

# Thorium MSR Foundation

## Annual Report 2019

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### Activities in 2019

The purpose of all activities of the Thorium MSR Foundation is to provide accurate information on molten salt reactors, their development, and their potential. To this end, we cooperate with a network of active experts in the field of MSR research and from relevant expertise areas like energy intensive industries. Network meetings are infrequent, but they are essential to what we do. On January 18, 2019, we had our expert-network-meeting in Delft, a meeting that included our Advisory Council.

In the course of the years, the focus of the discussions during these meetings has shifted from the intricacies of reactor physics to the subject of how to gain political and public momentum for the support of this immensely important field of research. The previous year, after it took a hopeful start, had taken a disappointing turn when in January 2018 a long article in one of The Netherlands most important newspapers, NRC, had effectively put molten salt reactor development in the category of ‘distant dreams’ – along with fusion technology. Scientifically speaking, molten salt reactor technology is totally different from fusion. In stark contrast to fusion, molten salt reactors proven technology. In the case of fusion, it is still unclear whether humankind will succeed in mastering the technology. This framing effectively blocks the willingness of politicians to provide (financial) support for this crucial development – however relatively small this necessary contribution would be. Not surprisingly, this specific framing is repeated again and again by opponents.

During the meeting, possible strategies to counter this framing were discussed, and consensus was reached on the standpoint that mentioning timeframes is meaningless as long as there is no serious funding available. There was also general agreement that building a ‘burn only’ MSR based on the use of enriched uranium would provide a faster path, and that this path could also lead sooner to building a closed fuel cycle thorium reactor. The possibility to build a ‘burn only’ molten salt reactor is conveniently and consistently overlooked by opponents. The third point of agreement was to consistently point out the unique opportunity for the Netherlands, presented by the DIMOS plan and the LUMOS experiment.<sup>1</sup>

In the months to follow, several members of the thmsr-network have been starting conversations with industrial stakeholders to explore the possibilities of this technology for different energy intensive sectors. Over the course of the year, these talks have continued, and interest is growing.

A recurring phenomenon is that the Foundation is approached by parties or individuals who have learned about MSR’s and want to set up campaigns for MSR. Of course, we would love to do this, but we have to be picky in such co-operations if the calling party had already selected a certain startup. The Foundation has to limit its cooperation by its choice to only actively support those parties that our expert network can wholeheartedly support, without a too high risk of a future backtrack on present day claims.

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<sup>1</sup> <https://www.thmsr.com/en/dimos/>

A special mention deserves a visit to Chernobyl, early November, in the margin of lecture on molten salt reactors in Kiev, a lecture requested by the Dutch branch of EOnetwork. Needless to mention the travel expense was covered by EOnetwork and did not weigh on the balance of the Foundation. A report of this visit (in Dutch) has been published on the website of Nuclear Pride Netherlands.<sup>2</sup>

Public talks and presentations have been held during all of the year. The ones that were politically most meaningful were probably a workshop for the province of Brabant in April, and a public talk in November for the regional chapter of the political party VVD in Liemers-Lingewaard, close to the town of Arnhem.

The talk at Liemers-Lingewaard had a considerable political impact, as it turned out to be the starting point of renewed cooperation with several provincial politicians, a cooperation that finally resulted in what should have been the largest symposium on molten salt reactors in the Netherlands since the large symposium in Delft in 2014. The 'Knowledge Conference Nuclear Power' was to be held on March 17, 2020, in the Province House in Zwolle. The Thorium MSR Foundation was going to present there, next to several speakers with expertise on radiation (Lars Roobol, RIVM) and storage of nuclear waste (Ewoud Verhoef, COVRA) and Theo Wolters on the cost of nuclear energy (MWenB Foundation). Unfortunately, like many things, the symposium in Zwolle was called off a week before it should have taken place, because to the corona crisis. At the time it was called off, more than 200 people had already registered for attending.

However, the preparation for this conference has been far from wasted. On the contrary, it presented an excellent opportunity to broaden and strengthen our network. We are quite confident that once we will leave corona territory, the road to safe, spotlessly clean and affordable energy will have come much closer than almost anybody realizes.

### Foundation news

We are proud and happy to announce that the foundation's first Secretary, Lucas Pool, transformed his passion for MSR's into his regular work. He now has a permanent position in nuclear research at the Netherlands Nuclear Research and Consultancy Group (NRG) at Petten. At the time of the establishment of the Foundation, Lucas had just started there as an intern. Now that he has a position within the nuclear sector, the independence of the Thorium MSR Foundation is best served by Lucas being followed up by an able outsider. We thank Lucas for his participation in the establishment of the foundation and his unrelenting support for its functioning. And we wish him all the success in the important task he has been taking up at NRG in his work on molten salt reactor research.

We have found a new and able outsider in the person of Kors Bos who was willing to take over Lucas' tasks for the foundation. Kors is a retiree from CERN who has been trained as a nuclear physicist. He worked on many and very different projects during his long career, one being the challenge to the writing, fast enough, of the enormous amounts of data generated by the LHC's Atlas Detector. Interesting detail: as a young PhD, Kors walked on the famous grounds of Oak Ridge at the time that people like Alvin Weinberg and Eugene Wigner could still be spotted there – and Kors remembers doing so. To Kors, it is evident that without nuclear energy, there will be no transition away from

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<sup>2</sup> <http://www.nuclearpride.nl/wp-content/uploads/2019/12/20191211-Verslag-bezoek-Tsjernobyl-.pdf>

fossil fuels. In the short time since Kors has joined the foundation's board, he has rebuilt the website to make it easier to maintain, enabling the Foundation to further expand it.

### A big 'thank you!' to our donators

Amidst the many signs of appreciation that the Thorium MSR Foundation received in the course of 2019, several stand out. On January 7, we received a single donation of €500, from Ir. Wtb. M.P. van B. Between May 17 and 24, the Foundation received a total of €325, - through 10 transactions made by individuals on the occasion of the retirement of Jan Wolters. Apparently, this Jan Wolters, whom we have not been able to trace, made the suggestion to donate to the Foundation on the occasion of his retirement. We would like to thank all donators, and of course Jan Wolters and his generous guests in this way for their heartening contributions. We hope that this year report shows how well your money is put to use in realizing the goal of affordable and clean energy for everybody on this planet.

The Foundation is a frugal organization. No fees were paid to the board members. The costs that we have made is mainly spend on travel, internet and banking. This is specified in the financial section of this report.

You can find a more detailed discussion of social developments around nuclear energy and the role that molten salt reactors can play in our [Yearly Update](#).

You can support us by:

Visiting and sharing our website: <https://www.thmsr.com/nl/>

Following and liking our Facebook page: <https://www.facebook.com/thmsr.nl/>

Visiting our webinars (announcements on our Facebook page): <https://www.facebook.com/thmsr.nl/>

Following the most active board member on Twitter: [https://twitter.com/g\\_zwartsenberg](https://twitter.com/g_zwartsenberg)

Donating directly to our bank account:

Naam: Stichting Thorium MSR

IBAN: NL09 INGB 0007 1600 10

Donating directly to our PayPal account: [accountinfo toevoegen]

## Financial Report Thorium MSR Foundation 2019

		Debiteuren	2019	Crediteuren
<b>Debiteuren</b>	Inventaris	0		1234,92 Eigen vermogen
				1310,84 Crediteuren
	Inkomsten	900		0 Winst uitkering
	ING tegoed voorgesloten	1199,12		0 ING schuld
	reiskosten*	428,45		428,45 Vordering schuld**
	Paypal tegoed	35,8		
				-410,84 Winst lopend jaar
<b>Totaal</b>				<b>Totaal</b>
		2563,37		2563,37

### Foto balans versie 2

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## Overview of reimbursements to the board

Travel claims as claimed in 2018 were paid in 2019

<b>Name</b>	<b>Calculated from</b>	<b>Kilometres</b>	<b>Amount</b>
Gijs Zwartsenberg	Deventer	5023	€ 954,37
Lucas Pool	Amsterdam	390	€ 74,10
Jorrit Swaneveld	Den Haag	0	€
Tariff	19c/km.	Total	€ 1028,47

Travel claims as claimed in 2019 to be paid in 2020\*

<b>Name</b>	<b>Calculated from</b>	<b>Kilometres</b>	<b>Amount</b>
Gijs Zwartsenberg	Deventer	1990	€ 378,10
Lucas Pool	Amsterdam	265	€ 50,35
Jorrit Swaneveld	Den Haag	0	€ 0,00
Kors Bos	Hilversum	nvt	nvt
Tariff	19c/km.	Total	€ 428,45

\*travel claims are show on the balance sheet as a reservation on the credit (vordering schuld) with counterbalance voorgeschoten reiskosten (debit)

## Profit and Loss statement

The following table shows the various expenses and sources of income for the Foundation during 2019.

<b>Description</b>	<b>Income</b>	<b>Expense</b>
<b>Donations</b>	€ 900	
<b>Office expenses</b>		€34,27
<b>Website hosting</b>		€ 107,54
<b>Banking cost</b>		€ 140,56
<b>Travel Expenses</b>		€ 1028,47