Chris Lightfoot,

25th April 2004

Rt Hon. John Prescott MP,
Office of the Deputy Prime Minister,
26 Whitehall,
London,
SW1A 2WH

Dear Mr. Prescott,

Council of Europe project on Electronic Voting

The Council of Europe is currently conducting a research project into the use of electronic voting in Europe; the British government are represented on the working group by a number of civil servants from your department, and I assume that ODPM is therefore the Department with responsibility in this area. The group have lately prepared a draft Recommendation document on standards in electronic voting, which is available from their web site,

`http://www.coe.int/T/e/integrated_projects/democracy/02_Activities/02_e-voting/`

As you will be aware, it is difficult to make absolutely sure that electronic voting systems accurately record the will of the voters. Because electronic voting machines are simply computers running special software, if there are any errors in the software, they could cause voters' preferences to be recorded incorrectly. If the voting computers are the only repository of information about the votes, there would be no way to verify the results of an affected election. Even worse, if the voting machines have been *maliciously* programmed to record inaccurate results, an election could be rigged; the authorities and the voters would have no way to tell that this had happened. For instance, a malicious person with access to voting machines could arrange that one in ten times that a voter selects a Labour candidate, their vote is actually given to a Conservative candidate; but this fact is never displayed to the user. This would create a ten per cent swing from Labour to Conservative, but it would be impossible to prove that this had been achieved dishonestly.

Experts agree that the way to solve this problem is for voting machines to give each voter a paper 'verifiable receipt'. This is jargon for, basically, a ballot paper. When a voter indicates their vote on the machine, it will print out a record of that vote, which the voter can inspect. If it is the same as their preference, then they put the vote in a ballot box, and confirm to the computer that it has recorded their vote correctly. If there is any doubt about the results

of the election, the paper 'receipts' can then be counted in exactly the same way as ballot papers are now. Because voters can check the receipts they are given, the same voters can verify that the machines are behaving as they should; it is impossible to achieve the same effect without verifiable receipts.

(As an aside, it is sometimes said that electronic voting machines should not produce paper receipts, since voters could to take proof of their votes with them from the polling station; this could lead to bribery or coercion. This claim is a misconception. The paper receipts must be regarded as the authoritative record of the votes — just as ballot papers are now — and a voter who does not deposit their paper receipt should be regarded as having abstained.)

Therefore it was with great concern that I noted that the Council of Europe's working group has *not* recommended that any electronic voting machines used in Europe produce paper verifiable receipts. Although the Recommendation requires that electronic voting systems can be audited, they do not require that there are paper audit trails (such as voter-verifiable receipts), which is the only way which would actually work; and, worse, the Recommendations assume that future electronic voting systems will support *remote* electronic voting, for instance by voters voting from home. Unfortunately, it is impossible to make remote electronic voting trustworthy, because — just as when there are no receipts — there is no way for the voter or the election authorities to be certain that each vote is correctly recorded. Sadly, therefore, remote electronic voting cannot be trusted unless it is combined with receipts, which would effectively be the same as postal vote forms.

Although electronic voting may be an effective way to increase turnout and make it cheaper to run elections, neither of these aims is as important as making sure that the electoral process properly expresses the will of the people. I urge you to ensure that ODPM does not lend its weight to any proposal for electronic voting which does not require paper receipts. Although the current Council of Europe Recommendation is only a draft, without prompt action the draft may become final, and the Council's proposal — which in other respects is sensible — may be adopted for real elections, leaving them open to undetectable fraud.

I hope that I can rely on you to ensure that any electronic voting systems which are adopted in this country always issue paper receipts, so that they can be trusted by voters to accurately record their intentions.

Yours sincerely

Chris Lightfoot