

Engineering Ethics

Sustainability & Professional Responsibility

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Why This Matters Today?

Engineering decisions shape public safety, communities, and the environment.

When engineering decisions fail ethically or professionally, the consequences can be far-reaching, impacting lives, ecosystems, and economies for decades. Maintaining public trust depends not only on technical competence, but on ethical judgement and accountability.



What Is Engineering Ethics?

Engineering ethics refers to the moral principles and professional standards that guide how engineers make decisions and conduct their work.

At its core, engineering ethics:

- Places public safety, health, and welfare above all else
- Applies across all engineering disciplines and sectors
- Provides guidance when rules are unclear or pressures are high

Ethical practice ensures engineering serves society responsibly, not just efficiently.



When Engineering Goes Wrong

Major engineering failures are uncommon but when they occur, the consequences are severe.

The hidden social, environmental, and economic costs of poor engineering decisions are often felt long after projects are completed.

Ethical lapses
occur
alongside
technical
issues

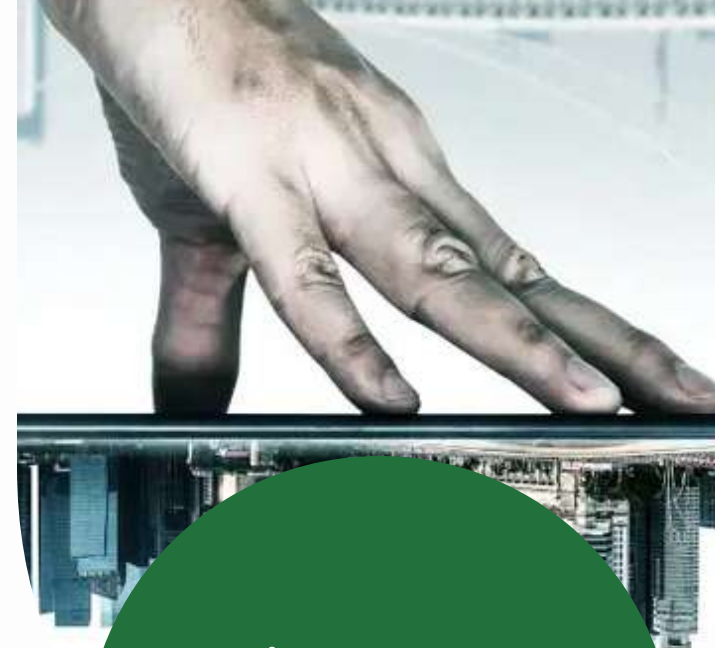


Risks are
downplayed,
ignored, or
deferred



The Engineer's Social Contract

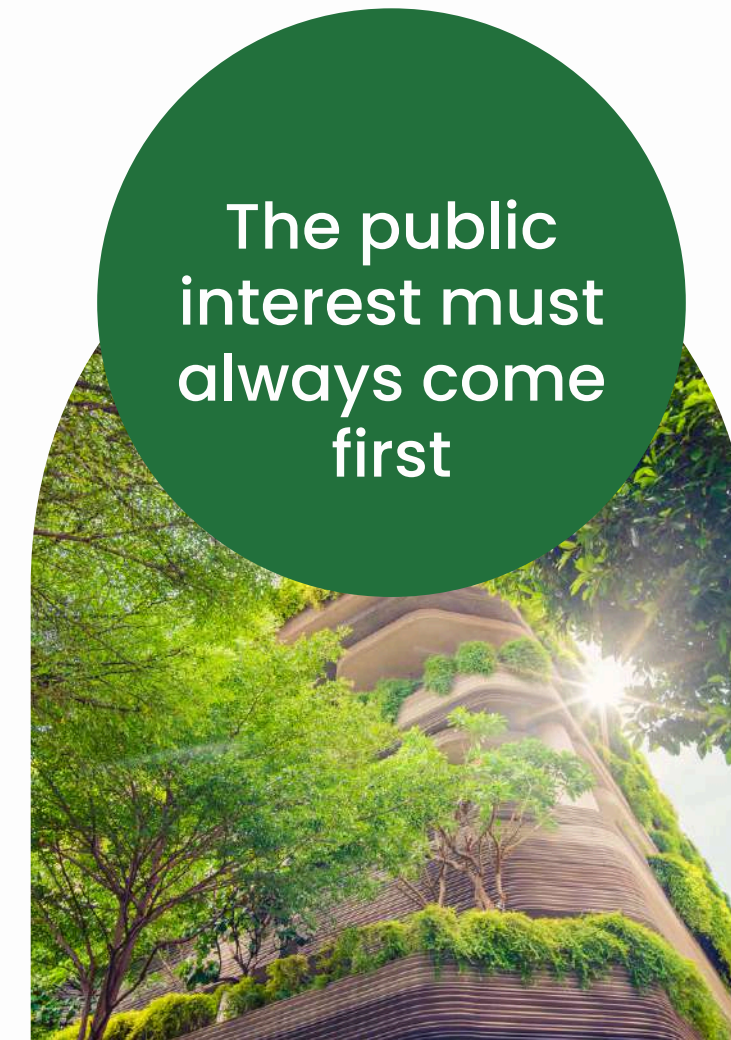
Engineers are entrusted with specialised knowledge and authority that directly affects public safety and wellbeing.



Society places trust in engineers



Engineers accept responsibility beyond employers or clients



The public interest must always come first

Sustainability in Engineering

Sustainability in engineering means meeting today's needs without compromising the ability of future generations to meet theirs.



Whole-of-Life Thinking



01

Planning and design decisions

02

Construction and operation

03

Maintenance, adaptation, and upgrades

04

Responsible decommissioning and disposal

Professional Responsibility in Practice

Professional responsibility is not theoretical — it is applied daily in engineering practice.

Maintain
competence,
integrity, and
independence

Speak up
when safety,
standards, or
ethics are
compromised

Commit to
lifelong
learning and
professional
development

Common Ethical Dilemmas

Engineers frequently face ethical challenges such as:



Conflicts of interest
between stakeholders

Pressure to meet deadlines,
budgets, or commercial
targets

Working with
incomplete, uncertain,
or non-compliant
information

Key Takeaways

Ethics and sustainability are not optional, they are central to professional engineering.



Discussion Questions

How can
organisations
support ethical
decision-
making?

What ethical
challenges do
you see in
your field?

What does
sustainability
mean in your
daily work?



Thank You

See You Next Time