By **Anthony Bonney, P.Eng.**

Mixing engineers with politics

Politics is about the power to make decisions, and the management of pressure groups that are trying to influence decision makers. Politics exists whenever and wherever social conflict is found. It is the struggle for power and the use of that power.

Given these definitions and the modern capitalistic society in which we live, professional engineering can only prosper and be practised with an involvement in politics at all levels of government. Engineers must be capable and prepared to deal with the political issues, as well as the purely technical ones, to fully take into account the social, industrial and environmental consequences of the application of their technology, and influence decisions.

Engineers and political power

In Canada, engineers do not generally appear attracted to (or favoured for) the top political posts at the federal, provincial or local levels of government. Consequently, there is often a lack of understanding at the top political levels of the technology implications of decisions. Technical advice is clearly available on request, but often the need is not recognized and advice is not sought. Engineers must be willing and able to present appropriate technical information to politicians whenever engineers recognize the need. Such relationships are increasingly important as the scale of consequences of the decisions grows with the onward march of technology applications.

Politicians are continually exposed to input from self-interest groups and can become cynical. Nevertheless, especially where environmental or safety risks are perceived, we must ensure that our advice is heeded by making it expert and impartial in the best ethical traditions of our profession.
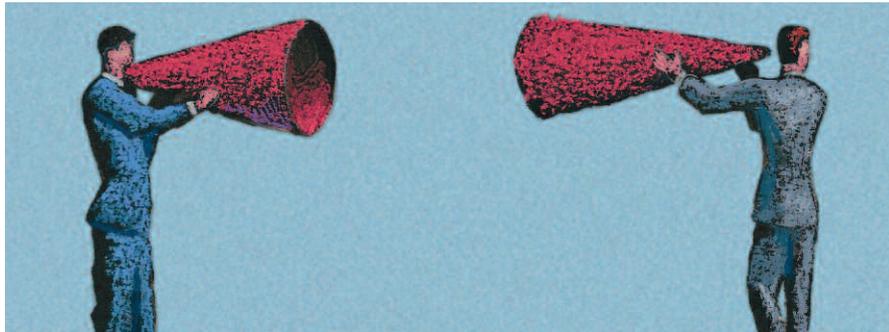
As a profession, our political relations are primarily focused at the provincial government, which is natural because our self-governance authority flows from that level. However, engineers need to recognize their opportunities to influence local political decisions by providing technical advice to local and regional governments. By ignoring such openings, engineers miss the chance to guide decision makers to better solutions for society at large.

Engineers as expert advisors

As the creation and application of new technologies becomes more complex, the need for good expert and impartial advice is slowly being recognized by politicians. It is clear from surveys that younger engineers, in particular, do not see themselves involved in any way in the political processes necessary for delivering this advice, other than by voting in elections. Of course, this is not satisfactory and the task cannot be left just to senior engineers and the professional associations, especially because many of the newer technologies are the domain of younger engineers. Their expert advice on behalf of the profession is often essential–not just desirable–if our case is to be properly made. While politicians will hardly ever accept in full the advice offered by one group–after all, one of their prime functions is to assess

often-conflicting sources of advice–the greater the identifiable support for that advice within the group offering the advice, the more influence it is likely to achieve.

Engineers must also recognize and acknowledge that political decisions can have a direct impact on their profession and on themselves, both collectively and as individuals. This can be worrisome if the impact is adverse. Without losing sight of their ethical responsibility to work for the greater good, engineers are entitled to seek solutions that achieve the broad desired outcomes and also maximize the benefits or minimize the deficits to their own situations.

Engineers as politicians

Professional engineers have to manage conflict between different groups all

the time, since their technical decisions always have to take into account the different effects on different groups. Professional ethics, coupled with sound engineering practice, demand that inputs from all those affected be considered before a final decision is reached. These are also the management skills required of a good politician. Today's decisions require the consideration of an ever-widening range of consequences, especially with the increased emphasis on sustainability and environmental protection. The difference is that engineers are often in a better-informed situation than politicians are for making these decisions, and it is incumbent on us to share this knowledge with them.

Government involvement

Government employment and government-generated employment are major factors in the engineering profession. The state is a major initiator of projects involving technology applications, even if it isn't always financially involved. Defence (both human resources and equipment), the public service in almost

and training and transport and communications, by reducing compliance costs for licensing and environmental approvals, and by improving the links between privately funded research and potential users of the technology.

Not only do these government-initiated works employ engineers, but there is also the opportunity–some would say obligation–for the affected engineers outside these organizations who have expert knowledge of the matters being decided to provide constructive feedback on their effectiveness and to offer suggestions for improvement.

Engineers in political interaction

There is no doubt there are opportunities and obligations for inputs to our political systems from informed and "politically aware" engineers. At present, these initiatives seem to come from a relatively few engineers at senior levels in their organizations, and the professional associations. Their expertise is the result of years of developing experience. Younger engineers need to gain this "political savvy" at a much

approach to decision making; the black-and-white, "yes/no" world of engineering physics is poles apart from the world of political interaction that determines how things get done in our modern societies. We must not become regarded as part of the problem, involved in only the uncritical development and application of technology. We need to present ourselves as part of the solution, able to blend engineering expertise with social responsibility to best meet human values and aspirations.

The PEO chapter system and the chapters themselves appear to be an excellent vehicle for carrying out this learning about the political processes in our neighbourhoods and for bringing our professional resources to bear in shaping the outcomes of political decision making in our communities. Each chapter should be encouraged to form a government relations subcommittee that focuses on monitoring and intervening in local decisions that affect our profession or can benefit from an informed engineering perspective, using the greater strength of PEO as a whole to provide the appropriate resources, when needed. ◈

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> *"The vice of democracy is that we often put our government in the hands of politicians lacking the capacity for true insight and with no adequate expert knowledge."*
>
> Socrates

all departments and at all levels, health and education, in particular, are completely or largely run by government, requiring considerable numbers of professional engineers in various roles.

Governments offer industrial assistance in establishing and developing new industries, most of which are heavily involved with creating, or are dependent on, technology. Governments seek various ways to mitigate the potentially devastating effects of tariff changes and deregulation by, for example, infrastructure improvements to education

faster rate and senior engineers need to act more as mentors than as doers in these activities.

The skills required for success in political circles are not superior or harder to learn than those needed in business and the professions, just different. Engineers need to ensure that their academic training and professional development include an understanding of the political processes in the various settings where they need to interact for the greater good of society and our own protection. We need to take the ethical