TO: energyefficiency@gov.ab.ca
Energy Efficiency Advisory Panel
Government of Alberta

Energy efficiency programs / Alberta / Discussion document (June 2016) / Energy Efficiency Advisory Panel

First of all, a lot of thanks to Energy Efficiency Advisory Panel (Alberta) for organising this important consultation.

This opinion represents an opinion of an individual citizen, not any legal entity.

This opinion does not contain:

- any business secrets
- any trade secrets
- any confidential information.

This opinion is public.
PDF file of this opinion can be added to a relevant web page

Annex 1 holds information about previous consultations related to information systems.
Annex 2 holds information about disclaimers and copyright.

Best Regards,

Jukka S. Rannila
citizen of Finland

signed electronically

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Previous Canadian consultation

Here I can remind readers about previous Canadian consultation:

> EN: Opinion 91: Draft New Plan on Open Government 2016-2018
> http://www.jukkarannila.fi/lausunnot.html#nro_91

Possibly Government of Alberta could check that important consultation.

European context? / Agency for the Cooperation of Energy Regulators (ACER)

Annex 1 contain information about consultations which are organised by Agency for the Cooperation of Energy Regulators (ACER). There are similar challenges with energy issues in European Union when comparing to Alberta. Possibly my opinions addressed to ACER could be assessed.

This opinion is rather limited / Mostly about information systems.

I will not answer to all questions since this opinion is mostly about information systems.

Previous consultations (about information systems) / Annex 1

Annex 1 holds a list of previous consultations organised related to information systems.

Based on previous opinions I have explained several issues in detailed way. It can be noted that some issues are repeated since many consultations concentrated on information technology.

This opinion does not repeat all previous issues (mainly information technology) mentioned on the previous opinion documents.

One conception of information technology / membership, ownership and agreements

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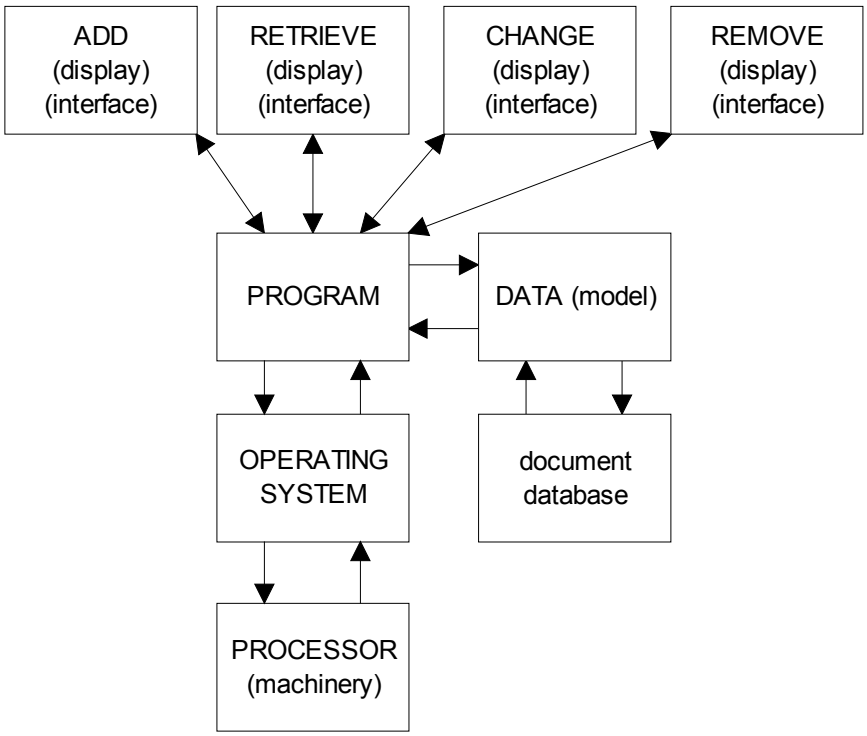


Generally speaking we have different techniques on the information technology field. Here we can note that programs (most arrows) are in the middle of different information systems. Then programs handle the data in a system (documents and/or databases). However we have to have one specific program which is different – i.e. operating system. Operating systems handle connections with machinery and processors. Generally speaking programs can work with an operating system and developers of programs use different parts of an operating system.

What this means to energy efficiency and community energy in Alberta?

1) **There can be several computer programs for energy systems.**
2) **There are several providers of different computer programs.**
3) **There are naturally competing programs.**
4) **Different programs comply with different standards.**

We have to note that data can have different models and data (models) are developed and/or used by different stakeholders (four basic functions). Especially in databases there are possibilities for several data models; depending on the modellers there can be different data models in databases. Generally speaking changing data models can be very difficult in many cases.

What this means to energy efficiency and community energy in Alberta?

1) **Different data models could be assessed.**
2) **Possibilities for consolidated data models could be assessed.**

In the previous consultations I have advocated following solution as the maximum solution:

* public sector institute owns the machinery and processor of the information system
* the machinery and processor are based on relevant open standards
* the operating system is based on an open-source solution
* public sector institute owns the source code of the information system
* public sector institute owns the database of the information system
* the database is based on open-source solution and on relevant open standards
* public sector institute owns all data in the information system.

Naturally, there can be solutions, which are not based on the maximum solution.

Next table gives us some possibilities for assessing possibilities for open solutions and closed solutions.

Note: The relations between different aspects of information systems can result rather complicated (legal) network(s): i.e. Ownership, Membership, Agreement.

Proposal: There could be some considerations for assessing possible / future changes in ownerships, agreements and memberships.

Here we can note the difference between owners, agreements and members. In reality ownerships agreements and memberships cause very complex networks, and those networks are changing all the time: divisions, mergers, ownership changes, agreement changes, cooperation with other entities, life-cycles, etc.

What this means to energy efficiency and community energy in Alberta?

1) **There could be a catalogue of different energy information systems.**
2) **There could be clear information of membership, ownership and agreements of different energy information systems.**
3) **There could be some (new?) regulations for keeping the catalogue of different energy information systems up-to-date.**

Here we can note that ownership, agreement and membership are interlinked in different ways. Generally speaking average usage of a system means an unique combination of ownership, agreement and membership. When everything works fine there are not problems. However changes with ownership, agreement and membership can result difficult situations.

[Continues on the next page]

	Owner? Member? Agreement?	OPEN	CLOSED
1. Device / Machinery			
2. Operating system			
3. Program(s)			
4. Data models / Conceptual models			
5. Documents			
6. Databases			
7. Communications			
8. Retrieve / Interface / Display			
9. Add / Interface / Display			
10. Remove / Interface / Display			
11. Change / Interface / Display			

What this means to energy efficiency and community energy in Alberta?

1) **Assessing mentioned issues (previous table) mean a lot of work for different stakeholders.**
2) **Complex networks of membership, ownership and agreements can chance during life-cycles of different information systems.**
3) **Assessing complex networks of membership, ownership and agreements could be done regularly.**

Standards / "standards wars" or "format wars" / Standardisation organisations

Discussion document (Page 8):
Question: What are the most significant barriers to adopting energy efficient and community energy system technologies that are common to all sectors?

Answer: One serious problem is number of different standards.
Answer: This chapter is about different standards.

There are different standards setting organisations on the information technology field. One list [1] of these standards setting organisations is provided by ConsortiumInfo.org.

1 Standard Setting Organizations and Standards List, www.consortiuminfo.org/links/linksall.php

What this means to energy efficiency and community energy in Alberta?

1) **There are several standardisation issues with energy systems.**
2) **There is a need for several standards on different levels.**
3) **There are several standardisation organisations.**
4) **Assessing and selection of standards mean more work.**

One warning can be said about standards setting organisations. All standards setting organisations are not successes based on several factors and there can may irrelevant standards setting organisations. Market situation on different vehicle markets varies a lot based on different factors.

Here we can note some problems:

- some systems are based on **de-facto** standards
- some systems are based on **de-jure** standards
- there can be confrontations between **de-facto** and **de-jure** standards
- there can be a monopoly situation in some domain
- some standards may inhibit possible actions of some stakeholders
- there can be a standard war on some domains
- standards have different life-cycles
- systems have different life-cycles
- there can be mismatches between different life-cycles
- there can be failed standards
- there can be deprecated standards.

It is quite normal situation in the information technology field that there are competing standards for some application field. Therefore there are all the time ongoing “standards wars” or “format wars”. The information technology standards tend to be interrelated and one “standards war” or “format war” can lead to another similar situation.

What this means to energy efficiency and community energy in Alberta?

1) **Different standards should be assessed carefully.**
2) **There could be a catalogue of different standards of energy systems.**
3) **There could be some (new?) regulations for keeping the catalogue of different standards up-to-date.**

I have advocated open standards even though in some cases open standards are not de facto standards. In practice public sector has very important role, when some standards are competing in the market place. Because public sector has a considerable power when buying/developing information systems and therefore public sector can sometimes direct markets to certain standards. Therefore there should be serious vigilance when assessing different standards and “standards” in some application fields.

Proposal: Current standardisation (e.g. list provided by ConsortiumInfo.org) efforts by different organisations could be assessed carefully.

There are differences between horizontal and vertical standards. A simple example is naturally email solutions. There are several vertical standards when creating technically email solutions. Then there are horizontal standards which enable sending messages between technically different email solutions.

Proposal: There could be assessment of vertical and horizontal standards.

Proposal: Using horizontal standards could be favoured when creating different information systems.

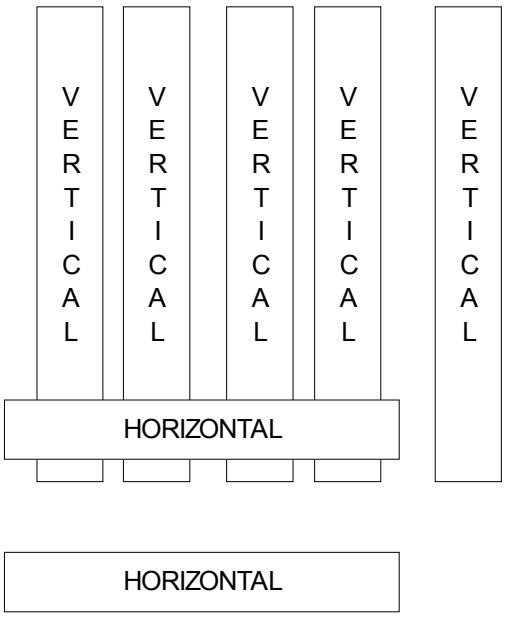
Horizontal standards enables technological solutions which can work together. Horizontal standards hides different complexities in information systems.

Opinion: The number of redundant standardisation efforts should be minimal.

Proposal: There could be separation of horizontal standards and vertical standards.

Proposal: There could be different standardisation efforts to horizontal standards and vertical standards.

Personally I have advocated using different horizontal standards. For example email standards (horizontal) are implemented with very different technologies (vertical).



Proposal: Governments should especially concentrate on open horizontal standards.

Proposal: Some government agencies could apply for memberships of different standard setting organisations which develop especially open horizontal standards.

Proposal: Government agencies should not be passive by-standers when different open horizontal standards are developed.

Proposal: Government agencies could financially support development of open horizontal standards.

Here we can note that developing horizontal standards is very demanding compared to developing vertical standards.

What this means to energy efficiency and community energy in Alberta?

1) **There can be different standardisation organisations which provide different standards.**
2) **There can be competing horizontal standards.**
3) **Some government agencies (Alberta) could join some standardisation organisations which develop especially open horizontal standards,**
4) **Some government agencies (Alberta) could fund development of open horizontal standards.**

More and more new identifiers (ID) / Challenges to privacy?

In the previous consultations there has been discussion about different identifiers (ID) in different information systems. It can be noted from the previous opinions that there will be several and different identifiers (ID) for different levels.

Examples of these identifiers (ID) are following:

1) Facebook ID for an individual person
2) Facebook ID for the individual up-dates of individuals
3) Data Universal Numbering System (D-U-N-S)
4) Reuters instruments codes (RICs)
5) Social security code for individual citizens in the European Union member states
6) Business identity code for a company in an European Union member state
7) Value added tax code for a company in an European Union member state.

The examples of private identifiers (Facebook IDs, Data Universal Numbering System (D-U-N-S), Reuters Instrumens Codes (RICs)) show, that persons and/or communities can use or even demand of using identifiers (ID) from privately owned information systems.

Proposal: There could be a systematic review of different identifiers (ID) on different levels.

Proposal: Possible systematic review of different identifiers (ID) should assess different

situations.

Different information systems have also internal identifiers (ID) and external identifiers (ID) for (possible) public usage. The added value for different stakeholders is provided by combination of different identifiers (ID) in a specific information system.

Proposal: The could be some assessment(s) based on different versions of different identifiers (ID).

It can be possible, that there are some legacy identifiers (ID) in the near future. It can be possible, that gradually some legacy identifiers (ID) can be consolidated for more standardised identifiers (ID), but this consolidation means some serious technical and administrative actions.

Proposal: Legacy identifiers (ID) could be assessed seriously.

When information about relevant identifiers is collected, there could be a serious assessment of possible (near) monopoly situation of some identifiers. Depending on the nature of an identifier, there may be a need for serious (anti-trust?) negotiations with providers of some identifiers.

Proposal: The nature of different identifiers (ID) could be assessed.

Proposal: There could be serious negotiations with some providers of identifiers (ID).

In the European Union there has been different anti-trust cases which are related to different private sector identifiers (ID), since some of those private sector identifiers (ID) have been used in several other systems. Some private sector identifiers (ID) can mean a (near) monopoly situation.

What this means to energy efficiency and community energy in Alberta?

1) **Number of different identifiers (ID) is increasing – not decreasing**
2) **New identifiers (ID) mean a lot work for creating and/or updating of different information systems – also in Alberta.**
3) **There can new identifiers (ID) which are related to energy systems.**
4) **There can public and private identifiers (ID).**
5) **Some private identifiers (ID) can limit actions of different stakeholders.**
6) **Different identifiers (ID) related to energy systems could be assessed carefully.**
7) **There could be some discussions with communities which provide private identifiers (ID).**
8) **Monopoly situation with some private identifiers (ID) could be assessed.**

From the discussion document we can note pages 11-12 which gives us examples of energy efficient technologies and practices.

What this means to energy efficiency and community energy in Alberta?

1) **Almost all technologies mentioned on pages 11-12 (discussion document) mean more identifiers (ID).**

An example for cooperation: Web feeds (RSS and Atom)

I have advocated usage of web feeds on several previous opinion documents. Actually there are two standards for web feeds: RSS [2] [3] and Atom [4] [5] [6].

Proposal: Web feeds could be advocated when developing different informations systems.

Proposal: Web feeds (RSS and/or Atom) should be used extensively for providing (real-time) information for different stakeholder(s) (communities).

Proposal: There can be different web feeds (RSS and/or Atom) for different stakeholder(s) – having just one web feed (RSS and/or Atom) may not be a feasible solution.

Proposal: Several web feeds (RSS and/or Atom) can be based on different viewpoints.

It can be easier to create web feeds in different information systems since web feeds enable connections without direct system-to-system connections.

It can be noted, that different back-office systems (with a wide variety of different technologies) can implement RSS standards, and these RSS feeds can be used in the front-office systems. With this kind solutions front-office systems dont need direct system-to-system communications with back-office systems.

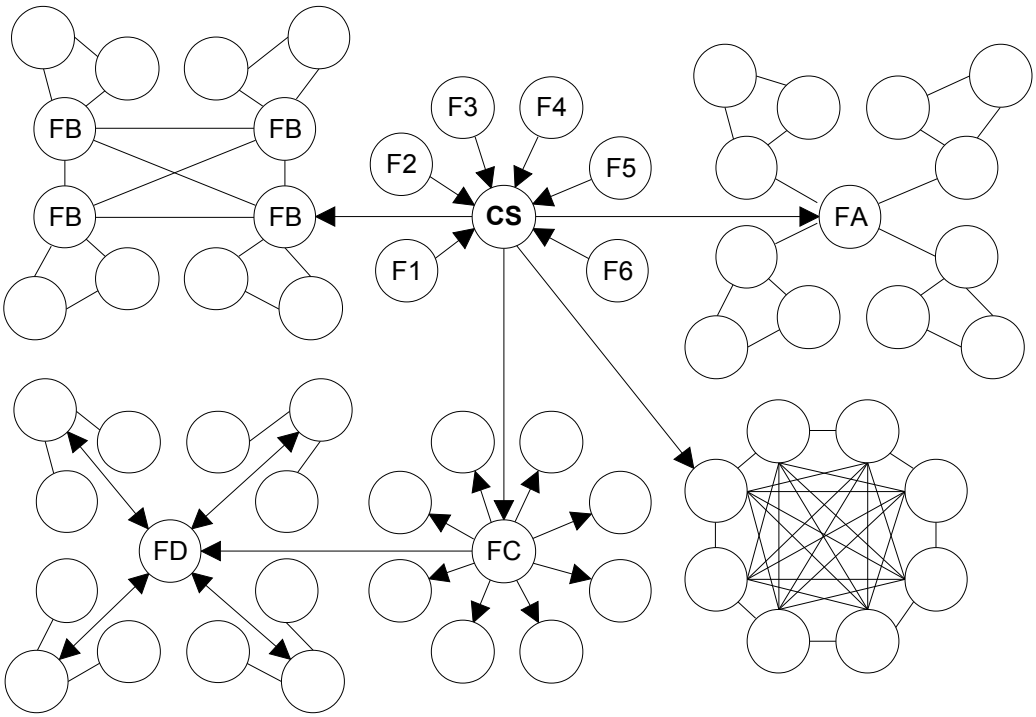
What this means to energy efficiency and community energy in Alberta?

1) **Web feeds (RSS and/or Atom) could be used extensively.**
2) **There can be several web feeds (RSS and/or Atom) for different stakeholders.**

Complex networks of different systems?

[Continues on the next page]

2 http://www.rssboard.org/rss-specification, RSS 2.0 Specification
3 https://en.wikipedia.org/wiki/RSS, Wikipedia / RSS
4 https://en.wikipedia.org/wiki/Atom_(standard), Wikipedia / Atom (standard)
5 https://tools.ietf.org/html/rfc4287, The Atom Syndication Format
6 https://tools.ietf.org/html/rfc5023, The Atom Publishing Protocol



Based on previous issues (web feeds) we can note that there can several formats (e.eg. 1-6, A-D) for transmitting information from some central (CS) information system. Some formats may be non-standard or standard.

What this means to energy efficiency and community energy in Alberta?

1) **There could be one central information system for energy issues which collects information from other energy systems.**
2) **One central information system for energy issue could be based on web feed standards (RSS and/or Atom).**
3) **One central information system for energy issues could provide several web feeds for different stakeholders.**

One issue for central information system for energy issues could be security issus. Security notifications should be transmitted very fast for different stakeholders.

What this means to energy efficiency and community energy in Alberta?

1) **There could be some regulations about security notifications.**
2) **There could be one central information system which collects security notifications.**
3) **One central information system could forward security notifications to other information systems.**

Important factors?

Discussion document (Page 14):
Question: What are the most important factors in determining which technologies and practices should be included in energy efficiency and community energy programs?

Answer: Here we can reiterate need for open standards and especially open horizontal standards.
Answer: Government agencies (Alberta) should advance development of open horizontal standards.

Proposal: More technically oriented consultations

Based on answers (this consultation) there could be more technically oriented consultations.
Previously mentioned issues could be detailed for new technically oriented consultations.

Good luck!

This opinion is quite limited and probably other opinions will result some constructive ideas.

[Continues on the next page]

418
419 **ANNEX 1**
420
421 I have constructed different opinions about different issues, and on the following web page
422 are all written (PDF files) opinions:
423 http://www.jukkarannila.fi/lausunnot.html
424
425 **I have constructed specifically opinions related to information systems – both in English and**
426 **in Finnish. Here is the list of opinions related to information systems.**
427
428 EN: Opinion 8: European Interoperability Framework, version 2, draft
429 http://www.jukkarannila.fi/lausunnot.html#nro_8
430
431 EN: Opinion 9: CAMSS: Common Assessment Method for Standards and Specifications, CAMSS
432 proposal for comments
433 http://www.jukkarannila.fi/lausunnot.html#nro_9
434
435 EN:Opinion 13: Final Committee Draft ISO/IEC FCD3 19763-2
436 http://www.jukkarannila.fi/lausunnot.html#nro_13
437
438 EN: Opinion 14: SFS discussion paper / SFS:n keskusteluasiakirja
439 http://www.jukkarannila.fi/lausunnot.html#nro_14
440
441 EN: Opinion 17: Opinion to Antitrust Case No. COMP/C-3/39.530
442 http://www.jukkarannila.fi/lausunnot.html#nro_17
443
444 EN: Opinion 18: Opinion Related to the Public Undertaking by Microsoft
445 http://www.jukkarannila.fi/lausunnot.html#nro_18
446
447 EN: Opinion 19: Official Acknowledgement by the Commission
448 http://www.jukkarannila.fi/lausunnot.html#nro_19
449
450 EN: Opinion 20: SECOND Opinion Related to the Public Undertaking by Microsoft
451 http://www.jukkarannila.fi/lausunnot.html#nro_20
452
453 EN: Opinion 21: Opinion about the European Interoperability Strategy proposal
454 http://www.jukkarannila.fi/lausunnot.html#nro_21
455
456 EN: Opinion 23: Public consultation on the review of the European Standardisation System
457 http://www.jukkarannila.fi/lausunnot.html#nro_23
458
459 EN: Opinion 24: ISO/IEC JTC 1 / SC 34 / WGs 1, 4 and 5 in Helsinki 14-17 June 2010
460 http://www.jukkarannila.fi/lausunnot.html#nro_24
461 FI: Lausunto 29: Avoimen demokratian avoimen datan avaamisen detaljit (ADADAD)
462 http://www.jukkarannila.fi/lausunnot.html#nro_29

EN: Opinion 30: Internet Filtering
http://www.jukkarannila.fi/lausunnot.html#nro_30

FI: Lausunto 31: Terveydenhuollon tietotekniikasta
http://www.jukkarannila.fi/lausunnot.html#nro_31

EN: Opinion 32: COMP/C-3/39.692/IBM - Maintenance services
http://www.jukkarannila.fi/lausunnot.html#nro_32

FI: Lausunto 33: Julkishallinnon tietoluovutusten periaatteet ja käytännöt
http://www.jukkarannila.fi/lausunnot.html#nro_33

EN: Opinion 34: REMIT Registration Format
http://www.jukkarannila.fi/lausunnot.html#nro_34

EN: Opinion 37: CASE COMP/39.654 - Reuters instrument codes
http://www.jukkarannila.fi/lausunnot.html#nro_37

FI: Lausunto 38: SADe-ohjelman avoimen lähdekoodin toimintamallin luonnos
http://www.jukkarannila.fi/lausunnot.html#nro_38

EN: Opinion 39: Registry options to facilitate linking of emissions trading systems
http://www.jukkarannila.fi/lausunnot.html#nro_39

EN: Opinion 41: AT.39398: observations on the proposed commitments
http://www.jukkarannila.fi/lausunnot.html#nro_41

EN: Opinion 43: Publication of extracts of the European register of market participants
http://www.jukkarannila.fi/lausunnot.html#nro_43

EN: Opinion 45: About ICT standardisation
http://www.jukkarannila.fi/lausunnot.html#nro_45

EN: Opinion 46: Review of the EU copyright rules
http://www.jukkarannila.fi/lausunnot.html#nro_46

EN: Opinion 47: Sharing or collaborating with government documents
http://www.jukkarannila.fi/lausunnot.html#nro_47

FI: Lausunto 49: JSH 166 -suosituksen päivitys
http://www.jukkarannila.fi/lausunnot.html#nro_49

EN: Opinion 52: Trusted Cloud Europe Survey
http://www.jukkarannila.fi/lausunnot.html#nro_52

EN: Opinion 53: Trade Reporting User Manual (TRUM) (Draft)
http://www.jukkarannila.fi/lausunnot.html#nro_53

EN: Opinion 54: Government Content Management System
http://www.jukkarannila.fi/lausunnot.html#nro_54

EN: Opinion 55: European Energy Regulation
http://www.jukkarannila.fi/lausunnot.html#nro_55

EN: Opinion 56: National Identity Proofing Guidelines
http://www.jukkarannila.fi/lausunnot.html#nro_56

FI: Lausunto 58: Puoluekokousaloitteet / 2010 ja 2014
http://www.jukkarannila.fi/lausunnot.html#nro_58

EN: Opinion 59: Green paper on mobile Health
http://www.jukkarannila.fi/lausunnot.html#nro_59

EN: Opinion 60: Cross-border inheritance tax problems within the EU
http://www.jukkarannila.fi/lausunnot.html#nro_60

EN: Opinion 61: European Register of Products Containing Nanomaterials
http://www.jukkarannila.fi/lausunnot.html#nro_61

FI: Lausunto 65: Lausuntopyyntö nettiäänestystyöryhmän väliraportista
http://www.jukkarannila.fi/lausunnot.html#nro_65

EN: Opinion 66: Net Innovation for the Work Programme 2016-2017
http://www.jukkarannila.fi/lausunnot.html#nro_66

FI: Lausunto 67: Valtioneuvoston hanketiedon esiselvityksestä
http://www.jukkarannila.fi/lausunnot.html#nro_67

EN: Opinion 68: European Network Code Stakeholder Committees
http://www.jukkarannila.fi/lausunnot.html#nro_68

FI: Lausunto 69: Hallituksen esitys (luonnos 16.4.2015) vieraslajeista
http://www.jukkarannila.fi/lausunnot.html#nro_69

EN: Opinion 70: Providing better APIs in New Zealand
http://www.jukkarannila.fi/lausunnot.html#nro_70

EN: Opinion 71: Common Schema for the Disclosure of Inside Information
http://www.jukkarannila.fi/lausunnot.html#nro_71

EN: Opinion 72: Queensland biofuel mandate
http://www.jukkarannila.fi/lausunnot.html#nro_72

EN: Opinion 73: Financial / Conceptual Frameworks
http://www.jukkarannila.fi/lausunnot.html#nro_73

EN: Opinion 74: Enabling the Internet of Things
http://www.jukkarannila.fi/lausunnot.html#nro_74

EN: Opinion 78: Consumer Complaints Register (NSW)
http://www.jukkarannila.fi/lausunnot.html#nro_78

EN: Opinion 79: PCEHR (Information Commissioner Enforcement Powers) Guidelines 2015
http://www.jukkarannila.fi/lausunnot.html#nro_79

EN: Opinion 80: Mandatory Transparency Register
http://www.jukkarannila.fi/lausunnot.html#nro_80

EN: Opinion 81: Records and Information Management Standard
http://www.jukkarannila.fi/lausunnot.html#nro_81

EN: Opinion 84: Revision of the European Interoperability Framework
http://www.jukkarannila.fi/lausunnot.html#nro_84

EN: Opinion 85: Regulatory options for automated vehicles
http://www.jukkarannila.fi/lausunnot.html#nro_85

EN: Opinion 86: 2016 Annual Colloquium on fundamental rights
http://www.jukkarannila.fi/lausunnot.html#nro_86

EN: Opinion 87: Assessing privacy and big data on the Internet
http://www.jukkarannila.fi/lausunnot.html#nro_87

EN: Opinion 88: Evaluation and Review of the ePrivacy Directive
http://www.jukkarannila.fi/lausunnot.html#nro_88

EN: Opinion 89: BEREC Guidelines for net neutrality rules
http://www.jukkarannila.fi/lausunnot.html#nro_89

EN: Opinion 90: Consent / Information and Privacy Commission NSW (IPC)
http://www.jukkarannila.fi/lausunnot.html#nro_90

EN: Opinion 91: Draft New Plan on Open Government 2016-2018
http://www.jukkarannila.fi/lausunnot.html#nro_91

ANNEX 2

DISCLAIMERS

Legal disclaimer:

All opinions in this opinion paper are personal opinions and they do not represent opinions of any legal entity I am member either by law or voluntarily. This opinion paper is only intended to trigger thinking and it is not legal advice. This opinion paper does not apply to any past, current or future legal entity. This opinion paper will not cover any of the future changes in this fast-developing area. Any actions made based on this opinion is solely responsibility of respective actor making those actions.

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These opinions are not meant to rally for a candidacy in any public election in any level.

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Use of broken English

This text is in English, but from a person, whose is not a native English-speaking person. Therefore the text may or may not contain bad, odd and broken English, and can contain awkward linguistic solutions.

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7 Based on the Finnish three-party system there is a phenomenon called extreme-centre in Finland. The 2011 parliamentary elections in Finland challenged the three-party system, since three “old” parties were not traditionally as the three largest parties. On 2015 this “new” party is part of the current Finnish Government. We all must be interested about this new development in Finland.