

# The Baltic Dividend

## An Environmental Fiscal Reform approach for a Baltic-Friendly society

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### What purchasing and investment behaviour should policy drive?

Our starting point is the economic behaviour (purchasing of services) and investment that characterizes the Baltic-Friendly society.

Synthesizing the scientific literature we identify the need to:

- Reduce external loading – from agriculture and waste water treatment.
- Reduce reliance on imported phosphate rock.
- Retrieve nutrients and biomass from dead areas.
- Encourage recycling and reduce accumulation of P on land.
- Encourage transition from fossil fuels and high energy intensity in products to biomass-sourced energy and lower density.

### ECONOMIC INCENTIVES NEEDED

The economic environment of a Baltic-Friendly society, would include economic incentives that make the following cheaper for producers:

- To use energy from biomass (especially from retrieved sediment and food waste) rather than from fossil fuels.
- To offer sewage systems that recycle P.
- To use farming practices that retain P and N and even extract them from watercourses.
- To use recycled P rather than imported P from phosphate rock.

### WHAT WE PROPOSE

Baltic Pollutant fees are surcharges placed on pollutants (or elements risking depletion) as they enter or leave the economy. The fee is raised at regular intervals until the economy responds and follows the desired reduction and circular scenario. The money collected is paid back to citizens as a dividend.

Surcharges on Baltic Sea pollutants could reverse its ecological status fast and usher in green jobs and technology.

### Controls on phosphorus

#### PROPERTY TAX SURCHARGE

- The lower the P performance of a property (i.e. levels of phosphorus leakage), the higher the surcharge
- A Dividend Council raises charges at regular intervals until level of restoration/circular use is acceptable
- Dividend is returned to taxpayers

#### WASTE WATER CONNECTION SURCHARGE

- The higher levels of P (and N) in waste water the higher the surcharge. Raised until performance meets requirements
- Dividend returned to taxpayers

#### WASTE COLLECTION SURCHARGE

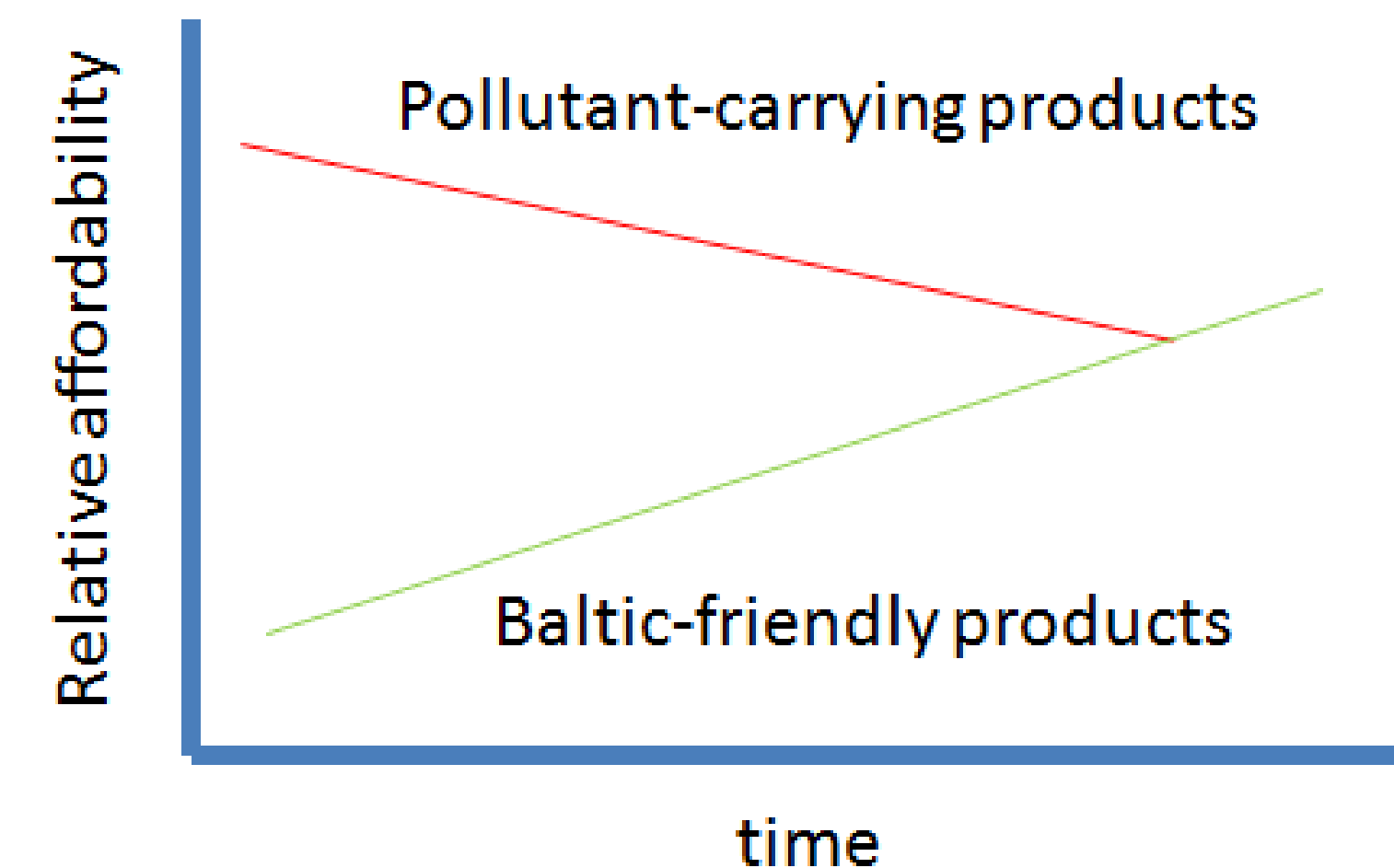
- Unsorted waste – harder for recycling companies to extract P from - receives a higher surcharge. Raised until acceptable levels reached
- Dividend returned to taxpayers

#### IMPORT SURCHARGE

- On all imports of fertilizer
- Levied on food and chemicals too
- Raised regularly until goal met
- Dividend returned to taxpayer

#### FOSSIL FUEL IMPORT SURCHARGE

- On all fuel
- On fuel dense products too
- Raised until target met
- Dividend returned to taxpayer



The diagram left shows how the five types of transfer of potential pollutants/key substances can be subjected to a surcharge mechanism.

An additional fee can be levied on import of pollutant – containing products-or substances at risk of depletion (1). This is the “first invoice” approach.

For property owners, a surcharge can be levied depending on the nutrient transfer performance of the property. For example, if all nutrients are removed by another company then the charge will be zero. If the property is a farm property that leaks nutrients to surrounding eco-systems then a surcharge could be added to property tax. If the property absorbs nutrients, then a negative fee could be put on the property (2). This is the “last invoice” approach.

Any extraction (for example of gaseous nitrogen, phosphorous or fossil fuel) can be subjected to a surcharge (3).

Sales of any items from one legal entity to another can be subjected to additional sales tax-or value-added tax (4).

A fee for depositing key substances on any property will encourage recycling or substitution (5).

**The Baltic Dividend: money collected from fees on Baltic –unfriendly pollutants (P) is paid to all citizens.**

### How could market-based instruments work on phosphorus?

#### Land that leaks becomes more expensive to own

By making it more expensive to own land that leaks P, products from that land become relatively more expensive. As the fee collected from the surcharges goes back to citizens, they have the same amount of money to spend so the demand for “Baltic Friendlier” products increases.

The freedom to buy more expensive “polluting” products is still there, making this kind of market-based instrument more appealing to liberal democracies.

#### Pre-cleaning waste water becomes more lucrative

As waste water charges are raised, options to retain nutrients (in for example urine-separating toilets) become more viable.

Thanks to the dividend collected, consumers have the same amount of money to spend. This ensures the economy remains stable whilst phosphorus emitting system behavior decreases. And as business people know the money is there, they are willing to invest in new technology.

**Fossil-fuel is more expensive, so energy from biomass (and retained P) is a better option to invest in.**

### Progress so far

#### REPORTS

**Dividend-bearing pollutant fees have been investigated in several reports from Sweden and the Nordic Council of Ministers.**



Flexible emission fees – An incentive for driving sustainable production and consumption

**Two approaches to pricing pollution (TN2014:512)**, compares the efficacy of Cap and Trade with a Flexible Fee approach.

**A Flexible Pollution Tax** is an theoretical investigation into the viability of dividend-bearing pollution instruments.

#### IMPLEMENTATION

Along the lines of the fee mechanism, a recent project to remove phosphorus from the floor of the Baltic Sea proposed raising waste water charges along with a dividend in the form of biogas from the organic sediment.

#### SIMULATIONS

The Foundation has developed a simulation in the form of a business–game that teaches the basics of the mechanism and brings awareness of the factors affecting successful implementation.

### The Dividend in Brief

#### Point of control:

- Surcharge on import & extraction of P
- Surcharge on property tax for those properties that perform poorly in P retention.
- Surcharge on import of fossil-fuels and fossil- fuel dense products

#### Purpose:

- Raises relative price of products using phosphate rock.
- Renders circular alternatives cheaper.
- Raises price of P emission, encourages recycling.
- Raised price of fossil fuel encouraging fuel from biomass

#### Effects:

- Encourages investment in circular economy
- Encourages investment in energy from biomass – including sediment retrieval

#### Revenue distribution:

- Revenues go directly to taxpayers' accounts ensuring they can afford Baltic –friendly alternatives

#### Mechanism:

- Surcharges levied on existing taxes and raised until phosphate rock import and phosphorus emissions from property start to follow reasonable phase-out trajectory and recycling practices expand.

#### Psychological effects:

- Consumers know they are charged extra for environment-affecting services, and that the revenue goes to promoting alternatives.
- Regular adjustment of fees tells enterprises that the government is serious about finding the point where alternatives are cheaper.

#### Works with:

- Full employment mechanisms to ensure green job transition, land maturity taxes to ensure circular economy for major nutrients. House loan interest rate surcharges/discount mechanism to ensure affordable housing.

Levying a fee on activities that pollute, and paying it back to tax payers ensures the economy is stable, gives advantages the poor, and sends a strong signal to the investment community on where their money should go.

### BENEFITS

Modern Information technology allows dynamic control of the economy: all actors benefit in the long run.

Redistribution of fees increases security for poorest citizens.

By making import more expensive, the mechanism encourages green consumption and green jobs. It also encourages new investment in recycling technology, ushering in the circular economy.

### Literature Cited

Enell, M. (2012). *Flexible emission fees*. Nordic Council of Ministers.

Breugel, C. V., Enggaard, M., Jessen, J. E., Stavlöt, U., Sköld, C., & Berghäll, E. (2014). *Two approaches to pricing pollution*.

Sanctuary, M., & Høglund, A. (2005). *A Flexible Pollution Tax. A report written on behalf of Nutek-the Swedish Agency for Economic and Regional Growth*.

### Next steps

The Foundation is looking to adapt the World 3 model (the Limits to Growth analysis) to see if changing the fiscal framework can stave off collapse of carrying capacity.

Several new instruments are being released. The Foundation believes it can match all of the sustainability criteria for example those that have been put forward on planetary boundaries and system conditions. This needs further analysis.

The Foundation is interested in collaborating with partners addressing the Baltic Sea challenge as well as introducing and increasing EFR at national and municipal level to encourage a circular economy for P, N and the phase-out of C from fossil sources.