GATE

GLOBAL ASSOCIATION FOR TRANSITION ENGINEERING

Member (MGATE) Competence Framework

Guidance notes

This form allows self-assessment of your competences and commitment towards Transition Engineering as a discipline and enables peer review before election as a Member of GATE.

As a Member of GATE you will join the combined effort to:

- advance the practice and profession of Transition Engineering, the engineering necessary to move society from an unsustainable present to a sustainable future
- promote, sustain and increase individual and collective knowledge and understanding of Transition Engineering

Note on Competence and Commitment

The Member Competence Framework details the experience and conduct required and valued with respect to Transition Engineering. It ensures that all our Members have a common understanding of GATE's principles and the expected excellent performance behaviours.

Competence

Competence is the ability to carry out a task to an effective standard. To achieve competence requires the right level of knowledge, understanding and skill, and a professional attitude.
Competence is developed by a combination of formal and informal learning, and training and experience, generally known as initial professional development. However, these elements are not necessarily separate or sequential and they may not always be formally structured.

Commitment

…….demonstrate a personal and professional commitment to society, their profession and the environment. They are required to show that they have adopted a set of values and behaviours that will maintain and enhance the reputation of the profession.

Source: Engineering Council. UK-Spec, fourth edition. [www.engc.org.uk/ukspec4th]

Please note:

GATE is progressing with Professional Affiliate status with the Engineering Council (UK) and the Society for the Environment and in the future will be able to offer CEng and CEnv registrations. While we are unable to offer this immediately, the GATE Competences have been developed to align with the Engineering Council's UKSPEC 4th Edition v12 - August 2020 - CEng Standard and the Society for the Environment's CEnv Practice Direction edition 5.1 June 2020. Therefore when we are ready to offer such registrations the information you provide here can be submitted as evidence of your professional competency.

This is a draft version of how we see the GATE, EngC and SocEnv competences align.

If you are interested in further professional registration with either the Engineering Council (UK), the Society for the Environment or with both please indicate in your application under "*Your future professional development*" during the GATE membership application process.

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Instructions

There are five generic areas of competence and commitment that are sub-divided into more specific skills and experience. Please read each competence and provide a response to each of the five personal competence statements (A-E) at the end of the relevant section. All sub competences must be addressed for the overall competence to be complete, i.e. A1, A2 and A3 for competence A.

A	**Academic competences - knowledge and understanding**
1	Qualifications
2	Experience
3	Whole system approaches
B	**Practical competences - problem solving and an analytical approach**
1	Use of transition approach
2	Research and new thinking
3	Implement and evaluate
C	**Leadership competences - technical and commercial**
1	Planning
2	Management
3	Leading and influencing
4	Quality management
5	Whole system approaches
D	**Communication competences - effective interpersonal skills**
1	Competence with media
2	Presentation and collaboration
3	Diversity and Inclusion
4	Whole system approaches
E	**Professionalism competences - personal commitment to professional standards**
1	Professional conduct
2	Safety
3	Sustainability
4	Continuing Professional Development
5	Ethics

We have provided tips on what we are looking for you to include in your answer. The form can only be completed in the fields where we expect a response. Maximum character count is indicated for each question. Please keep your answers relevant and concise as your application will be assessed for pertinence and clarity.

If you have documents or reports that you would like to include as evidence, please either use hyperlinks within your response (if the documents are accessible online) or upload them to your membership application under the "*optional additional evidence to support competences*" question during the application process. **Please ensure that you clearly state the file name of the document as uploaded to My GATE when you refer to it in this document so we can match the evidence to the question**.

This document must be completed and uploaded to the GATE application portal at the time you apply to become a GATE Member. **You will be unable to complete your application without including this document.**

When your application is submitted and you have received your registration details you can view this document, and all other submitted information, by visiting the My GATE area of www.transitionengineering.org.

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Please provide the same name and email address as used in the online application process	
First name:	
Surname:	
Email address:	

(A) Academic competences

Demonstrate **knowledge and understanding** of Transition Engineering

Use knowledge and understanding to apply Transition Engineering for the purpose of firmly embedding sustainable solutions, mitigating anthropogenic environmental impact and moving towards restorative and regenerative systems

#	Description	What we look for in your response
A1	**Qualifications** The applicant will demonstrate that they: Have an underpinning knowledge and understanding of Transition Engineering principles Maintain and extend a sound theoretical approach in enabling the introduction and exploitation of new and advancing technologies, systems philosophies and long-term strategies	A Formal Qualification in a relevant subject at Masters level or above Learning and developing new knowledge relevant to Transition Engineering in a different industry or role Understanding the current and emerging technology and technical best practice in your area of expertise Developing a broader and deeper knowledge base through research and experimentation Learning and developing new engineering theories and techniques in the workplace. Demonstration of the applicability of the 7 Transition Engineering steps in your own field of engineering. This shall include: – A full analysis of the issues – Development of design philosophies and strategies – Implementation of system wide solutions including the application of existing and new technologies
A2	**Experience** The applicant will demonstrate that they: Have experience of applying knowledge and principles of Transition Engineering Engage in the creative and innovative development of technology solutions and change programmes in response to complex and challenging problems related to engineered systems using transition engineering methodology	Demonstrating experience of applying transition approach in your own field of engineering. This may include: – Research and analysis of the existing system and associated environmental and societal risks – Development of new Transition Engineering related philosophies to provide solutions – Evaluation of the proposals, refinement of Transition Engineering solutions at practitioner level to eliminate environmental and societal risks

(A) **Academic competences** Demonstrate **knowledge and understanding** of Transition Engineering Use knowledge and understanding to apply Transition Engineering for the purpose of firmly embedding sustainable solutions, mitigating anthropogenic environmental impact and moving towards restorative and regenerative systems		
#	Description	What we look for in your response
		Developing new designs, processes or systems based on new or evolving technology Carrying out complex and/or non-standard technical analyses Developing solutions involving complex or multi-disciplinary technology Developing and evaluating continuous improvement systems Developing solutions in safety-critical industries or applications
A3	**Whole system approaches** The applicant will demonstrate that they: Analyse and evaluate problems from whole system environmental, societal and economic perspective, understand past trends and future constraints, and develop practical solutions to increase the whole system capacity for continuity	This normally includes the ability to: – Analyse and evaluate problems, some complex, from an environmental perspective working sometimes with incomplete data – Demonstrate self-direction and originality in tackling and addressing problems – Demonstrate a critical awareness of current environmental problems and anticipate the impact of future environmental trends – Critically analyse and embrace new environmental information and seek new knowledge, skills and competences in the field of environment based on the most recent scientific, social, economic, cultural and technical developments and understanding

Your response to **(A) Academic - knowledge and understanding** competences Max 1,000 characters, including spaces (approx. 150 words)

(B) Practical competences Demonstrate **problem solving and an analytical approach** to Transition Engineering Apply appropriate theoretical and practical transition engineering methods to the analysis and solution of Transition Engineering related problems		
#	Description	What we look for in your response
B1	**Use of transition approach** The applicant will demonstrate that they: Analyse and evaluate existing and future problems from a Transition Engineering perspective	Demonstrate the development of specific applications of the Transition Engineering process through project related case studies. You should include evidence of: – The identification of issues, objectives, design philosophy and outcomes, change events and Transition Engineering implementation requirements – Specifications prepared to take account of whole-system requirements and foreseeable future constraints – Establishment of user needs now and for future generations – Review of specifications and tenders to identify whole-system improvements and changes required to achieve the capacity to continue – Carrying out whole-system risk analysis now and within the forward operating environment and designing mitigation measures – Considering and implementing new and emerging technologies and whole-system non-technological changes
B2	**Research and new thinking** The applicant will demonstrate that they: Conduct appropriate research applicable to transition engineers' own field of expertise and undertake design and development of transition engineering solutions	Identify appropriate Transition Engineering research methodologies applicable to your field of expertise Demonstrate particular technical issues and your personal role in identifying potential Transition Engineering related solutions Show leadership in Transition Engineering workshops, analysis, technical simulations or trials and the evaluation of results Present agreed Transition Engineering design recommendations, with appropriate analysis of environmental project risks assessed against operational factors, intellectual property constraints and opportunities, and environmental and sustainable impacts

(B) Practical competences Demonstrate **problem solving and an analytical approach** to Transition Engineering Apply appropriate theoretical and practical transition engineering methods to the analysis and solution of Transition Engineering related problems		
#	Description	What we look for in your response
B3	**Implement and evaluate** The applicant shall demonstrate that they: Manage implementation of Transition Engineering design solutions and evaluate their effectiveness Use evaluation techniques to demonstrate compliance with the specification, improvements from original installation and further avenues for improvements	Show how you: – Communicate and implement Transition Engineering design concepts to appropriate practical outcomes, acknowledging critical constraints including safety, sustainability and disposal or decommissioning – Recognise and acknowledge whole-system constraints including safety, planetary boundaries, the economic, social and environmental constraints implied within sustainability, and disposal, decommissioning and circular economy considerations – Evaluate lessons learned from existing Transition Engineering designs or processes and identification of faults or potential improvements – Learn continuously from feedback on results, improving future Transition Engineering design solutions and contribute to best practice

Your response to **(B) Practical - problem solving and analytical approaches** competences Max 1,000 characters, including spaces (approx. 150 words)

(C) **Leadership competences** Demonstrate **technical and commercial leadership** Leading the Transition Engineering project definitions and management		
#	Description	What we look for in your response
C1	**Planning** The applicant will demonstrate that they: Are able to plan for effective implementation of a significant task or project using Transition Engineering methodology. Effective project implementation includes an ability to systematically review the factors and risks affecting the project implementation including safety and sustainability considerations and/or define a holistic and systematic approach to risk identification, assessment and management	Demonstrate strategic leadership of transition engineering, including: – Setting good practice Transition Engineering standards – Leading strategic analysis of wider environmental risks and issues – Identifying mitigating actions – Detailed analysis of engineering solutions – Planning of Transition Engineering project programmes/sub-tasks – Engagement with key stakeholders and monitoring and implementing of Transition Engineering projects – Knowledge dissemination of Transition Engineering principles and practice
C2	**Management** The applicant will demonstrate that they: Plan, budget, organise, direct and control tasks, people and resources. This includes setting up appropriate Transition Engineering management systems, defining quality standards, project programme and budget within legal and statutory requirements	Demonstrate strategic management of transition engineering, including: – Planning of environmental tasks and transition engineering support – Budgeting and resourcing including funding applications – Coordination of all stakeholders and team resources – Identification of Transition Engineering quality controls and adaptions where needed – Monitoring and driving projects towards milestones and project gateways
C3	**Leading and influencing** The applicant will demonstrate that they: Lead teams, develop staff and promote behavioural and cultural change to empower people to meet the evolving technical, organisational, and managerial challenges of Transition Encourage others to promote and advance a Transition Engineering approach by understanding their responsibility for societal change	Developing best practice by actively learning from results to improve future solutions and approaches are consistent with the foreseeable and changing forward operating environment Helping, mentoring and supporting others to understand the wider environmental picture Advocating sustainability concerns and environmental issues, encouraging others to actively contribute to environmental protection and sustainability

(C)	**Leadership competences** Demonstrate **technical and commercial leadership** Leading the Transition Engineering project definitions and management	
#	Description	What we look for in your response
	Can also include coordinating project activities, identifying variations from standards and the associated corrective action, gathering feedback and recommending improvements	Demonstration of team management of transition engineering activities, for example: – Leading dissemination of knowledge and understanding of Transition Engineering – Developing staff to understand and meet combined environmental social and ecological challenges through use of Transition Engineering steps – Developing formal education courses/modules for Transition Engineering – Leading team based reviews of Transition Engineering related projects – Reinforcing team commitment to professional standards – Assessing team and individual performance, and providing feedback – Seeking input from other teams or specialists where needed and managing the relationship – Providing specialist knowledge, guidance and input in your specialism to engineering teams, engineers, customers, management and relevant stakeholders – Developing and delivering a teaching module at Masters level or above, or leading a University research programme
C4	**Quality management** The applicant will demonstrate that they: Bring about continuous improvement through monitoring, assessment, quality programmes, and change management, and apply and promote best practice through the Transition Engineering methodology	Demonstrate the promotion of quality principles in your organisation and through supplier and customer networks Delivery of quality and environmental improvements through use of Transition Engineering steps and further cyclical improvements following monitoring and implementation of Transition Engineering related quality programmes Development and maintenance of operational systems to meet quality standards e.g. ISO 9001 and other standards relevant to Transition Engineering such as ISO 14001, ISO 50001

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(C) **Leadership competences** Demonstrate **technical and commercial leadership** Leading the Transition Engineering project definitions and management		
#	Description	What we look for in your response
C5	**Whole system approaches** The applicant will demonstrate that they: Promote a strategic whole-system approach including environmental, social and financial aspects	Demonstrate your self-direction and originality in developing strategies of change for sustainable development and environmental improvement Show active collaboration and engagement with other disciplines and stakeholders and encouragement of multi- and inter-disciplinary approaches to environmental challenges Demonstrate identification of constraints and exploitation of opportunities for the development and transfer of environmentally appropriate technology Demonstrate identification of areas of uncertainty and risk including health and safety, environmental, technical, business and reputational

Your response to **(C) Leadership - technical and commercial** competences Max 1,600 characters, including spaces (approx. 250 words)

(D)	**Communication competences** Demonstrate **effective interpersonal skills** Participate in the dissemination of knowledge of Transition Engineering	
#	Description	What we look for in your response
D1	**Competence with media** The applicant will demonstrate that they: Communicate confidently and effectively with others at all levels, in writing and verbally in clear and unambiguous terms about the Transition Engineering steps and related activities. This should be undertaken with confidence, autonomously and competently *Note:* *The applicant must be able to use English for the application and assessment process: documents and interviews will be in English. This is until GATE develops the capacity to add other languages*	Demonstrate how you communicate effectively with all key stakeholders to promote greater understanding of environmental risks and Transition Engineering's role in mitigating those risks. This includes: – Demonstration of ability to prepare reports, drawings, specifications and other documentation on complex matters – Leading, chairing, contributing to and recording meetings and discussions – Provision of advice to technical and non-technical colleagues – Engagement with and contribution to professional networks
D2	**Presentation and collaboration** The applicant will demonstrate that they: Have the ability to liaise with, negotiate with, handle conflict between, and advise others, in individual and/or group environments (either as a leader or member) Possess the ability to clearly present and discuss proposals, justifications and conclusions	Show collaboration with key partners and negotiations with other stakeholders on environmental issues and Transition Engineering related measures and solutions. This can include: – Contributing to scientific papers or articles as an author – Preparing and delivering presentations on strategic matters – Preparing bids, proposals or studies – Identifying, agreeing and leading work towards collective goals
D3	**Diversity and inclusion** The applicant will demonstrate that they: Exhibit personal and social skills and positive ways to work with diversity and increase inclusiveness Encourage others to promote behavioural and cultural change by influencing others, and advance a Transition Engineering approach by understanding their responsibility for societal change	Show how you: – Know and manage your own emotions, strengths and weaknesses – Are confident and flexible in dealing with new and changing interpersonal situations – Identify, agree with and work towards collective goals – Create, maintain and enhance productive working relationships, and resolve conflicts – Be supportive of the needs and concerns of others, especially where this relates to diversity and inclusion

(D) **Communication competences** Demonstrate **effective interpersonal skills** Participate in the dissemination of knowledge of Transition Engineering		
#	Description	What we look for in your response
D4	**Whole system approaches** The applicant will demonstrate that they: Effectively use communication to promote a strategic whole-system approach including environmental, social and financial aspects	Demonstrate the dissemination of knowledge and understanding of Transition Engineering to a wider audience Show promotion of Transition Engineering as a strategic tool for finding solutions to environmental issues and reduce anthropogenic impact Demonstrate leading and sustaining debates to further shared understanding of key issues Contribute to and chair meetings and discussions Identify, engage with and respond to a range of stakeholders Demonstrate your self-direction and originality in developing engaging strategies of change for sustainable development and environmental improvement

Your response to **(D) Communication - effective interpersonal skills** competences Max 1,350 characters, including spaces (approx. 200 words)

(E)	**Professionalism competences** Demonstrate a **personal commitment to professional standards** Recognising obligations to society, the Transition Engineering profession, and the environment	
#	Description	What we look for in your response
E1	**Professional conduct** The applicant will demonstrate that they: Understand and comply with relevant codes of conduct: – GATE Code of Professional Conduct – EngC Ethical Principles – SocEnv Code of Professional Conduct Encourage others to promote and advance a Transition approach to sustainability, and they understand their responsibility for environmental harm and regeneration	Demonstration of: – How you show compliance with Global Association for Transition Engineering Code of Professional Conduct – Your awareness of environmental and engineering legislative and regulatory frameworks relevant to your Transition Engineering role and how to conform to them – How you lead work within relevant legislation and regulatory frameworks, including social and employment legislation Additionally, identify aspects of the Code which are particularly relevant to your role
E2	**Safety** The applicant will demonstrate that they: Understand the safety implications of their role, and that they manage, apply and improve safe systems of work Ensure that Transition Engineering activities comply with safe systems of work and protect people, property, fauna, flora and the wider environment	Provide evidence of where your professional activities have contributed to the purpose of firmly embedding sustainable solutions, mitigating anthropogenic environmental impact and moving towards restorative and regenerative systems Show how you: – Identify and take responsibility for your own obligations and ensuring that others assume similar responsibility for health, safety and welfare issues – Ensure that systems satisfy health, safety and welfare requirements – Develop and implement appropriate hazard identification and risk management systems and culture – Manage, evaluate and improve these systems – Apply a sound knowledge of health and safety legislation, e.g.: Health and Safety at Work etc Act 1974, Construction (Design & Management) Regulations, ISO 45001 and company safety policies
E3	**Sustainability** The applicant will demonstrate that they: Understand the principles of sustainability and of sustainable development, and the principles	Demonstrate activities that:

(E)	**Professionalism competences** Demonstrate a **personal commitment to professional standards** Recognising obligations to society, the Transition Engineering profession, and the environment	
#	Description	What we look for in your response
	of Transition Engineering and they understand how they will assist in the solution of environmental and ethical challenges Apply these principles in their work	– Act in an environmentally responsible manner when implementing engineering solutions or products – Engage with stakeholders and ensuring continuous involvement in Transition Engineering related solutions – Ensure that negative anthropogenic environmental impact are within foreseeable constraints (e.g. GHG emissions in line with IPCC budgets) – Move towards restorative and regenerative systems and focus on the opportunities for societal prosperity after transition Examples can include: – Operating and acting responsibly, taking account of the need to progress environmental, social and economic outcomes simultaneously – Providing products and services which maintain and enhance the quality of the environment and community, and provide financial stability – Recognising how sustainability principles, can be applied in your day-to-day work – Understanding and securing stakeholder involvement in sustainable development – Using resources efficiently and effectively in all activities – Taking action to minimise environmental impact in your area of responsibility
E4	**Continuing Professional Development** The applicant will demonstrate that they: Take responsibility for, carry out and record the Continuing Professional Development (CPD) necessary to maintain and enhance competence in Transition engineering and their own area of practice, and work towards real change and improvement for a sustainable future	Show how you: – Undertake reviews of your own development needs – Plan how to meet personal and organisational objectives – Carry-out planned and unplanned CPD activities – Maintain evidence of competence development – Evaluate CPD outcomes against any plans made – Assist others with their own CPD

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(E) Professionalism competences Demonstrate a **personal commitment to professional standards** Recognising obligations to society, the Transition Engineering profession, and the environment		
#	Description	What we look for in your response
E5	**Ethics** The applicant will demonstrate that they: Understand the environmental, ethical, and financial/economic issues that may arise in their role and that they exercise their responsibilities in an ethical manner	Show understanding that some environmental solutions may have unexpected outcomes or consequences and may not be preferable Use case studies to illustrate points and demonstrate consideration of holistic issues Give an example of the application of applying ethical principles and how that has affected the outcomes of the Transition Engineering solutions being considered

Your response to **(E) Professionalism - personal commitment to professional standards** competences Max 1,600 characters, including spaces (approx. 250 words)

For completion by GATE

WA reference #:	
GATE membership #:	
Date sent for assessment:	
Assessor 1:	
Assessor 2:	