

CERN

Environmental Report 2017



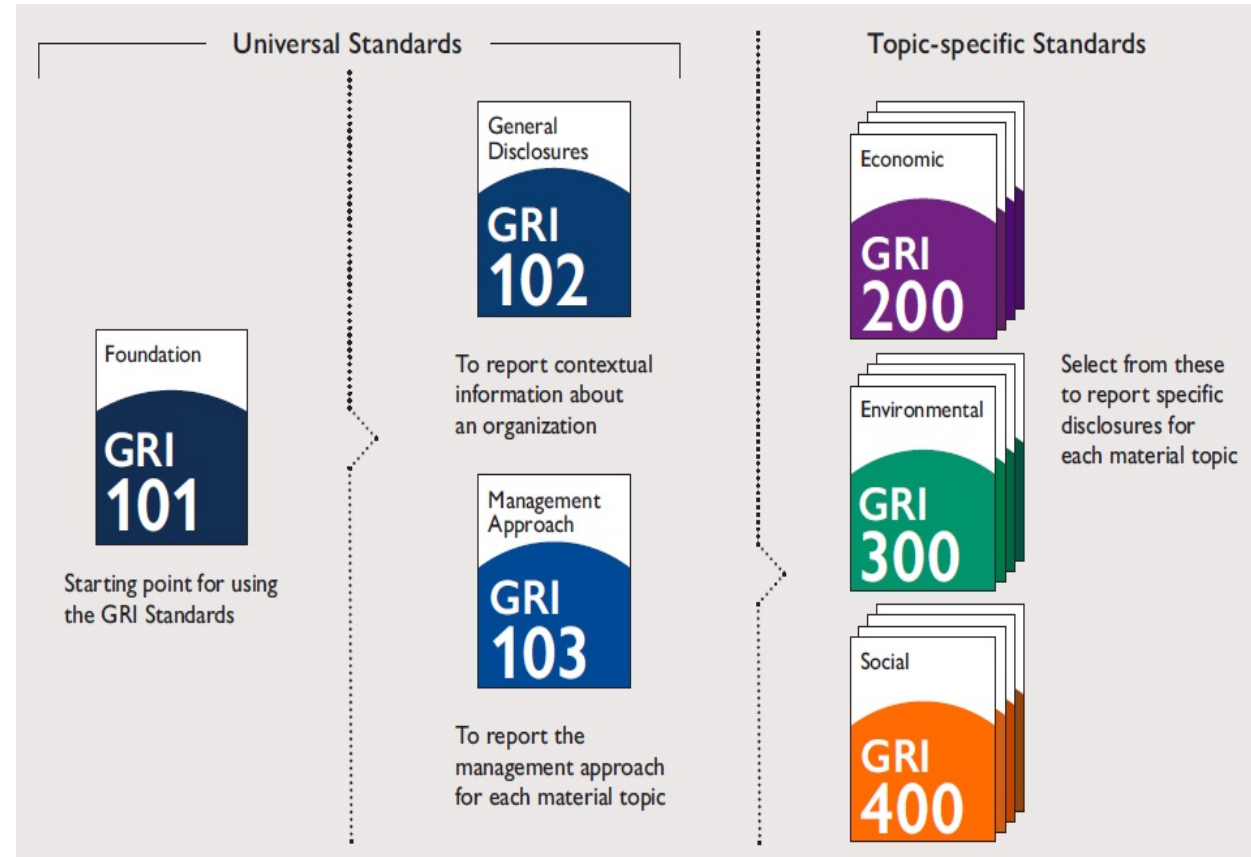
Reporting Standard



- In accordance with the Global Reporting Initiative (GRI) Standards Reporting Guidelines.
- The information in this report covers the period 2011-2017.

What is GRI?

- GRI is an international independent non-profit organization
 - aids governments, NGOs, businesses and civil society **understand, measure, and report their impacts on sustainability issues**
 - **clear and transparent** manner by providing globally-accepted reporting standards.



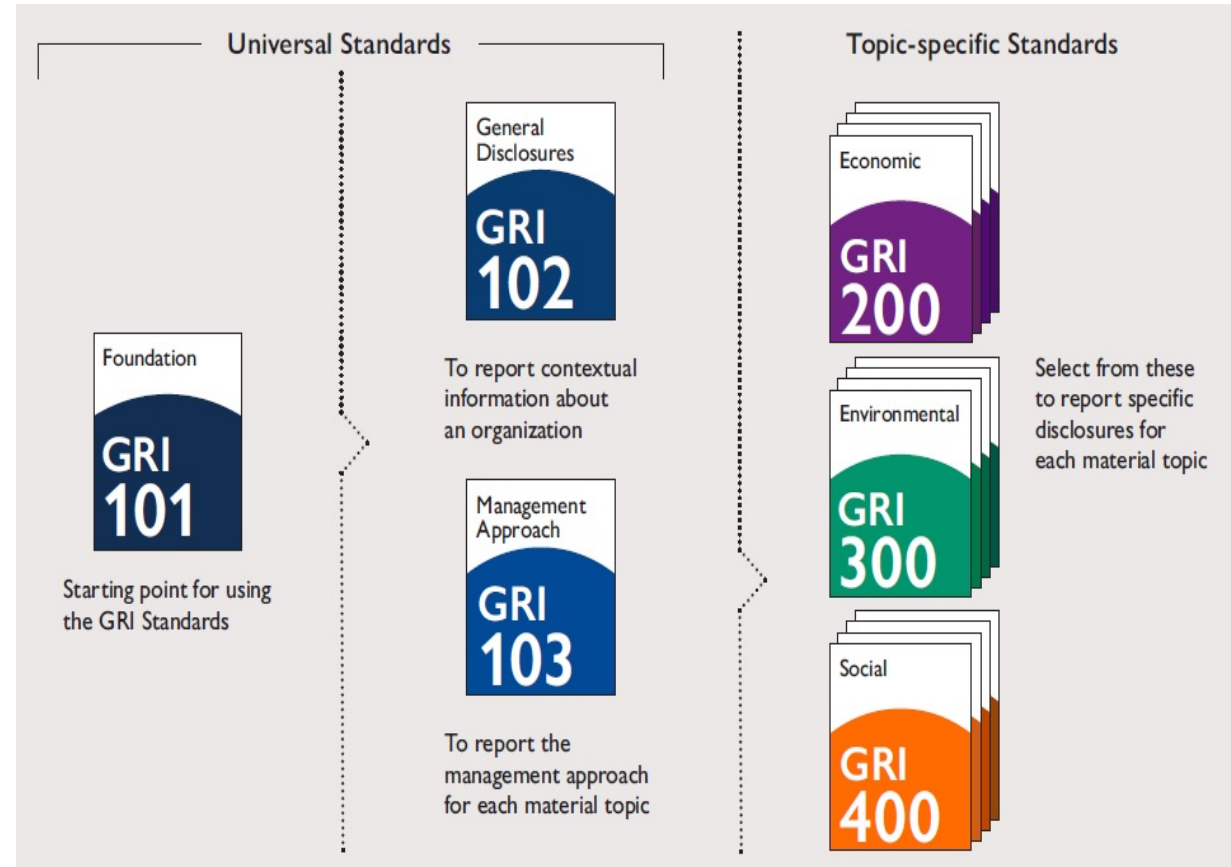
Most widely used standards on sustainability reporting



- 82% of the world's largest 250 corporations
- 38 governments reference GRI in their reporting
- Many governments are on GRI's Governmental Advisory Group, including 11 CERN Member States

Disclosures

- GRI General
- GRI Environmental disclosures
- Disclosures for CERN's material topics
- Data for some disclosures
 - data tables
 - full discussion



General Disclosures



Click on the organizational mark at the link below.

https://www.globalreporting.org/services/alignment/Content_Index_Service/Pages/default.aspx

Disclosures

We report the GRI General and GRI Environmental disclosures, as well as disclosures for CERN's material topics. Data for some disclosures is provided directly in the data tables, while for other disclosures we indicate in the content index where the data and a more full discussion on the disclosure can be found. This first report reflects the status at 31 December 2017.

GRI Content Index: General Disclosures

Number of Disclosure	Title of Disclosure	Content or location
	<i>Organizational Profile</i>	
102-1	Name of the organization	European Organization for Nuclear Research (CERN)
102-2	Activities	CERN Annual Report 2016 http://library.cern/annual-reports
102-3	Location of headquarters	1211 Geneva 23, Switzerland
102-4	Location of operations	The CERN Laboratory is located on the Franco-Swiss border near Geneva.
102-5	Ownership and legal form	CERN is an intergovernmental organization. CERN General Information Sheet, https://cds.cern.ch/record/2022245?ln=en (URL needs updating)
102-6	Markets served	N/A. CERN is laboratory for particle physics.
102-7	Scale of the organization	CERN General Information Sheet, p.2 number of employees https://cds.cern.ch/record/2022245?ln=en
102-8	Information on employees and other workers	CERN Personnel Statistics 2015, http://cds.cern.ch/record/2154389/files/CERN-HR-STAFF-STAT-2015.pdf
102-9	Supply chain	In 2016, CERN had 5,569 suppliers from 57 countries. CERN payments to suppliers can be found in the annual report http://library.cern/annual-reports
102-10	Significant changes to the organization and its supply chain	Romania became a member state in 2016. There were no significant changes to the supply chain.
102-11	Precautionary Principle or approach	The CERN Safety Policy https://edms.cern.ch/ui/file/1416908/LAST_RELEASED/SafetyPolicyEN.pdf
102-12	External initiatives	CERN supports the UN Sustainable Development Goals (SDG), and the UN Global Compact . CERN's Environmental protection domains are aligned to the SDGs where applicable
102-13	Membership of associations	European Physical Society
	<i>Strategy</i>	
102-14	Statement from senior decision-maker	Page 5
	<i>Ethics and integrity</i>	
102-16	Values, principles, standards, and norms of behaviour	CERN Code of Conduct, http://hr-dep.web.cern.ch/content/cern-code-conduct-its-all
	<i>Governance</i>	
102-18	Governance structure	http://home.cern/about/structure-cern
	<i>Stakeholder engagement</i>	

Material Topics

- *Organizational Profile*
- *Strategy*
- *Ethics and integrity*
- *Governance*
- *Stakeholder engagement*
- *Reporting practice*

Topic-Specific Disclosures: Environment

GRI Content Index: Environment

Number and Title of Disclosure	Description of Disclosure	Page number
MATERIAL TOPIC : ENERGY		
302-1	Energy consumption within the organization.	27, 45, 47
302-2	Energy consumption outside of the organization	
302-3	<u>Energy intensity</u>	45
302-4	<u>Reduction in energy consumption</u>	27, 45
302-5	Reductions in energy requirements of products and services	
MATERIAL TOPIC : WATER		
303-1	Total water withdrawal by source	14, 45
303-2	Water sources significantly affected by withdrawal of water	45
303-3	Water <u>recycled</u> and <u>reused</u>	46
MATERIAL TOPIC : BIODIVERSITY		
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	31-32
304-2	Significant impacts of activities, products, and services on biodiversity	32
304-3	Habitats <u>protected</u> or <u>restored</u>	32-33
304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations.	33
MATERIAL TOPIC : EMISSIONS		
305-1	Direct Greenhouse Gas (GHG) emissions (Scope 1)	12, 46
305-2	Energy indirect Greenhouse Gas (GHG) emissions (Scope 2)	46
305-3	Other indirect Greenhouse Gas (GHG) emissions (Scope 3)	
305-4	GHG <u>emissions intensity</u>	46
305-5	Reduction of Greenhouse Gas (GHG) emissions	
305-6	Emissions of ozone-depleting substances (ODS)	46
305-7	NO _x , <u>SO_x</u> , and other significant air emissions	46

• MATERIAL TOPIC :

- ENERGY

- WATER

- BIODIVERSITY

- EMISSIONS

- EFFLUENT and WASTE

- ENVIRONMENTAL COMPLIANCE

- SUPPLIER ENVIRONMENTAL ASSESSMENT

CERN-Specific: Sector Disclosures

- No sector disclosures for particle accelerators
- Self-report additional Material Topics

AIRPORT OPERATORS 

FOOD PROCESSING 

CONSTRUCTION AND REAL ESTATE 

MEDIA 

ELECTRIC UTILITIES 

MINING AND METALS 

EVENT ORGANIZERS 

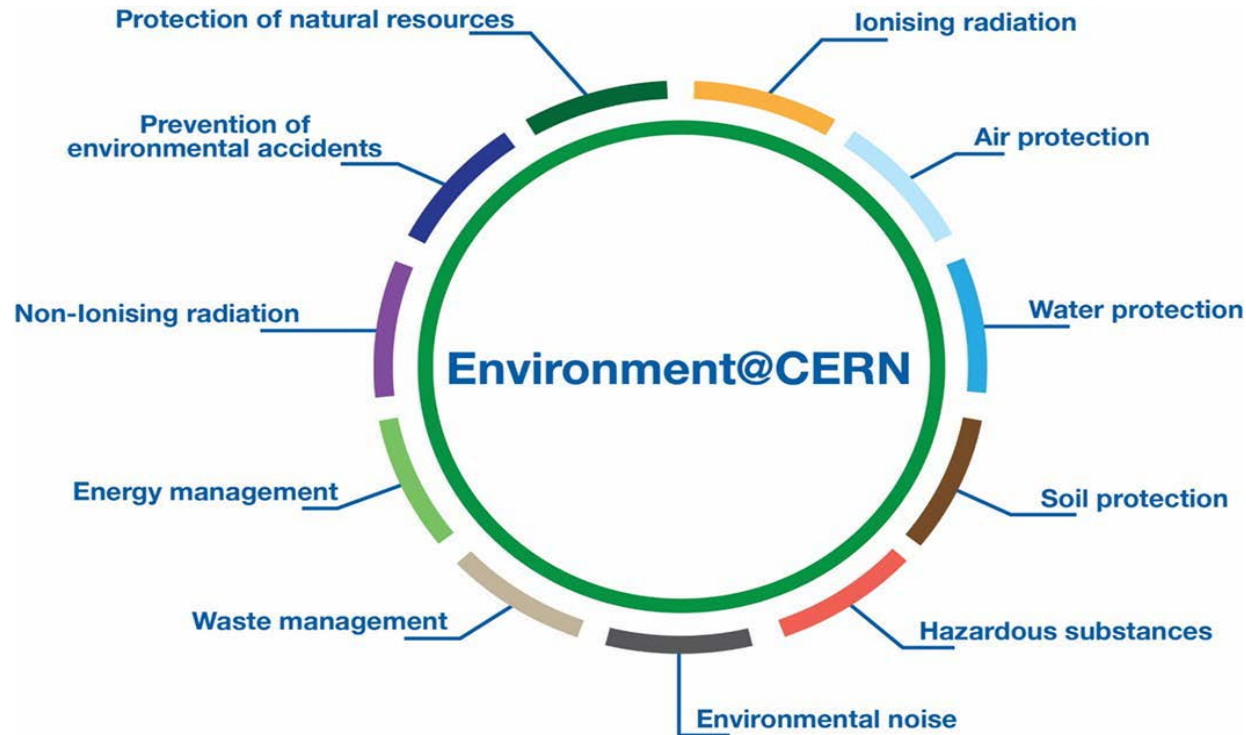
NGO 

FINANCIAL SERVICES 

OIL AND GAS 

Determine Material Topics via stakeholder consultation

(Member States, Host State Authorities, Local Communities)



- Resulting CERN Material topics

Sustainable Development Goals (SDGs)

- CERN's approach aligned to SDGs, a UN initiative
- 17 Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development,
 - officially came into force on 1 January 2016.
 - build on the success of the Millennium Development Goals (MDGs).
 - The SDGs and their targets in the new agenda define worldwide priorities until 2030.



SUSTAINABLE
DEVELOPMENT
GOALS



CERN supports the Sustainability Development Goals

CERN already supports 5 SDGs simply by carrying out its mission



- Goal 3: Medical scanners and accelerators for hadron therapy
- Goal 4: Educational programmes
- Goal 9: Knowledge transfer activities
- Goal 16: At the foundation of CERN, and in our governing convention
- Goal 17: CERN is a model for global cooperation in science

CERN and the ENVIRONMENT



Air Protection

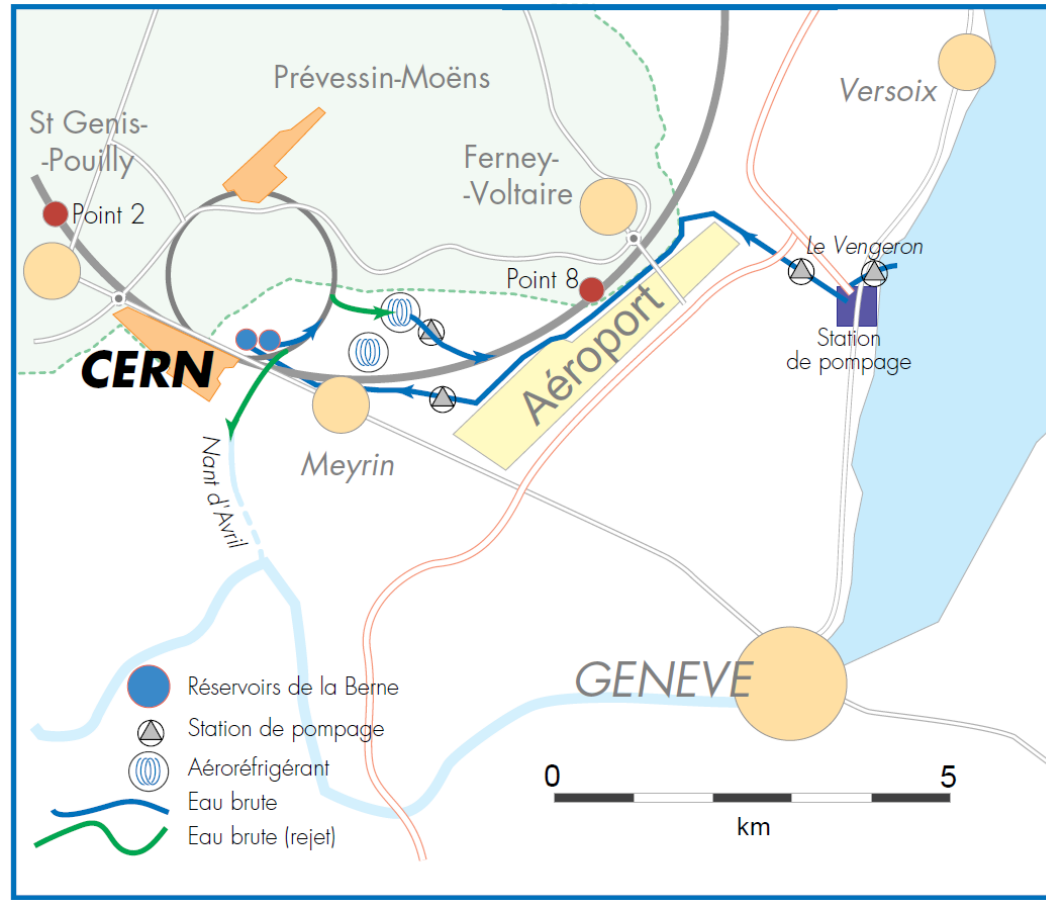


CERN supports the Sustainable Development Goals: Air protection

Goal 3: Ensure healthy lives and promote well-being for all at all ages. Target: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.



Water Management



CERN supports the Sustainable Development Goals: Water Management

Goal 3: Ensure healthy lives and promote well-being for all at all ages. Target: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.



Soil Management

CERN supports the Sustainable Development Goals: Soil protection

Goal 3: Ensure healthy lives and promote well-being for all at all ages. Target: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.



Hazardous Substances

CERN supports the Sustainable Development Goals: Hazardous substances

Goal 3: Ensure healthy lives and promote well-being for all at all ages. Target: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.



Environmental Noise



Waste Management

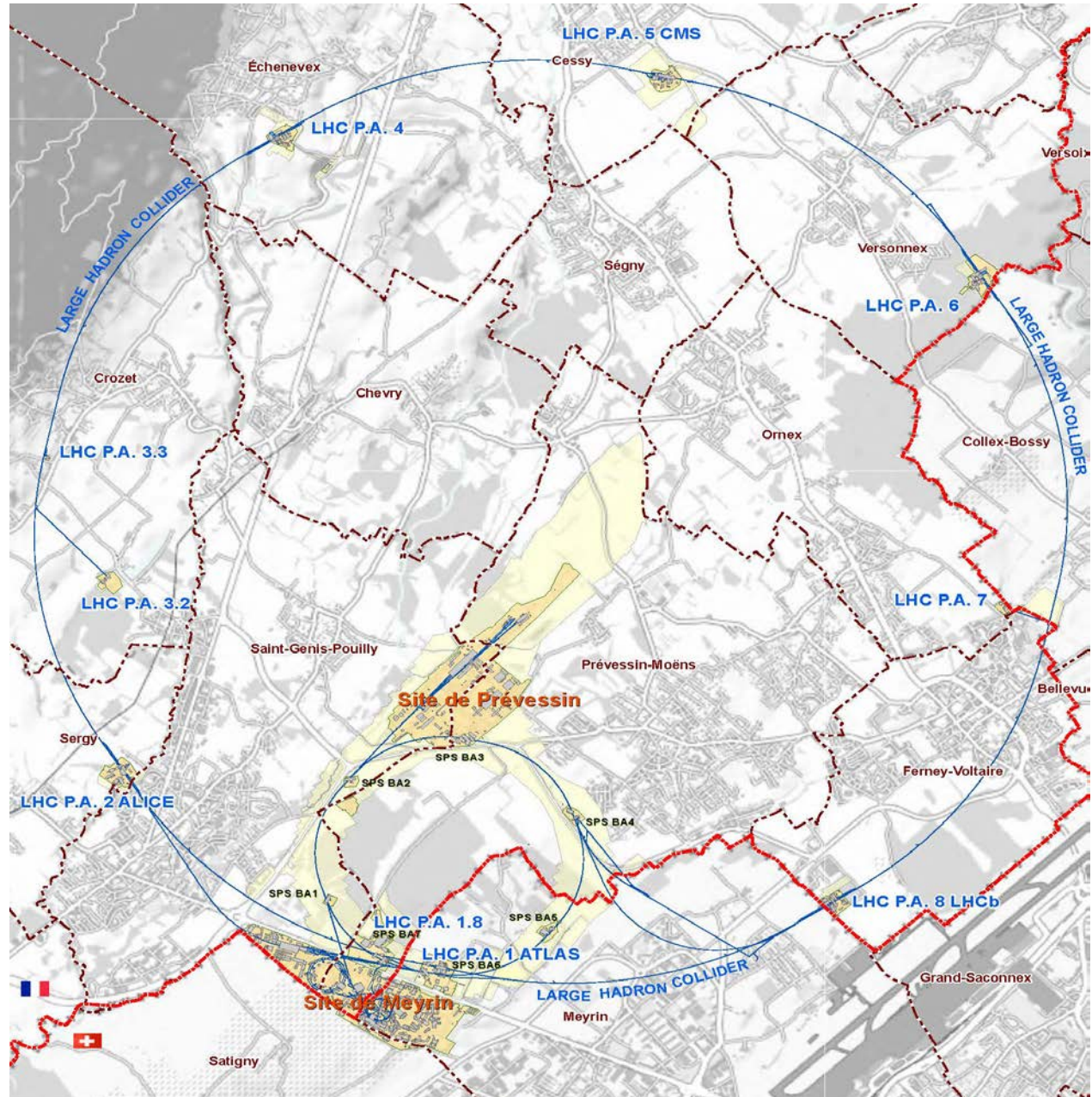


- Encouraging waste sorting and recycling
- Awareness Campaign in Nov
- Fully Electric Waste Collection Vehicle
- Solar Powered Waste Bins
- Biogas from Food Waste

Energy management



Green Spaces



Protection of Natural Resources



Flora



Green Roofs



Learnings

...«in accordance with GRI Reporting Initiative (GRI) Standards Reporting Guidelines».

Accurate

Balanced

Clear

Comparable

Reliable

Timely

External Assurance

Paper writing in spare time

**MICROCHANNEL DEFINITION FOR TWO-PHASE
FLOW BOILING: DEFINING A CRITICAL
DIMENSION**

Yvonne Moussy¹, Arthur David Snider^{2*}

¹CERN, CH-1211 Geneva 23, Switzerland

²University of South Florida, Tampa, Florida
33620, USA

**A method for determining the best range of
applicability of two-phase flow heat transfer
correlations for increased accuracy**

Yvonne Moussy ^{a,*}, Zhan Zhang ^b, Paolo Petagna ^a

^a Experimental Physics, Detector Technology,
CERN, CH-1211 Geneva 23, Switzerland

^b Experimental Physics, UGC, CERN Preveessin,
01280 Saint-Genis-Pouilly, France

*Corresponding author.

E-mail address: yvonne.moussy@cern.ch (Y.
Moussy)

Current address: HSE-SEE, CERN, CH-1211
Geneva 23, Switzerland

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Let us know your comments and suggestions on this report and our performance by writing to:

communication.locale@cern.ch



<https://www.unglobalcompact.org/participation/getting-started/brand-guidelines>

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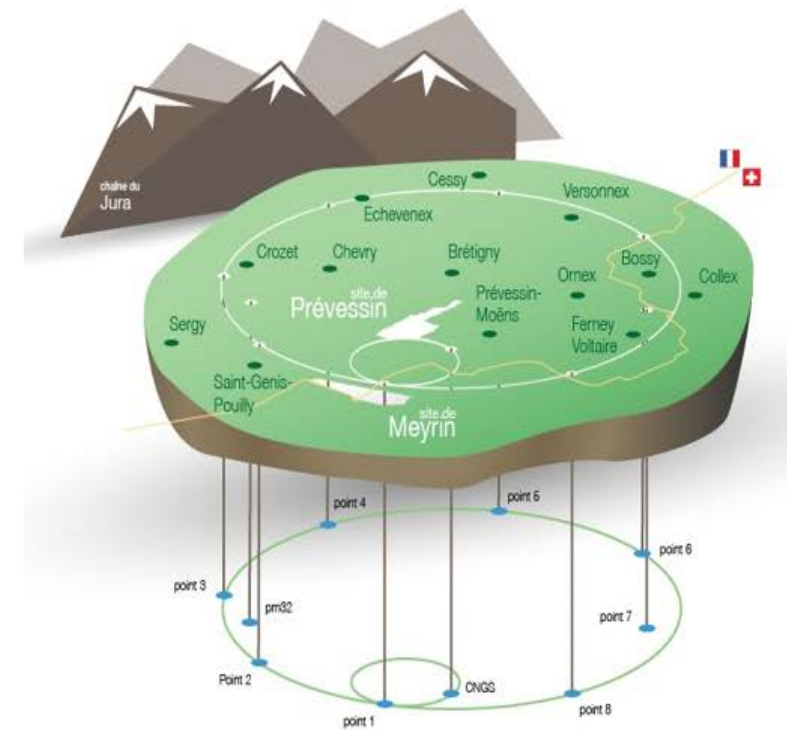
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Google+

[Youtube](#)

Instagram

CERN
CH-1211 Geneva 23
Switzerland



<http://voisins.web.cern.ch/en/welcome>