a building, processes and transport behaves, how energy and water is used, and, how to assess, plan and implement CAPEX and Revenue improvement actions	10	17%
03 Understand how to implement an appropriate auditing system, measurement and verification	6	10%
04 Understand what legislation, regulations and orders are relevant to the Junior Energy Manager's organization and what may impact it in the future	5	8%
05 Know how to plan an awareness campaign and motivate colleagues to reduce energy consumption and cost	5	8%
06 Understand how energy is purchased, and understand the current and anticipated drivers of cost that affect: the energy, its delivery, and taxes and subsidies	10	17%
07 Understand and be able to describe the Junior Energy Manager's organization in terms of energy and water usage by ICT	3	5%
08 Understand the importance of water in the Junior Energy Manager's workplace and the wider context	3	5%

09 Know how transport/travel planning and logistics operation system impact the Junior Energy Manager's workplace	3	5%
10 Understand an energy management contribution to strategic planning based on energy, carbon and water and key performance indicators for measuring and verifying success	5	8%

Junior Energy Manager Synoptic Practical Assessment Specification:

The Practical Assessment will consist of an Energy Audit built around the competences and occupational tasks associated with the Junior Energy Manager role. Within the Energy Audit the Junior Energy Manager will be required to undertake a number of appropriate, integrated key activities that s/he has been taught and has been practicing throughout their apprenticeship programme, but now assessed in a more holistic, authentic and rounded manner.

There will be a list of Energy Audit Assessment instruments (Synoptic Practical Assessment Specifications) available on a Recognised Professional Body website, specifying criteria by which locations for the energy audit are selected. The requirements will be directed around pre-agreed audit areas to ensure that as far as possible a standard environment and questions can be formulated. This is to ensure consistency across the RoAAO bodies and over time. Once developed, this will be accessible to all on the Energy Managers Association website: <http://www.theema.org.uk/>.

Junior Energy Manager Synoptic Interview Specification:

The Synoptic Interview will be the professional conversation where a panel of representatives from the designated RoAAO and experienced professionals in energy management (Fellows of Recognised Professional Bodies), will interview to assess the experience, knowledgebase and behaviours of a Junior Energy Manager. It must be assured that the Interview is conducted externally, i.e. the professionally recognised energy management experts as well as representatives of the RoAAO bodies have no links to the Junior Energy Manager's employer/training provider.

The Interview will pursue two functions - it will act as an assessment device as well as a confirmatory device. During the assessment part of the Interview, the Junior Energy Manager's overall skills, knowledge and behaviors will be orally examined. The 'Portfolio of Evidence' can be used to inform questioning during the interview. The assessment part of the Interview will be graded as Pass/Distinction and Fail. The second function of the interview - a confirmatory one – will check the Distinction/Pass/Fail decisions of the Practical and Knowledge tests, as well as the assessment part of the Interview.

These steps will help to address any issues of coverage and check on the reliability of the grade boundary decisions with the other assessment instruments and the validity of the aggregated proposed final grade. The Interview will also be designed to determine professional recognition status. The Junior Energy Manager has to pass all assessments to be awarded the final certificate. There will be an interview schedule and Specification made available publically.

End Assessment Timings and Activities:

It is suggested that the process of setting up the End Assessment, as recommended and outlined in the table below, should begin around 3 months before the completion of the apprenticeship:

Timescale	Activity
Continuing during the On-program	<ul style="list-style-type: none"> ➤ To keep an evidence of completed tasks in the workplace (e.g. logbooks of work done, performance review records, learning/training evidence) covering competencies, behaviours and performance on occupational tasks ➤ To review progress and ensure on track as part of regular tracking of progress

	<ul style="list-style-type: none"> ➤ Employer and Training Provider to identify any gaps and produce a plan for the final 3 months to complete the learning
Up to 3 months prior completion	<ul style="list-style-type: none"> ➤ Employer to decide timing of the end assessment based on the outcomes of the on-program assessment demonstrated in the apprentice's portfolio of evidence

Examples of End Practical Assessment (synoptic) are expected to be made freely available to employers and training providers from organization on the RoAAO and/or a Recognised Professional Body's website such as the Energy Managers Association <http://www.theema.org.uk/>.

It is recommended that a variety of versions of the Practical Assessment is administered on rotation to apprentices randomly. If re-sitting, a different version should be administered.

The Training Provider Role:

It is envisaged that multiple training providers covering the different parts of the UK will offer the apprenticeship programme to employers.

The training providers will play a key part in the final assessment process by:

- Supporting the Employer to organize and coordinate the process
- Supporting the Employer in contacting and securing the services of an appropriately qualified RoAAOs as appointed assessors
- Providing training in the on-program assessment process (including use of tools and application to ensure consistency) for staff involved in the formative on-program assessment

Training Providers, with their experience, can support and add value to the employer. The precise relationship and its balance between Employer and Training Provider support will depend on negotiation between the Employer and Training Provider on services and cost of the services.

4. Ensuring Independence/Impartiality

We are very keen to be as inclusive as possible allowing a range of awarding and assessing agencies, organisations or services the opportunity to independently assess and/or assure the Junior Energy Manager apprentice assessment.

Our proposition is also meant to demonstrate impartiality. Impartiality will be assured by not allowing agency, organisation or service who has been involved in delivery of the Junior Energy Manager apprenticeship programme to make the sole decision on the formative (on-program) assessment. The decision will be made by the employer and training provider and externally verified by the RoAAO and a representative from a Recognised Professional Body.

The End Assessment will be assessed and verified independently of the employer or training provider used in the on-program assessment.

The RoAAOs and Professional Bodies representatives will provide external and independent assessment of the knowledge through the examination requirement by external marking including the standardisation of markers where possible.

Assessor Roles:

Employers	<ul style="list-style-type: none"> ➤ Creates opportunity for the Junior Energy Manager to carry out work and produce outcomes ➤ Brings a view of the Junior Energy Manager working with
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	<p>them in the workplace through the apprenticeship</p> <ul style="list-style-type: none"> ➤ Supports the generation of workplace evidence to show how the Junior Energy Manager has demonstrated the competencies required of the standard and technical specification – this must be done in adherence to the agreed assessment strategy ➤ Participates in consensus decision with training provider on the behaviours of the Junior Energy Manager ➤ Decides on the timing of final assessment with the support of the Training Provider ➤ Works with the training provider to carry out a continuous review of the evidence generated by the Junior Energy Manager against the training manual as part of the formative on-program assessment process
Training Providers	<ul style="list-style-type: none"> ➤ Brings a view of the Junior Energy Manager from supporting them through the apprenticeship ➤ Maps and assesses work against the Technical Specification (specifies the technical content that must be taught and potentially assessed) ➤ Participates in consensus decision with the employer on the behaviours of the Junior Energy Manager ➤ Supports the employer on deciding the timing of final assessment ➤ Works with the employer to carry out a continuous review of the evidence generated by the Junior Energy Manager against the standard and meeting the agreed assessment strategy as part of the formative on-program assessment process
Organisation on the Register of Apprenticeship Assessment Organisations (RoAAO)	<ul style="list-style-type: none"> ➤ External and independent assessment of knowledge through the examination requirement ➤ Independent view as they will not have any prior involvement in the apprenticeship or with the Junior Energy Manager ➤ Brings added rigour and consistency to the assessment through their wider industry perspective, knowledge and experience ➤ Supplies assessor guidance and templates (e.g. workbook) for use in the on-program assessment process ➤ Participates in the assessment and confirmatory synoptic Interview ➤ Assesses against pass and distinction criteria ➤ Participates/Hosts annual standardisation event for Junior Energy Managers' assessors
Recognised Professional Body	<ul style="list-style-type: none"> ➤ External and independent view as they will not have had any prior involvement in the apprenticeship process or with the Junior Energy Manager ➤ Brings added rigour and consistency to the assessment through their wider industry perspective, knowledge and experience ➤ Scores all components of the final practical assessment independently of the other assessors ➤ Participates in the assessment and confirmatory synoptic Interview ➤ Assess against pass and distinction criteria ➤ Make the final decision on whether the Junior Energy Manager has passed the End point assessment

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|--|---|
| | ➤ Participates/Hosts annual standardisation event for Junior Energy Managers' assessors |
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5. Delivering Consistent (Reliable) Judgements

In order to ensure consistency and assure employers' confidence in the Junior Energy Manager's assessment in different parts of the country, at different times, by different assessors, all assessment and quality assurance organisations will be asked to sample the skills, knowledge and behaviours covered in the common Technical Specification.

Every organisation offering a Knowledge or synoptic Practical assessment will be asked to follow Assessment Specifications. The Assessment Specifications will be developed by the Junior Energy Manager Apprentice Trailblazer Group, together with training providers and relevant employers (if not part of the Trailblazer Group already) and ensure consistent coverage, weightings, identification of important aspects, elements that should be used to differentiate grading etc. These Specifications will be made freely available to all on a Recognised Professional Body website, such as the Energy Managers Association website: <http://www.theema.org.uk/>.

Consistency of approach by assessors will be achieved not only through standardisation of all assessment documents but also through training the RoAAOs in the standardised assessment process. The training will be provided by the Energy Managers Association and will cover an understanding of the overall apprenticeship programme, knowledge of the detailed Standard, the grading standards, the examples of relevant evidence and sample assessment scoring exercises.

Whilst the standardised assessment documents and training of RoAAOs will ensure the consistency and reliability of judgements on the reached occupation competence of the Junior Energy Manager, a common Assessment Strategy will be produced by the Junior Energy Manager Apprentice Trailblazer Group, together with training providers and relevant employers (if not part of the Trailblazer Group already) to ensure consistent implementation and administration of the apprenticeship by employers and training providers. As an example it may include: type and quantity of evidence acceptable, who can carry out the implementation and administration roles (qualification, experience etc). The common Assessment Strategy will be available freely and publicly on a Recognised Professional Body website, such as the Energy Managers Association website: <http://www.theema.org.uk/>.

Consistency of approach by employers and training providers will be achieved by the standardised Assessment Strategy and training of the employers' and training providers' representatives in applying the Strategy. The training will be provided by the Energy Managers Association and will focus on understanding of the overall apprenticeship, the implementation of the apprenticeship as well as the administrative evidence required to produce during the apprenticeship.

Annual standardization events for employers, training providers, RoAAOs and Recognised Professional Bodies will take place to further ensure consistency of the Assessment Strategy and Assessment Specification. These events will be coordinated by the Recognised Professional Body and/or RoAAOs.

6. Delivering Accurate (Valid) Judgments

The final Knowledge and synoptic Practical assessment interventions, and the accompanying Assessment and Confirmatory Interview, all have high intrinsic validity representing processes directly commensurate with occupational skillsets and actual workspace task. In addition, the use of the representative content will encourage a focus on establishing the competence throughout the length of the apprenticeship.

Training Providers involved in the assessment of this role would have to be specialists in the field of Energy Management. This would be a key requirement for any employer in selecting a Training Provider partner.

The assessors must have met the criteria and be registered as the RoAAOs.

As independence is ensured through a relevant Recognised Professional body assessing the End

assessment, there will be a standard appeals' policy in relation to all elements of the End Assessment (Practical, Knowledge and Interview).

7. Knowledge Assessment and Synoptic Practical and Interview Assessments

The final assessments are assessing higher order occupational competences as complex occupational tasks and as required by the Apprentice Standard. The core occupational competencies that the assessment focuses on are: Technical and Operational; Energy Assessment and Measurement & Verification; Behavioural Changes and Motivation; Regulatory and Legal Compliance, and Carbon Management; Energy Management Strategy/Plan; Waste Management; Procurement; Transport; Water and Information Technology and will be described in more detail in the Technical Specification document. The implications of being assessed to be fully competent, is that the Junior Energy Manager can take a high measure of responsibility for core energy management related occupational tasks within the workplace.

Knowledge Assessment and Synoptic Practical and Interview Assessments will be the final stage of the Junior Energy Manager's journey. A Junior Energy Manager will not be recommended for a final assessment until s/he has undertaken and achieved the necessary pre-requisite indications of suitability and readiness by completing the portfolio of evidence or similar method of tracking Junior Energy Manager's progress as seen appropriate by employer. This would involve learning/assessment against the Technical Specification, with the employer and training provider regularly discussing the Junior Energy Manager's performance and progress. The implications of being assessed as competent, in the final stage of the apprenticeship is very onerous on the individuals and will have undergone rigorous training and assessment to get to the end point.

8. Graded Assessments

The Junior Energy Manager Standard specifies that there will be two levels of grading within this apprenticeship: Pass and Distinction.

A grading profile will be developed by Trailblazer Group, selected training providers, employers and RoAOOs, and it will articulate the knowledge and behaviours expected of a pass, and distinction Junior Energy Manager. A pass will be associated with a minimum acceptable standard for the industry, with distinction referring to a Junior Energy Manager's skills and abilities in planning, quality and time. This grading profile will then be utilised by the detailed grading descriptors used in the assessment of the assessments. The overall final grade will be calculated depending on the grade achieved by the Junior Energy Manager for each of the graded assessment contributions.

Grading will be based on three contributions. These are:

1. Knowledge Test (knowledge assessment) that will consist of 60 multiple-choice questions, 90 minutes duration, closed book format, where Pass/Distinction/Fail grading will be applied. The Knowledge Test synoptic assessment forms 20% of the final grade.
2. Performance in the Energy Audit (synoptic practical assessment) that will consist of on-site energy audit task and written report; where Pass/Distinction/Fail grading will be applied. The Energy Audit synoptic assessment forms 60% of the final grade.
3. Performance in the Interview (synoptic assessment) that will consist of the Assessment Interview assessing Junior Energy Manager's overall skills, knowledge and behaviours, where Pass/Distinction/Fail grading will be applied. The Interview assessment forms 20% of the final grade. The Interview will also act as a confirmatory stage of the End Assessment.

All assessments must be passed to achieve an overall pass graded apprenticeship. To achieve an apprenticeship graded at distinction grade, a Junior Energy Manager must achieve a distinction at least in two assessments.

As well as assessment, the Interview is designed to be confirmatory of the initial grade allocation assigned as a result of the Junior Energy Manager's response to all, the Knowledge assessment, Practical synoptic assessments and Interview.

Following the Interview, the Junior Energy Managers will be either confirmed the final grade and given opportunity to apply to be awarded a professional recognition, or be advised on what further training they would need to undertake to reach the necessary standard.

9. Affordability and Flexibility

The presence of control documentation governing the assessment conditions and requirements for each assessment component will allow for efficiency and give assessing and assuring agencies the ability to manage any risk. This will bring cost savings. This control documentation, specifying the Knowledge assessment, Practical synoptic assessment and Interview, will be developed by a panel of experts from the Trailblazer group, RoAAOs and Recognised Professional Bodies in consultation with training providers.

The ability to access standardised, pre-moderated assessment materials should also represent a financial saving while also helping with consistency.

Though there is an initial resource implication connected with ensuring assessors are appropriately trained and professionally recognised as members of the RoAOO, once suitably qualified/recognised assessors are in place, the operating cost lessens.

The delivery cost of the End Assessment will represent the highest proportion of the overall Assessment cost. The estimated figures per a Junior Energy Manager can be viewed in *Fig. 1*.

Estimated End Assessment Delivery Cost (per candidate)		
	Breakdown of the Delivery Cost	Value £
1. Knowledge Assessment	Administrative and Organisational	150.00
	Marking and Feedback from 2 Assessors (£80 x 2)	160.00
2. Practical Assessment	Administrative and Organisational	250.00
	Supervision on a task	150.00
	Marking and Feedback from 2 Assessors (£150 x 2)	300.00
3. Interview	Administrative and Organisational	200.00
	Candidate's Review, Interview, Marking, Feedback and Grade confirmation by 3 Assessors (£300 x 3)	900.00
	Total	2110.00

Fig.1. Estimated End Assessment Delivery Cost

10. Professional Body Recognition

Professional Body recognition is an intrinsic feature of the assessment strategy and is able to be awarded with the certificate if the requirements are met.

Apprentice who successfully and fully completed the apprenticeship programme, including on-program training, knowledge test, energy audit, and underwent the professional interview, will be given an opportunity to apply to be awarded a Recognised Energy Manager of the Energy Managers Association (EMA) or to apply to be awarded a Technical Member status of the Energy Institute (TMEI).

Whilst this step is voluntary, it enables candidates to become a part of a Recognised Professional Body and its network of energy management professionals. It is also envisaged that this qualification will have a positive financial effect on paygrade.

11. Progression

Completing this apprenticeship programme with its transferable skills will enable progression into roles such as Senior Energy Manager, Chartered Energy Manger, or specialised as Energy Procurement Manager, Energy Efficiency Manager, Facilities Managers with Energy Management focus etc. across a wide range of sectors.

12. External Quality Assurance

External quality assurance will be carried out by the Institute for Apprenticeships.

APPENDIX:

Apprenticeship Standard	
Junior Energy Manager	
Occupational Profile	<p>The UK will be one of the most competitive market places for energy managers' skills in the next 5-7 years, as British businesses start to see the rise in the cost of energy as a priority. Many companies in the UK either have no energy managers in place or have outsourced energy management skillsets, and therefore have reduced ability to manage their own energy consumption. In-house skills in energy management will lead to long term savings for companies. There is a major shortage of trained energy managers and this apprenticeship will help to address the need for basic in-house energy management skills which can benefit organisation across all industries, including hospitality, leisure, retail, banking, manufacturing, construction and property.</p> <p>Junior Energy Managers often work in fields such as facilities management, property or sustainability. Such broad fields offer specialised skillsets in a wide range of vocations.</p> <p>Junior Energy Managers perform an essential role in supporting their company or organisation to meet energy and cost reduction objectives and targets within the context of wider sustainability commitments such as carbon and water management and corporate social responsibility. They need to be technically aware, numerate, have good communication skills and be keen to broaden and continually improve their existing knowledge of energy management core topics.</p> <p>Junior Energy Managers would be expected to focus on energy assessment and measurement of energy consumption, their organisation's technical and operational energy management issues, energy management strategy, regulatory and legal compliance, reporting and communicating on the status of their organisation's energy performance and progress of improvements.</p> <p>Energy management is itself a specialist profession and increasingly, at a senior level, energy managers undertake a key strategic role in the influencing of senior management and setting the energy policy for organisation.</p>
Entry Requirements	Employers will set the entry requirements for their apprenticeships but apprenticeship candidates will normally have a minimum of 3 GCSEs at grades A* to C (including mathematics, English), or equivalent qualifications such as: IGCSEs, Scottish Standard Grade, 14-19 Diploma, BTEC/NVQs. Apprentices without English or Maths GCSE at grade A* to C or equivalent must achieve this prior to the completion of the Apprenticeship.
Level and Duration of Apprenticeship	This is a level 3 Apprenticeship and will typically be of 24 months long.
Professional Registration	On successful completion of this Apprenticeship, the successful Apprentice will be eligible for relevant membership of energy management related bodies: <ul style="list-style-type: none"> • Energy Managers Association (EMA) Recognised Energy Manager • Technician Member status of the Energy Institute (TMEI)
Renewal	This standard will be reviewed after 3 years.

The following section describes the essential knowledge, skills and behaviours that employers would expect a competent Junior Energy Manager to demonstrate.

Technical Knowledge	<ul style="list-style-type: none"> • Relevant level of theory and practices at Junior Energy Manager level that underpins how energy flows in an out of buildings, equipment and processes and how key energy systems operate • Relevant level of theory and practices that underpin the energy efficient use of equipment, processes and IT systems • Energy performance, water measurement and verification of measured data • Understand the economics of energy consumption, supply and demand of energy, sustainability issues and role of the organisation in tackling them • Understand the principles of energy loss assessment • Understand the principles of industry regulations, and environmental and regulatory requirements, and EU directives relevant to energy and climate change within the context of the Junior Energy Manager's workplace • Test and maintain procedures of equipment and processes used to determine energy performance and how inefficiencies arise and how to improve energy performance • Know how to read meters and sub-meters, collect, record and analyse metered data and interpret manufacturer's installation and maintenance requirements
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	<ul style="list-style-type: none"> • Understand how to estimate energy used from solid or liquid fuels that are not metered • Know how to understand a bill, set an energy baseline and identify variables that affect energy consumption in organisations, and how to query and challenge bills with suppliers • Understand energy tariffs • Know relevant initiatives/policies associated with transport, travel planning and logistics operational system within the context of the Junior Energy Manager's workplace • Understand the impact of transport and logistics on climate change if relevant to the Junior Energy Manager's workplace • Understand the importance of water management to the business' utility costs and carbon emissions • Understand and continually improve an energy management contribution to strategic planning based on energy, carbon and water and key performance indicators for measuring and verifying success
Skills	<ul style="list-style-type: none"> • Complete template reports and ensure records are maintained for audit and reporting purposes • Relate the workings of plant, processes and equipment to energy consumption • Identify and explain variables that vary the energy consumption of a building and process (Building operation: summer/winter; day/night, etc.) • Identify and explain suitable and measurable energy performance indicators (energy use, consumption, efficiency) • Implement and/or maintain metering and measurement plans and undertake basic analysis of the outputs • Carry out basic checks on bills and other recorded data to verify accuracy and repeatability • Contribute to all aspects of the energy and water use audits: conduct energy and water assessments and/or audits, and identify products', systems' and processes' solutions that reduce energy and water consumption • Contribute to the organisation's procurement process/products/services • Assist with the gathering of energy performance data and administration and implementation of energy awareness and motivation programmes and their associated communication strategies for reduced energy use • Identify, organise and use resources effectively to complete tasks as instructed, with consideration for efficiency, cost, quality, safety, security and environmental impact • Carry out basic financial calculations relating to energy costs and savings • Work effectively and safely when undertaking tasks to approved standards and safe working practices as part of a team, working alone or with appropriate supervision • Use a variety of appropriate communication methods to interact with others to give/receive information accurately, in a timely, positive and professional manner • Demonstrate analytical and problem solving skills • Communicate effectively using evidence-based reporting, communication and presentation skills
Behaviours	<ul style="list-style-type: none"> • Target and goal oriented • Forward thinking and proactive • Display a self-disciplined, self-motivated approach whilst recognising personal limitations and seeking advice from fact holders and specialists when required • Deliver a supportive professional service to external and internal customers • Environmentally and economically focused • Focus on undertaking and completing work in a way that contributes to sustainable development • Comply responsibly with current and relevant industry standards and regulations • Be quality and efficiency focussed, and professional in work and in personal standards • Be aware of the needs and concerns of others, especially where related to diversity and equality • Carry out and record Continuing Professional Development and professional training, necessary for maintaining and enhancing competence • Exercise responsibilities in an ethical manner • Be able to adjust and respond effectively to unexpected change, and deal with contingency risks