

# Citizen oriented information and transparent data presentation of Yellow Cake production in Romania?

Need for a GIS-based Nuclear-Geoportal in Feldioara, Romania

Michael Orleanu, Centrul de Ecologie Montana, 2023



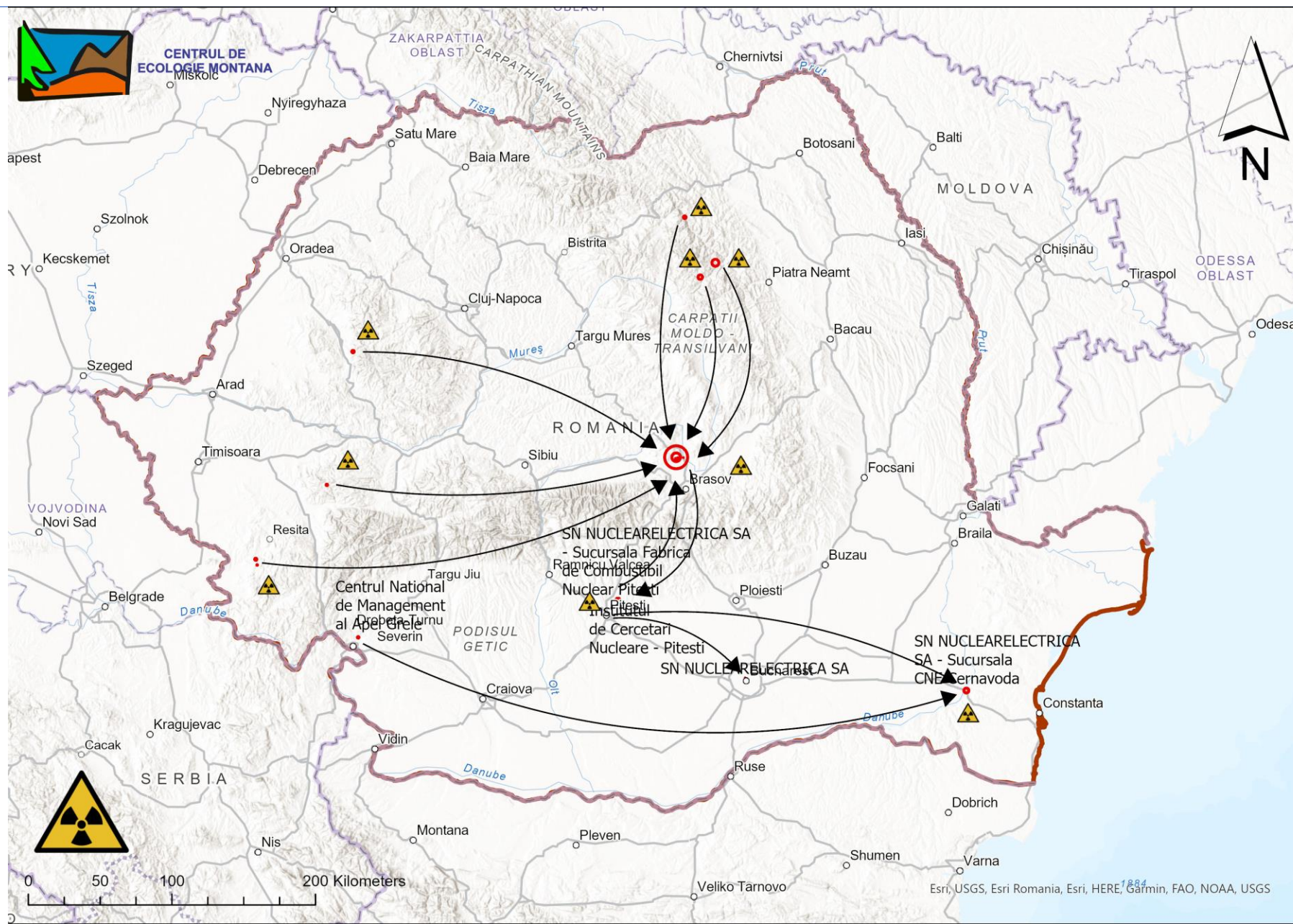
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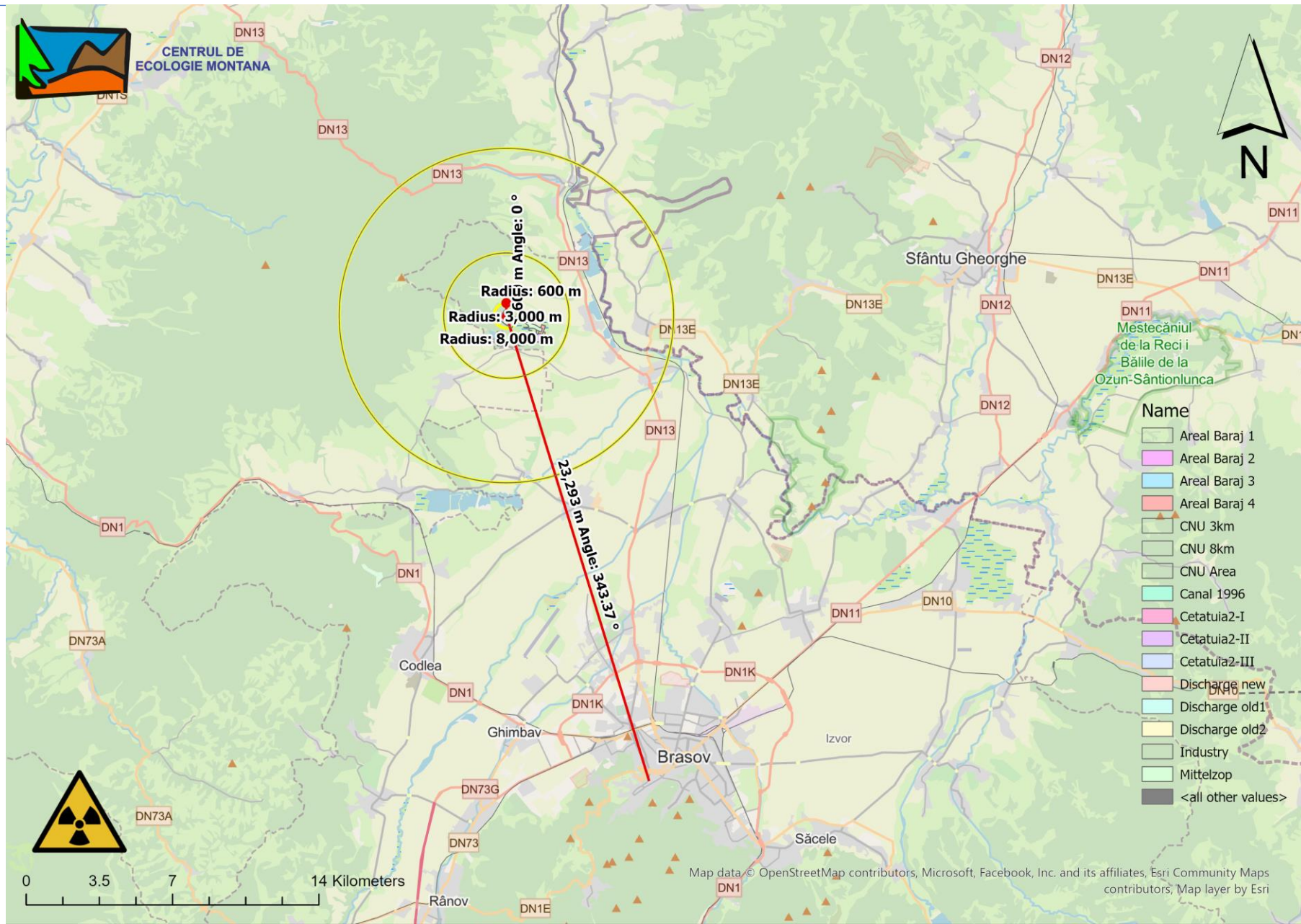
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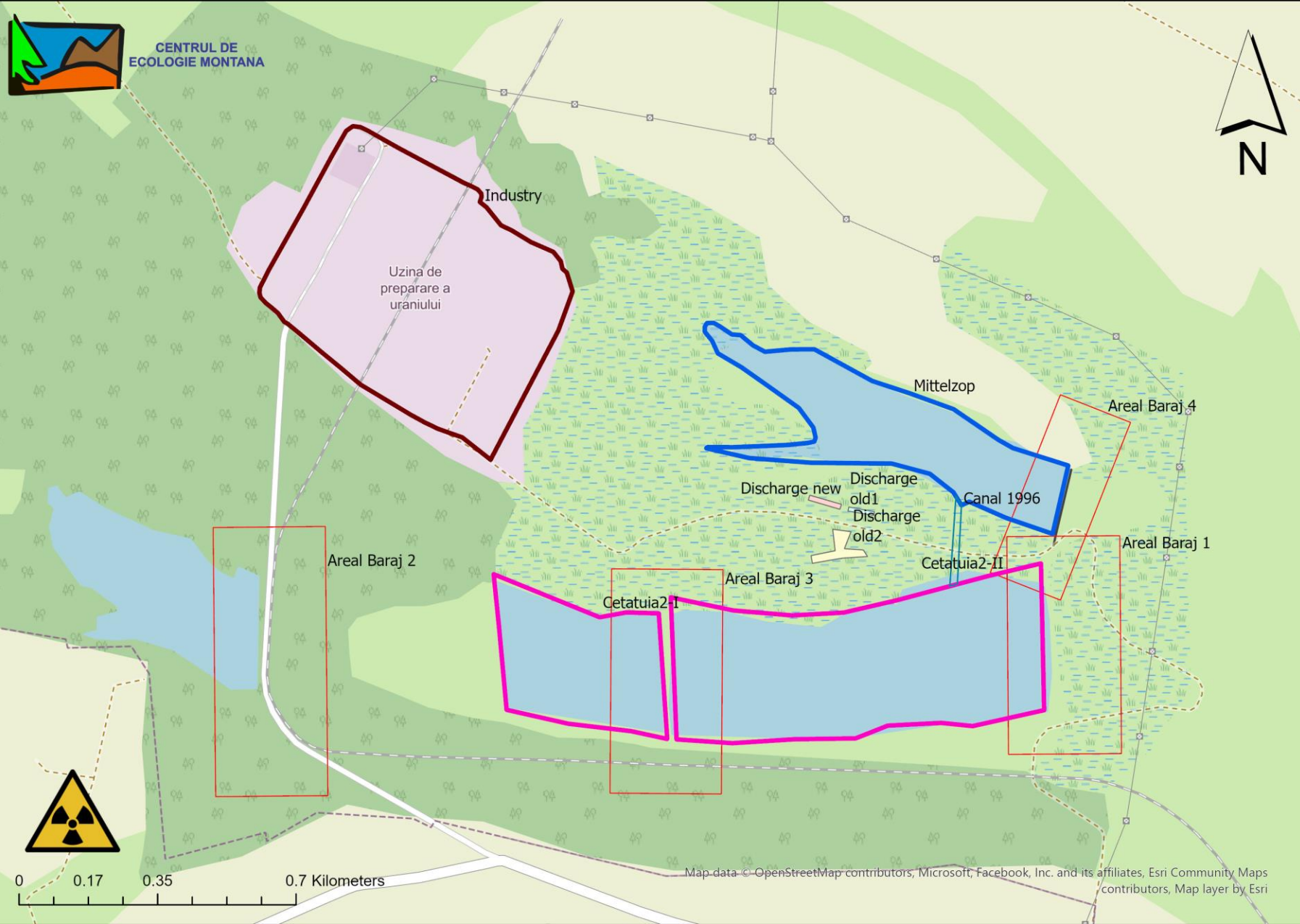


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CNU - Feldioara Subsidiary	CNU Feldioara Subsidiary is located at about 30 km from the Brasov town (250,000 inhabitants). Since the commissioning of the plant, the tailings resulted from the milling process were discharged in 2 special insulated tailings ponds, under a variable water strata, located at 600 m from the plant area.
Insulation system	The location and insulation system were realized taking into account the “National safety standards for geological research, radioactive raw materials mining and milling”, issued in 1975. The geographic criteria were the presence of a clay deposit within the area, enhancing the possibilities for a good insulation, and also the presence of the Cetatua natural valley, suitable for building a long and stable pond. The 2 tailings ponds are named Cetatua II and Mittelzop.
Cetatua II pond	The Cetatua II have as aim the settling and storage of radioactive tailings, and was built in 3 parts, due to high investment costs for insulation of the concerned surfaces. The present state of this pond is the following, in present:
Cetatuiat II first part	the first part, is now in a closing out process, being used for tailings were about <b>4,500,000 tons</b> and the <b>total surface of this first part is 368,000m<sup>2</sup></b> . The closure of the pond will transform it in a repository, provided that the closure solution satisfies the regulatory safety requirements;
Cetatuiat II second part	the second part of the Cetatua II pond was commissioned in October 2001, after completion of complex insulation work. The discharging capacity is estimated at <b>880,000 tones of tailings, on a 133,000 m<sup>2</sup></b> ;
Cetatuiat II third part	the third part of the Cetatua II pond, located upside the two other parts on the Cetatua valley, is planned to be commissioned after 2011, after the closing of the second part of the Cetatua II pond.
Mittelzop pond	The Mittelzop pond has as aim the final tailings settling of fines, receiving the inflow from the Cetatua pond waters. This pond was commissioned in 1978, at the same date with Cetatua pond and the milling plant. <b>The volume is about 300,000 m<sup>3</sup>, on an 87,000 m<sup>2</sup> surface</b> . The dam of this pond has 5 m height. From the pond the clear waters are pumped to the decontamination plant (where the remaining traces of uranium are removed) and then to the Olt river.



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After closure	<p>After closure, all the tailing ponds will be transformed in repositories, provided that the closure solution satisfies the regulatory safety requirements.</p> <p>For the ponds the main insulation works were as follows:</p> <ul style="list-style-type: none"><li>- the bottom of ponds was insulated with two layers, 30 cm thick, of clay.</li><li>- the right slope of the ponds was protected by two layers of polyethylene (plastic) foil, and a sandwich of special bitumen - rubber materials;</li><li>- the left slope, being located on a clay deposit;</li><li>- it was built a rainwater drainage system used also for draining the surroundings of the ponds.</li></ul>
Channel 1996	<p>In 1996, a channel was built between the Cetatuia and Mittelzop ponds, enabling the natural flowing of pond water, without using pumps.</p>
Radioactive solid material discharge area	<p>Between the two mentioned ponds there is a radioactive solid material discharge area, composed by two old trench type storage facilities and a new storage facility that is surrounded by concrete walls.</p>
Older storage surfaces the radioactive	<p>Within these older storage surfaces the radioactive waste was buried into the existing clay layer and also was covered by clay. Around the surfaces was built a wire fence.</p>
New storage area for radioactive waste	<p>The new storage area for radioactive waste has a trapezoidal shape protected by 3 concrete walls, 5 m high. The maximum storage volume is 6,560 m<sup>3</sup> on a surface of 1,640 m<sup>2</sup>. The fourth wall will be built in future, ensuring larger storage capacity when needed.</p>
3km area around the plant	<p>On an area of 3 km around the plant and tailing ponds there are no inhabitants to be exposed to radiological hazard due to radioactive materials discharge.</p>



In accordance with the new **norms** issued by CNCAN the Feldioara branch has decided new safety measures for the radioactive waste management:

- the entire area around both new and old radioactive waste storage surfaces was surrounded by wire fence to avoid people's access;

- the surrounding area is radiologically monitored and ground and underground water samples are taken and analyzed within the plant laboratory;***

- to avoid radionuclides migration around the storage area the stored radioactive waste is compacted and covered by a 10 cm thick layer of clay (according to the procedures "Location and storage of low activity radioactive waste" and "Conditioning of radioactive waste material easily removed by wind").





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2003

“Having as aim the increasing of radioactive waste safety management, for future the Feldioara branch foreseen the following:

- improvement of the access road at the radioactive waste storage facility;
  - supplementary drillings around the radioactive waste storage facility in order to ensure more underground water samples for contamination assessment;
  - radiometric monitoring of the access road to the radioactive waste facility.
- Remote access will be ensured to the storage area.”

*(ROMANIA Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management - First National Report, page 116)*

.....2020

“Having as aim the increasing of radioactive waste safety management, for the near future the CNU Feldioara subsidiary foreseen the following:

- improvement of the access road at the radioactive waste storage facility;
  - supplementary drillings around the radioactive waste storage facility in order to ensure more underground water samples for contamination assessment;
  - radiometric monitoring of the access road to the radioactive waste facility.
- Remote access will be ensured to the storage area.”

*(ROMANIA Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management - The Seventh National Report, page 88)*



## Beteiligte Institutionen

- Comisia Nationala pt Controlul Activitatilor Nucleare
- Compania Nationala a Uraniului SA
- Nuclearelectrica SA
- Agentia de Protectie a Mediului Brasov
- Administratia Bazinala a Apelor Olt
- Directia de Sanatate Publica Brasov
- Prefectura Brasov
- Consiliul Judetean Brasov
- Primaria Feldioara, etc.



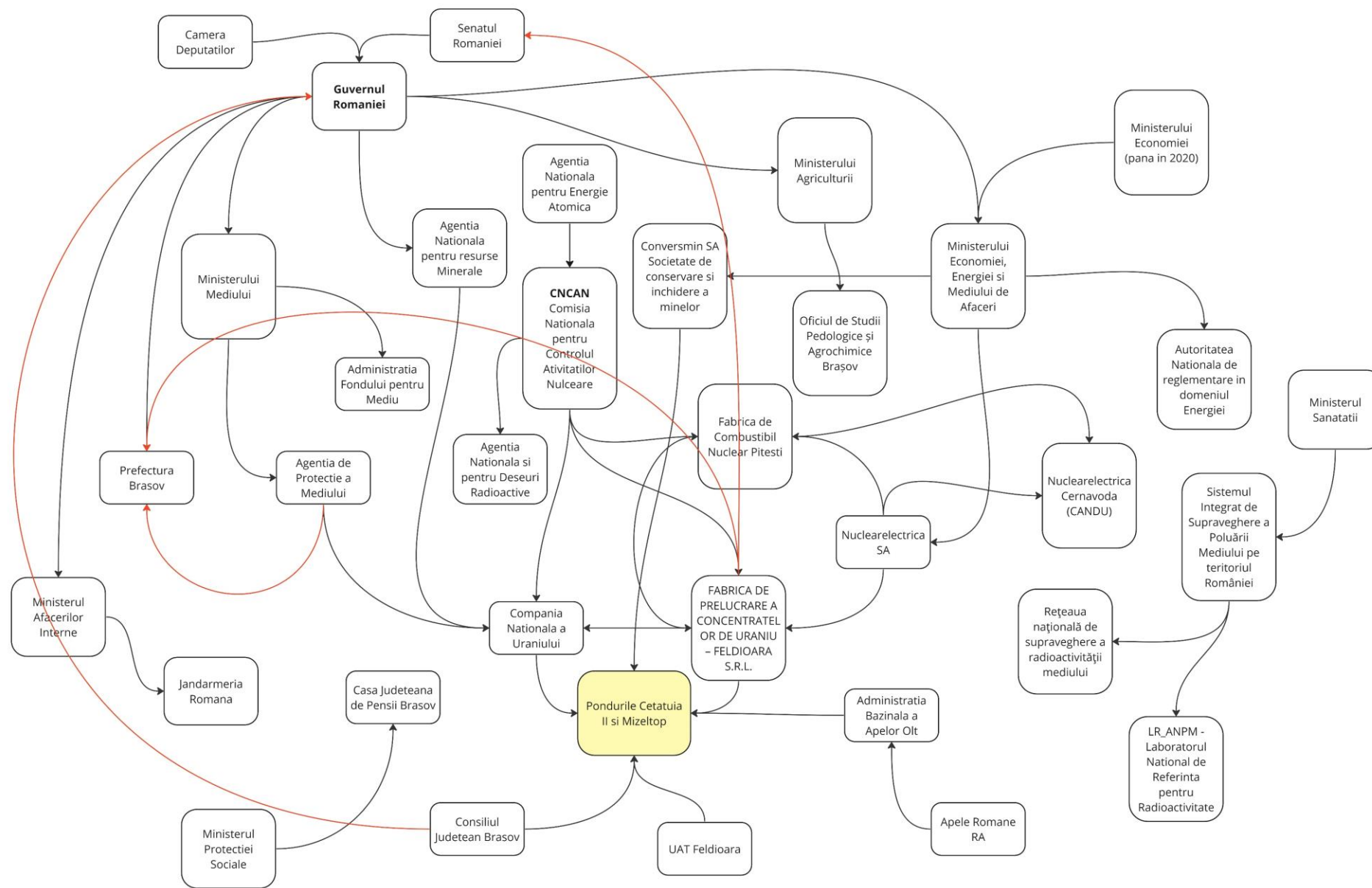


# Wofür wir uns einsetzen??

- Modernes Umweltmonitoringsystem
- Sanierungsplan & Renaturierung
- Bildung & Aufklärung
- Sicherung der Finanzierung
- Aufhebung der Geheimhaltung
- Aufbau eines transparenten Uran-Geoportals
- Verpflichtung zur Kostenbeteiligung der Nuclearelectrica SA
- Entkopplung vom politischen Nuklearlobbyismus



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