

SUSTAINABILITY OF OUR PROFESSION

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One of the purposes of Engineers Canada is sustainability of the profession. In practical terms, this means that between 15 per cent and 25 per cent of the operational resources of that organization are supposed to be expended on activities and programs intended to sustain and enhance the self-regulating engineering profession in Canada. Clearly, the provincial/territorial engineering regulators like PEO that own Engineers Canada have a strong interest in this objective. As I have noted previously, our predecessors sought and won the responsibility and authority to regulate engineering on behalf of the public in the belief that both the public and the profession—and its members—would benefit most from such an arrangement.

For this final message of my term as your president, I would like to reflect briefly on the state of our profession: Are we sustaining it? How do we measure our progress? Are we content with that progress? And if not, what should we do about it?

To me, sustainability of our profession has mainly to do with how engineering—and its regulation—are perceived by five key stakeholder groups:

- the public at large;
- governments at all levels;
- consumers of engineering services;
- current members of the profession; and
- those considering entering the profession.

For each of those stakeholder groups we have slightly different objectives. We want the public to understand and respect the important contribution professional engineers make to society, and to trust us to protect their interests. We want government to respect our self-regulatory status and not undermine or interfere with our discharge of the responsibilities they have given us. We want consumers of engineering services, whether employers or clients, to value and compensate for those services appropriately. We want members of the profession to be satisfied with the rewards, tangible and intangible, they receive for their work. And we want potential future members of the profession to see engineering as an attractive and rewarding career. Most of all, we want to have measurable influence with all our stakeholders. Our self-regulating profession is sustainable only to the extent that these criteria are met.

So how are we doing at achieving these objectives? Public opinion surveys of attitudes towards various professions have suggested that, while engineers are generally respected and trusted, their work and contributions to society are not well understood, and are underappreciated. A 2015 report of the Queen Elizabeth Prize for Engineering (www.qeprize.org/report), whose findings were based on a survey of 10,000 people in 10 countries, noted that:

- Engineering tops the list of professions seen as most vital for economic growth;
- Fifty-seven per cent believe engineering is critical in solving the world's problems;
- Engineering is seen as a driver of innovation; and
- Seventy-one per cent of people think engineers' contribution to society is undervalued, and they deserve much more recognition.

A LACK OF INFLUENCE

Over the past 40 years, incomes of practising professional engineers in Canada have not kept pace with those of other senior professions, such as law and medicine. This may be a reflection of a shift that has taken place over the same period from an undersupply to an oversupply versus demand in the engi-

neering labour market. I believe it also reflects a trend towards commoditization of some traditional engineering scopes of practice, along with offshoring of engineering work to economies with lower wage and overhead costs (neither of which factors affect law or medicine).

In terms of influence with the public in general and our governments in particular, I assert we also lag the same senior professions. Several systemic factors contribute to engineering's relative lack of influence:

- Most doctors and lawyers require their licences to practise (our publicly-funded healthcare system and our courts enforce this requirement). Only about a third of engineers require licences to practise (based on a requirement to sign and seal their work products that is enforced by the recipient of those products);
- The average member of the public is a client of both doctors and lawyers, but not of engineers (most engineering work is done for business entities and governments);
- Ironically, the public does not see engineers as protecting their interests (health, safety, well-being, prosperity, etc.) to the same extent as doctors and lawyers; and
- Engineers tend to be less politically active and less assertive of their self-interest than other professionals.

With respect to the attitudes and commitment of PEO licensees to their profession, the evidence suggests we have some work to do to change the ethos of our profession. While we have a substantial body of volunteers who are highly committed to the organization and heavily involved in its leadership and operations, the majority are not engaged beyond payment of their annual licence fees. Participation in council elections could best be described as apathetic. I conclude that most members take

their profession and its regulation for granted, and are content to go about their daily lives without direct involvement (other than occasional grumbling about its ineffectiveness at improving their lot in life).

ENGAGING IN CHANGE

So what have we done as a profession to address these weaknesses? Well, first off, we created a separate organization—the Ontario Society of Professional Engineers (OSPE)—to advocate for the economic and professional self-interest of Ontario's licensed professional engineers. Ironically, OSPE membership (which is voluntary, but inexpensive relative to other professional advocacy bodies) is undersubscribed at roughly 10 per cent of PEO licensees. This suggests that professional engineers are reluctant to invest in raising the profile and status of their profession and its rewards. OSPE needs the support of many more professional engineers if it is to realize its full potential.

Another major initiative of the past decade has been development of our Government Liaison Programs, which are focused on establishing working relationships between member volunteers and their local politicians at all levels of government. I believe these programs have been highly successful at educating politicians about the important role engineers play in our society, and at informing them of the issues we face in our professional self-regulation on behalf of the public. They have also contributed to the development of public policy in engineering-related subject areas, such as energy, transportation, innovation and infrastructure renewal. Our governments are listening to us, but we are still not at the stage where they are following our advice.

One area in which professional engineers have long demonstrated their commitment to the public is that of education outreach. I am proud of the way so many of my colleagues have volunteered their time to encourage young people in their STEM studies, and to help them understand what engineers do and why it matters.



CLEARLY, WE'VE BEEN WORKING HARD AT MANY FACETS OF SUSTAINABILITY. BUT IN MOST OF THEM, WE HAVE YET TO REACH A TIPPING POINT WHERE THEIR INTENDED RESULTS REALLY START TO FLOW. SO WHAT DO WE NEED TO DO TO RAISE OUR SUSTAINABILITY TO THE NEXT LEVEL?

When we launched the Engineer-in-Residence (EIR) program some 20 years ago, our vision was that future generations of Ontarians would have a better understanding and appreciation of engineering and its contribution to society. The EIR program has indeed impacted many young lives in a positive way, but it needs to be running in a lot more schools to realize that vision.

Other programs, such as National Engineering Month (a month-long celebration of engineering in the month of March with a focus on youth) and 30-by-30 (a national program with the goal of having at least 30 per cent of new licensees be female by the year 2030), and many others too numerous to mention, have been devised to impact how our profession is perceived by the public and by potential future members.

TAKING IT TO THE NEXT LEVEL

Clearly, we've been working hard at many facets of sustainability. But in most of them, we have yet to reach a tipping point where their intended results really start to flow. So what do we need to do to raise our sustainability to the next level? Let me suggest two major initiatives.

The first would be a public awareness campaign that focuses on the many ways licensed professional engineers protect the broadly-defined public interest, day in and day out. Think of this as a branding exercise, akin to the one that the Chartered Professional Accountants (CPAs) have been airing for the past several years. (The irony of that program is that many of the scenarios in which CPAs are portrayed are more in the domain of engineering than of accounting.) I am pleased to inform you that council has recently established a task force to develop such a campaign, which is the legitimate purview of PEO because it has proven difficult to regulate engineering in the public interest when the public doesn't understand what needs to be regulated, and why, and how.

The second would be a concerted effort to establish, through demand-side legislation, exclusive scopes of practice for many more engineering activities than are covered today. The broad definition of the practice of professional engineering we have in the *Professional Engineers Act* is not sufficient to ensure that all applicable engineering work is performed by licensed individuals because it is next to impossible to enforce in an industrial/commercial setting. What we need is legislation that requires more engineering work products (rather than just building drawings) to be signed and sealed, and puts the onus on their recipients to demand it. Governments and industry need to understand that we cannot be expected to regulate engineering in the public interest so long as engineering activities are effectively excluded from PEO's regulatory reach.

Taken together, I believe these two measures would go a long way to enhancing our ability to protect the public interest, and to ensuring the sustainability of our self-regulating engineering profession for the future. **e**