

## **Credits as a Source of Funding for Conservation in the Netherlands and US**

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Conservation and mitigation projects are exceptionally expensive undertakings. From the development of new technologies to protect and preserve our planet to the implementation of these technologies, every step of the process requires funding. For example, according to the Association for Project Management (2022) the Maeslant Flood Barrier in Rotterdam cost 635 million Euros (713.3 million US Dollars) to develop and construct, not including maintenance costs. While this may seem like an exorbitant amount of money to spend on a flood barrier which is rarely ever used, the cost of a catastrophic flood without this barrier would be many times greater. In The Netherlands, the constant fear of flooding makes the general public supportive of massive projects such as this one. Thus citizens, the federal and local governments, and private companies are likely to contribute to the funding of flood mitigation projects. In the United States it is a very different story. This essay will examine the differences between funding for conservation and mitigation projects in the Netherlands and the United States, and consider a potential solution that is already being implemented by a number of organizations on both sides of the Atlantic: the sale of credits.

### **Mitigation Credits**

Mitigation is a word frequently used in conservation, and one that has a few meanings. The more widespread definition of mitigate, “to lessen the gravity of” (Oxford Dictionary) is frequently used when talking about flooding and infrastructure. However when discussing the sale of credits, mitigation refers to programs that offset environmental damages elsewhere rather

than lessening the severity of them. In the Netherlands these operations are known as Offset Programs (ten Kate et. al, 2004).

Dave Koubsky, Mitigation/Restoration Manager at Coastal Virginia Conservancy (CVC), explained that mitigation credits are sold when a private company is not able to mitigate their environmental damages on site. When this is the case, they pay third party companies, such as CVC, to mitigate the environmental damages elsewhere. The credits are worth a certain amount of money, and all money from the sale of the credits must be used by CVC for mitigation projects. For example, when the Port of Virginia built a new terminal, they were not able to mitigate the damages to the riverbed on site. The large-scale dredging to make the “deep-water” port accessible to larger container ships damaged ecosystems on the riverbed and caused contamination of the pore water within the sediment that makes up the riverbed (Koubsky, 2023). The Port of Virginia remedied this by buying credits from Coastal Virginia Conservancy to mitigate these damages elsewhere within the Elizabeth River watershed. CVC used the revenue from these credits to fund large-scale riverbed clean-up operations at Money Point and Paradise Creek.

### **Types of Mitigation Credits**

The type of operation CVC employs is known as an “In-Lieu Fee” (ILF) Mitigation Program. ILF mitigation is a type of program which was created in accordance with the Clean Water Act, defined by the EPA as “Compensatory mitigation projects [that] are designed to replace aquatic resource functions and values that are adversely impacted under the Clean Water Act Section 404 and Rivers and Harbors Act Section 10” (EPA, 2000, p. 1).

While mitigation credits may be sold in the free market by private companies, they are issued and regulated by the government. The Army Corps of Engineers grants credits to organizations such as Coastal Virginia Conservancy based on plans for future projects that the organization will carry out. CVC plans the project in detail, and uses the projected expenses to determine how many credits will be available for sale. Then, once the Army Corps approves the project and grants the credits, CVC puts the credits up for sale on the free market, and any company seeking to mitigate environmental damages in the Elizabeth River watershed may purchase these credits. The mitigation and restoration projects in phases, with each phase corresponding to the sale of one or more credits. Then, the projects are carried out accordingly as credits are sold.

Through my internship at Coastal Virginia Conservancy I was able to witness this process first-hand. A few weeks ago, I was able to sit in on the meeting with the Army Corps of Engineers to request more credits. CVC's Mitigation Committee presented future plans for riverbed clean-ups and oyster reef establishment, along with projected phases of the plans and expenses. Now the Army Corps is in the process of considering these plans. If they are approved, Coastal Virginia Conservancy will be granted additional mitigation credits which can be sold.

The key factor defining the In-Lieu Fee mitigation approach is that the projects are planned before the credits are sold, but not completed until after they are sold. The other common type of mitigation program is known as mitigation banking, which employs a different approach to accomplish the same end goal of an ILF mitigation program. Like ILF programs, they are an alternative to on-site mitigation by private companies to offset unavoidable environmental damages. However, they accomplish this by completing mitigation projects first and selling the credits which correspond to the completed projects afterward. Mitigation banks

are frequently used when a project will cause habitat damage, as the goal is to bring about a “like-for-like” swap for the damaged habitat (Burgin, 2010).

Mitigation banks are also regulated through similar processes to ILF organizations. A set of standards for their procedures was set forth in the 2008 *Clean Water Act*, and they are regulated by the Army Corps of Engineers and EPA (Burgin, 2010). Often Conservation easements or other legal documents regulating land preservation are placed on mitigation banks. Coastal Virginia Conservancy has been involved in the creation of conservation easements protecting mitigation banks in the area, although the mitigation banks are owned by separate companies and CVC’s involvement is limited to stewardship of the easement.

Both mitigation banks and ILF mitigation programs are standard practice in the United States, and there are a multitude of both kinds of organizations. However, they are much less widespread in other countries. In the Netherlands the only kind of mitigation/offset credits which are approved by the government are carbon credits, which function completely differently.

### **Carbon Credits**

Often when large companies are claiming to be “carbon neutral”, they are accomplishing this by paying someone else to offset their carbon emissions using carbon credits. Carbon credits are another type of credit sold to fund conservation whose value corresponds to a certain amount of carbon sequestration.

In the United States, carbon credits are bought and sold by a merchant bank, rather than a government entity. First, a company creates value in the form of sequestered carbon, for example by planting trees. Then, a merchant bank determines a monetary value equivalent to the amount of sequestered carbon, and grants the number of credits which are equivalent to that value given

their current price on the open market. Through this process, merchant banks create the carbon credits which companies sell (Mathews, 2008). There are multiple ways the credit can be created: planting trees, preserving rainforest, placing conservation easements on forested land, and many other processes. These approaches must be verified by the merchant bank, and also align with the UN Kyoto Protocol's Clean Development Mechanism (CDM) (Mathews, 2008). Once the merchant bank has granted these credits, the company which holds them is free to trade them on the open market.

The value of carbon credits continues to rise, and it is certainly a financial instrument which will be used more in the future. According to the World Bank, which tracks carbon pricing, in 2023 the value of the carbon market was around 95 billion US dollars. While this market is very promising, it is still somewhat risky, since it is not well regulated and practices are still in the process of being standardized. As a result, many well established Conservation organizations in the United States are hesitant to invest too heavily in carbon credits. In the US the mitigation credit industry is much more established and well regulated, and thus much more appealing to many conservation NGOs. However, carbon credits are much more common in the Netherlands, and one of the companies we visited even mentioned that they were considering investing in the carbon credit market soon.

### **Credits in the Netherlands**

The first type of credit commonly sold in the Netherlands was a type of credit known as a Green Certificate, which is an incentive for energy produced from renewable sources. According to M. Boots at the Energy Research Centre of the Netherlands (ECN), “from 1 July 2001, the Dutch market for renewable electricity [was] liberalised and a system of green certificates [was]

introduced.” This system classified consumers whose electricity is supplied from facilities using renewable sources as “green” consumers. The alternative was “grey” consumers, whose energy was not supplied by renewable energy. Boots stated, “The green electricity consumer is free to choose his supplier, whereas the ‘grey’ consumer is still bound to his local supply company... Green certificates are introduced to facilitate the opening up of this green electricity market. The idea is that trade in certificates will stimulate production of renewable electricity” (Boots, 2003). Green certificates were the first tradeable conservation-related credits created in the Netherlands, and laid the groundwork for their later carbon credit programs.

In 2003, the European Bank of Reconstruction and Development (EBRD) and the government of The Netherlands created a carbon fund of 35 million Euros (approximately \$42 million in 2003 US dollars). According to the European Bank of Reconstruction and Development’s fact sheet about the topic, “Through the Fund... the EBRD will purchase greenhouse gas emission reductions (‘carbon credits’) for the Netherlands. This will be done using the Joint Implementation (‘JI’) mechanism of the Kyoto Protocol.” (ERBD, 2003). These credits also apply to reductions in CH<sub>4</sub> emissions.

The system implemented by the Netherlands is fascinating because rather than an independent merchant bank, the credits are created and sold by the government. This differs greatly from the system in the United States, where carbon credits are sold by merchant banks who are trying to profit from the sale of the credits. Instead, the credits are being funded by the government and given out as a public service. Essentially the government and taxpayers are paying companies for reductions in emissions. Rather than being traded on an open market, the carbon credits are financial incentives from the government to reduce emissions.

## Supply and Demand of Credits

While all of these various systems for credits differ in their means, they accomplish a similar goal: to allow companies to fund conservation projects that they are socially or legally obligated to without having to undertake these projects themselves. In theory it is a very efficient and valuable tool, but as in any other market, it is dependent on a balance of credits supplied and credits demanded.

In the Hampton Roads area, mitigation credits are in very high demand right now. Constant expansion projects mean that the Port of Virginia is purchasing large numbers of mitigation credits. When we visited the Port of Virginia, they also mentioned that they were in the process of purchasing carbon credits to offset carbon emissions from various different stages of their supply chain. Companies like the Port of Virginia face pressure from the communities they are involved in, as well as their shareholders, to be environmentally responsible. Government entities are also purchasing credits; Coastal Virginia Conservancy will soon be selling a number of ILF mitigation credits to offset the damages from the expansion to the Hampton Roads Bridge Tunnel.

In the Netherlands, credits also continue to be in high demand. The Port of Rotterdam is continuing to reduce carbon emissions, and earning more carbon credit incentives for these reductions. These incentives are funded by the government to encourage corporate responsibility, unlike the free market approach in the US. According to their website, in 2022 the Port of Rotterdam reduced their emissions by 0.8 Megatonnes of CO<sub>2</sub>, a decrease of approximately 4.2%. This was accomplished in part by many of the large wind turbines we saw on our tour of the port.

### **Other Sources of Funding for Conservation**

The sale of credits is fundamentally different from many of the more traditional sources of conservation funding, but there are some similarities. One of the other sources of funding that I gained experience with at Coastal Virginia Conservancy were grants. Often government organizations issue grants to be used by nonprofit organizations in their local areas. One of the limitations of grants as a source of funding for conservation is that these grants are usually not restricted to conservation or mitigation projects, and thus conservation organizations have to compete with nonprofits with many different causes for these grants. This limits conservation funding in areas where conservation is a less pressing issue, particularly in the United States. In the Netherlands, government grants have historically been very effective at funding flood mitigation projects. This is a result of flood mitigation and sea level rise being major concerns of the government. Funding allocated by the government accounts for large portions of the cost of conservation and flood mitigation in the Netherlands, unlike in the US.

### **Comparing Credit-based Systems in the US and NL**

Some types of credits are more suited to certain regions, for example mitigation banks in the Hampton Roads Region and Green Certificates in the Netherlands. In the United States, credits are especially valuable to help fund flood mitigation projects and fight sea level rise, especially when the government does not adequately fund these programs. The private market for credits will play an important role in funding these projects in the future. In the Netherlands credits are another valuable tool for the government to allocate money to flood mitigation, and play an important role in the delicate balancing act of government spending. While both types of credits are effective in their current uses in the US and the Netherlands, I believe due to cultural



and regulatory differences they are not entirely transferable. Due to the larger scale of the US, a government regulated carbon credit program such as the one in the Netherlands is less feasible and a market economy for these credits makes more sense. Conversely, the regulation of government agencies such as the Army Corps of Engineers is essential for mitigation credits to function in the US, and a similar regulatory body would have to be created in the Netherlands for mitigation credits to be effective. Overall, the systems in place for credits as a source for conservation funding are very effective in both the Netherlands and the US. While there are lessons to be learned from both, it is important that they maintain their uniqueness since they serve such distinctly different areas.

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