

# Information and Communications Technology (ICT) Policy

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Subject: **Information and Communication Technology**

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## Introduction

Information and Communications Technology (ICT) has become a central part of modern life. It has transformed the way that information is shaped, accessed and distributed; making it possible for vastly more information to be in the hands of people who would previously had great difficulty accessing it. Information and communications technologies have both changed the way we communicate with each other and the way we get jobs done.

These changes have provided great opportunities for enhancing knowledge and democratic processes, as well as improving resource use and productivity. But new technological innovation has also created problems by reinforcing existing social and political inequalities and in some cases creating new ones. Information and communications technology has also contributed to the increasing commercialisation of our lives and more waste for our environment to contend with.

## Definitions

**Open Systems:** Systems where the components are available for scrutiny by interested parties, i.e. the internal operation is not a commercial secret.

**Open formats:** Formats that are described with freely available specifications, defined by an open standard.

**E-waste:** End of life electronic goods.

**Common Carriers:** An organisation that transports a product or service using its facilities, or those of other carriers, and offers its services to the general public. Generally common carriers are not responsible for what they carry ([http://en.wikipedia.org/wiki/Common\\_carrier](http://en.wikipedia.org/wiki/Common_carrier)).

**Free and Open-Source Software:** The modern definition of Free Software has four points. It defines free software by whether or not the recipient has the freedoms to:

- Run the program, for any purpose.
- Study how the program works, and adapt it to your needs.
- Redistribute copies so you can help your neighbour.
- Improve the program, and release your improvements to the public, so that the whole community benefits  
([http://en.wikipedia.org/wiki/Free\\_software\\_definition](http://en.wikipedia.org/wiki/Free_software_definition)).

Open source describes practices in production and development that promote access to the end product's source materials, typically their source code ([http://en.wikipedia.org/wiki/Open\\_source\\_software](http://en.wikipedia.org/wiki/Open_source_software)).

## Vision

The Green Party envisions a New Zealand in which Information and Communications Technology:

- Improves our democratic processes through wide access to information.
- Contributes to our personal, professional, community and corporate relationships by facilitating communication.
- Sustainably increases productivity and efficiencies in our industries and businesses.
- Decreases resource use through appropriate application of technologies.

## Key Principles

1. ICT should be used to significantly enhance productivity and reduce resource use through telecommuting, virtual mobility and better design.
2. The opportunities that ICT provides to share important information within the public domain should be taken so the public will have a greater chance to participate in decision making in an informed manner (appropriate decision making).
3. The two worlds on each side of the 'global digital divide' must be brought together, so the opportunities afforded by ICT in the areas of decision making, efficient resource use and productivity enhancement do not depend on wealth but work for the benefit of all.
4. Development of ICT must proceed in a socially responsible and sustainable manner.

5. Benefits of ICT need to be shared amongst all members of our society and not be used to enhance or entrench existing inequalities, or create new layers of inequality.
6. The use of Free and Open Source software should be encouraged, where practical, as a means of encouraging appropriate technology and indigenous solutions to local problems.

## Specific Policies

### 1. Equity and Access

All citizens and groups should be able to access ICT in order to:

- Share their opinions, heritage and skills.
- Organise collectively.
- Be informed.
- Do business (buy, sell and advertise).
- Work.
- Be educated.
- Maintain social networks.

If sections of the community are excluded from modern information and communications technology, and the competencies associated with it, they will be excluded economically, socially, and politically.

Increasingly there is important information which is primarily, if not solely, made available on the Internet. In order to reduce barriers to access, the Green Party will:

1. Ensure the Ministry of Business, Innovation, and Employment undertakes research and provides policy advice to the government and government departments about ICT issues.
2. Improve public access to ICT by supporting the establishment of community technology hubs in schools, tertiary institutions, public libraries and other community centres. This will require appropriate investment in installing hardware and software, as well as providing ICT training.
3. Support research into the feasibility of council owned free wireless Internet systems along the lines of those already operating in some cities in the US.
4. Support training opportunities for individuals, community groups and businesses to make best use of information and communications technology.
5. Ensure that all government websites are accessible to people with disabilities by increasing the standardisation of websites, and funding research and design into developing hardware and software programs

that assist those with disabilities.

6. Ensure that the government works towards providing all public electronic information documents on government websites in both Te Reo Maori and English.
7. Work towards ensuring that all communities can access government information, so that no community misses out on access to government information because of language or other difficulties.
8. Set standards for world-class high-speed Internet access which we will aim to provide at reasonable cost to every community in Aotearoa/New Zealand.

**Government Databases:** The government has extensive databases of publicly owned information that is accessible online. The government charges fees for access to this information, which creates barriers and limits access.

The Green Party will:

9. Ensure that where possible, all government databases are made freely available (or available at a reasonable cost) to the public, and ensure that the government provides the public with more open and equitable access to information.
10. Ensure, where possible, that information that cannot be made available (because of privacy or commercial sensitivity) shall be made available in aggregate form, omitting individual information.
11. Ensure, where possible, that information, when made available, is made available in open, accessible, low bandwidth formats.

## 2. ICT and Education

The Green Party supports the use of ICT in education where it is appropriate. The Green Party would like to see ICT in education enhance learners research skills and abilities, provide timely access to knowledge resources, provide innovative styles of learning, and assist learners to develop literacy and explore their creativity. We are also aware that excessive use of computers at school and at home may affect children's physical and social development, particularly during early childhood and primary education and so the use of ICT needs to be balanced in consideration of these concerns.

The Green Party will:

1. Support the balanced use of ICT in education, as a means of enhancing access and fostering technological literacy, as well as critically evaluating and using technology.
2. Encourage the development of educational ICT service providers.
3. Support the further development of distance learning through ICT without sacrificing face-to-face contact with instructors, tutors, and students (see Education policy)

Schools face competitive and financial pressures in providing appropriate

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technology for learners, and we support the use of open and transparent tender processes where public money is involved.

The Green Party will:

4. Ensure that the Ministry of Education takes a proactive role in working with schools to ensure negotiations with technology companies over ICT products and services work best for learners and their communities, and to ensure schools do not become sites for the marketing and commercialisation of learning products.
5. Ensure that the Ministry of Education provides information and support to schools about the benefits and advantages of Free Open-Sourced Software.

### **3. Free Open Source Software (FOSS)**

The current market in computer software is dominated by a very small group of very large companies and many sectors of the market have been operating as monopolies. One example of this is the reliance on Microsoft products such as Windows and the Office Suite, that has led to a situation where key products and de facto standards are proprietary, and monopolies have been allowed to form, stifling competition, consumer choice, and growth of the software industry in Aotearoa/New Zealand. This has led to the proliferation of insecure and unreliable applications, software and operating systems.

Free Open Source Software (FOSS) offers a viable alternative to closed source proprietary software such as Microsoft products. The culture of FOSS leads to it being often more reliable and more secure than the closed source equivalents, because it is easier to verify that the software does not contain code that acts against the user's best interests. Utilising FOSS is good for local industry because it will create demand for a local support industry with all the inherent advantages: jobs, local experience applied to the technology, and expertise.

There can be some higher costs with FOSS as any commercial support which is required needs to be procured separately, but these are more than offset by the license savings of using FOSS. Also, the Green Party recognises that FOSS cannot supply all software requirements of all organisations and that the introduction of new software into workplaces needs to be carefully done if it is not to disrupt work practices.

In order to address the monopoly situation, security of software services, and the high licensing costs that affect accessibility to commercial software, the Green Party will:

1. Take the lead in Free Open-Source software procurement by not automatically buying from 'market leaders'.
2. Encourage a level playing field between commercial vendors of software and FOSS by removing barriers to the uptake of FOSS and fostering the development of a FOSS support industry, which will generate local jobs, experience and expertise.
3. Require government departments to consider FOSS when it provides the functions and quality required (for example: Web Services (Apache),

Office 'Productivity Software' (Open Office), Operating Systems (GNU/Linux)).

4. Establish a core policy team to investigate the capabilities and suitability of FOSS in the context of the functions that government departments need.
5. Work with industry to keep our computer engineering graduates in New Zealand, where they can develop FOSS that is appropriate for local conditions.
6. Move towards open format standard / open document standard for government office documents and databases.

#### **4. Taxation and Software Business Issues**

New Zealanders are renowned for their entrepreneurial spirit and creativity. Another way of addressing commercial software monopolies is to unleash New Zealanders potential to develop our own indigenous software to compete with global multi-national organisations. Locally developed software solutions can be more responsive to Aotearoa/New Zealand's own specific needs, and could provide employment opportunities to those with technical knowledge and creativity. In addition, exporting software is a good business for New Zealand because it is mostly low carbon emitting and does not lead to depleting the our natural resources.

In order to facilitate the development of this industry, the taxation and regulatory environments need to be aligned with the needs of software businesses. In addition, the government as a large purchaser of ICT services should support the development of our industry by purchasing locally produced products where possible. See also our Small business policy, Trade and Investment policy and Economics policy.

The Green Party supports:

1. The development of independent software ventures in Aotearoa/New Zealand, to encourage the development of the industry.
2. Government and industry working together to:
  - a. Develop a strategy to enhance the availability of venture and seed capital for local commercial software companies.
  - b. Develop a Research and Design industry that appeals to New Zealanders who are completing tertiary study. This is a way of keeping our graduates here to help build our capacities.
3. Preferred status for locally developed commercial software products and services, which will ensure that the government purchases these products wherever possible.
4. Modifying patent laws to specifically exclude software from being patented (software can still be copyrighted), unless it is part of a larger development involving non-software components.

The Green Party is also aware that there is a danger in allowing critical parts of Aotearoa/New Zealand's information infrastructure to be controlled by foreign

controlled corporations with divided loyalties which may have obligations under foreign laws to hand over personal information requested by foreign governments. There is a potential for New Zealand and foreign laws to come into conflict and create a security issue for New Zealanders. To avoid this situation, the Green Party will:

5. Work to ensure that our information systems are developed and maintained by local (New Zealand) companies.

## **5. Privacy**

ICT makes the storage and correlation of personal data much more prevalent than it has been in the past. The nature of the technology means that it is easy to gather and use information of all sorts, including accurate and inaccurate information. Once information is placed in a database it can last there indefinitely. This information should be collected, stored, and treated ethically, and access to this information by New Zealanders is paramount.

The Green Party will:

1. Scrutinise closely any information sharing between different state databases, and oppose those that are unwarranted.
2. Support the review of the Privacy Act 1993 and the Official Information Act 1982, to improve the public's access to information and ensure that there are effective reviews in place for those who do not receive the requested information or consider that information held about them is incorrect.
3. Support amending the New Zealand Bill of Rights Act 1990 to specifically include a right to privacy.
4. Review controls on the sale of private information, and the exchange of information between government agencies, to ensure consistency with the aims of the Privacy Act.
5. Promote and publicize the right of people to see the personal information held on them in state and other databases and to correct such information.
6. Ensure that personal information that is held by public sector agencies concerning New Zealand citizens is the responsibility of New Zealand organisations.

## **6. ICT and worker issues**

New information and communications technologies have reshaped the way individuals, society, and businesses experience the constraints of time and space. Not long ago the design, production, and distribution of a product were mainly limited to transportation infrastructure constraints. The increasing use of ICT has enabled businesses to utilise different workforces at different stages of the production chain more efficiently and flexibly. These changes can improve businesses' productivity, but can also affect workers' rights, health, existing protections and livelihood. In particular, the ICT work force is especially susceptible to pressures for efficiency and flexibility. The Green Party is aware

that the advent of modern communications policy has made it possible for workers to be available 24 hours a day and 7 days a week around the world. There are known, and possibly unknown, health issues associated with ICT use. Also rapid changes in technology can make ICT workers' skills obsolete.

The Green Party will:

1. Ensure that all workers are properly protected from unreasonable employer demands on their non-work time (see Industrial Relations Policy)
2. Ensure that the introduction of new ICT into workplaces is accompanied by retraining and that effective steps are taken to minimise disruption to people's working lives.
3. Work to ensure that the health of all workers is monitored for known harms of ICT and those harms are mitigated.
4. Work to ensure that possible harms are researched prior to the introduction of ICT and evaluated formatively (with the introduction of new technologies, proper care must be taken to identify and mitigate any associated negative health effects)

## **7. E-Waste and ICT Energy Efficiency**

Rapid technological advances and commercial and competitive pressures to consume ICT products have led to a growth in the problem of e-waste. Hazardous materials in many ICT products include chemicals known to harm humans and other animals and their environment. These include lead, cadmium, and mercury and brominated flame retardants. These chemicals are both dangerous to handle and can contaminate landfills.

Government and industry have not collected information on how much e-waste is generated by New Zealanders. While there is some informal infrastructure in New Zealand to handle e-waste, the government does not have an official strategy to deal with this issue and the public are mostly unaware of the issues and solutions around e-waste. There is currently no guarantee the e-waste will be recycled locally under safe conditions and it is neither easy nor necessarily safe for the public to start recycling e-waste.

It is important that e-waste is treated as a complete life-cycle issue, not just as a disposal problem. The design, manufacture and use of ICT products need to include the ability to recycle products and reduce the hazardous materials used as well as to reduce other waste connected to the product's life (e.g. consumables such as toner) and energy use.

Our current voluntary system of dealing with product life-cycles is not widespread across the ICT industry and usually linked only to recycling specific ICT products. The ICT industry needs to be given responsibility for this issue through a combination of incentives, regulation, and consumer pressure.

Another issue facing the production and consumption of ICT products and services in Aotearoa/New Zealand is the lack of energy efficiency of many ICT products. Overseas studies have shown that the standby facility on many ICT products contribute a small, but consistent, amount to total energy use that is

unnecessary and inefficient.

In order to address these issues, the Green Party will:

1. Undertake research to determine the per capita e-waste level in Aotearoa/New Zealand, and set targets to reduce our e-waste production.
2. Develop strategies to reduce e-waste that includes the development of a public education programme to raise awareness about e-waste and to provide the public with safe solutions for dealing with e-waste.
3. Use a combination of incentives and regulation to ensure that the negative environmental effects of e-waste and ICT products are internalised by the industry. This will include working with the industry to:
  - a. Set a timetable for the transition to mandatory Extended Producer Responsibility (EPR) whereby manufacturers and/or importers take responsibility for the entire life-cycle of the products and packaging they create (see Waste policy 4.b)
  - b. Set a timetable for the introduction of a "take back" policy, so electronic equipment can be returned to the point of purchase, at the end of its economic life, and properly disposed of through EPR.
  - c. Set a timetable for phasing out and restricting new products with stand-by switches.
  - d. Promote the development and use of energy efficient ICT products.
  - e. Ensure government and industry work cooperatively to fund research into green design of ICT products to minimise the negative effects of e-waste.
  - f. Fund organisations that collect, process, reuse and resell used ICT products.
4. Ensure that the negative effects of e-waste are not exported to regimes with laxer environmental and occupational standards than our own.

## 8. ICT Obligations and Protocols for State and Industry

**ICT Risk:** The Green Party acknowledges that there are safety issues relating to inadequate oversight of ICT in the control infrastructure of airplanes, cars, trains and other transportation means. When public safety, or the public interest, depends on computer systems, computer systems should be open to public scrutiny and be open systems.

In order to ensure that human safety and the safety of crucial democratic processes such as voting in elections is not jeopardised by computer failure, the Green Party will:

1. Encourage public scrutiny of any ICT system that is responsible for the safety of human life or is responsible for crucial democratic processes such as electronic voting in elections.
2. Support the development of a system of professional registration for ICT personnel working on safety critical applications (along the lines of

IPENZ).

**ICT Security:** While inadequate technology can be bad for security there are no absolute technological fixes for security issues. An acceptable level of ICT security will require the government, the ICT industry, and ICT users to work cooperatively on security Issues and in developing solutions.

The government should play a role in maintaining ICT security through regulation and education, principally because of the implications for national security and the critical infrastructure that depends on ICT, from emergency services control to the EFTPOS system.

The ICT industry has a role in protecting ICT users' right to privacy and security. Vendors of ICT equipment have a duty to ensure that users are aware of the level of security they can expect and to inform them if this changes, because secrecy surrounding security weaknesses with ICT equipment and software is, in general, bad for security.

The Green Party will:

3. Establish a good working relationship and provide opportunities for enhanced communication between the government, the ICT sector, and ICT users.
4. Review software used in the state sector, on an ongoing basis, for security issues.
5. Tighten legislation on the circumvention of lawful security measures, with the intention of performing an illegal act.
6. Develop regulations requiring ICT vendors to disclose security weaknesses in their products in a timely manner so users can take remedial action.
7. Prohibit vendors of ICT security services/products from knowingly allowing their services/products to be circumvented.

**Ownership of the Internet:** Lines companies that carry Internet signals and ISPs that deliver them to households, must not play favourites with users accessing their lines and they should act as common carriers. If they have no liability for what packets of data they deliver on their wires they should not be able to give preferential treatment to some packets over others based on commercial considerations.

If lines companies and ISPs are able to play favourites, innovation will be suppressed. If there are no favourites on the wires the cost of access is very low. New and innovative Internet services can be started with very little capital. To have to pay telecommunications companies to pass packets would vastly increase the costs of new and innovative Internet services.

The Internet is a crucial piece of public infrastructure. The design of IP (Internet Protocol, the communication standard/technique that the Internet is built on) means that the Internet can be very reliable and fault tolerant. However, network hardware is not so reliable (e.g. due to power-cuts). Therefore the organisations that supply the networks should supply redundant networks at

cost, for use during outages or overloads. This means we need to regulate so that best practice redundancy is implemented.

The goal of local peering is twofold. Firstly to improve the security of the communications infrastructure in a major emergency and secondly to ensure improved latency (that is, to reduce the time taken for a packet of information to travel between two end point computers on different networks by promoting a greater level of direct connectivity between computer networks).

The Green Party will:

8. Support legislation and government policies that:
  - a. Ensure that lines companies show no fear or favour for information carried on their lines.
  - b. Increases the reliability of the Internet.

**Digital Rights and Internet Content Management:** New information and communications technologies and the digital revolution have provided opportunities for information (including text, audio, images, video, and computer programs) to circulate more freely and at greater speed. The ease and flexibility of Internet communication combined with the widespread use of standardised (formal or de facto) formats for information interchange creates new and challenging issues around rights (such as copyright and freedom of access to information) and addressing the issue of industry and state responsibility for providing access to Internet content.

The Green Party considers a number of actors to be crucial in developing policies and protocols around digital rights and Internet content management. The government needs to develop copyright law that is responsive to the realities of new ICT and digitalisation, with the public interest in information flow in mind. The government has a responsibility to ensure that copyright law is consistent across mediums and to accommodate the different technologies and the unique challenges and circumstances for administering policy in these areas that these differences provide.

From the industry side, the Green Party sees the role of ISPs as common carriers and so ISPs should not be made responsible for content that passes through their networks or for material on web sites which they host. When society wants to regulate the communication of information, the authors of the material need to be responsible for content, rather than ISPs.

ICT manufacturers do not have the absolute right to enforce copyright protection via technological means (e.g. DVD Zoning, CD crippling). Manufacturers should have the right to introduce 'Meta Information' into digital works for the purposes of identifying those works.

The Green Party will ensure that:

9. Copyright, as defined in Intellectual Property (IP) law, applies to digital works.
10. New Zealand's copyright protection should make exceptions for processes that are unique to digital works, so that technologies such as a) caching digital works on Internet servers to economise on bandwidth, or b)

hyper-linking to material are not deemed as copying.

11. Copyright protection should extend to all communicated works, not to just the signals that carry them.
12. The right of consumers who have lawfully obtained copyrighted works to make copies for their own lawful use (e.g. format/time shifting and backups) is protected.
13. The rights of consumers are not circumvented by manufacturers of media or media players (e.g. crippled CDs and zoned DVD players) that function to restrict consumers' rights.
14. The removal of identifying data, and the distribution of altered digital works is prohibited.
15. The right to de-compilation and error correction is protected.
16. ISP's are not liable for copyright infringing material stored on their web space where the ISP does not know that the material infringes copyright and upon obtaining knowledge takes action to remove or disable access to it.
17. ISPs are not liable for anything that is done via email, or anything done via the Internet service they provide.
18. ISPs must, within the constraints of legal requirements, provide a censorship free service for users who do not want any form of censorship.