

NGInfra Academy

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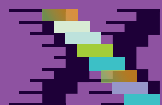
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NEXT
GENERATION
INFRASTRUCTURES
ACADEMY



NGInfra Academy

September 19 - 24, 2010

An exceptional learning opportunity for forward-thinking young academic professionals engaged in the design and management of tomorrow's infrastructure systems



NGInfra Academy

September 19 - 24, 2010

During this one-week course you will be brought up to speed with the latest developments in infrastructures research, be given practical tools for addressing many of the challenges facing the design of tomorrow's infrastructure systems, and interact with talented researchers and young professionals from government ministries, regulatory agencies and international knowledge institutions, all in the unique setting of a Dutch country estate, close to Amsterdam.

Course Description

The design and management of infrastructure systems rely on expertise from many disciplines including engineering, economics, law and policy analysis, and touches every sector of modern society - energy, transportation and communication. Enormous investments are needed for both physical assets and institutional arrangements to keep pace with society's growing demands.

The NGInfra Academy focuses on giving researchers and young professionals the tools they need to embark on this exciting challenge. New instruments will be put in the spotlight helping you to understand the mechanisms of different infrastructure sectors. We will use cross-cutting techniques to unravel the multi-layered, complex challenges of designing large technical systems and allow you to produce innovative and robust solutions to shape tomorrow's vital infrastructures effectively.

This year, participants may choose one from three independent, but connected, tracks:

- **Energy Markets: Market design and actual performance**
- **Strategic Asset Management: An integrated life cycle approach**
- **Governance to Go? Regulating cross-border infrastructures in the age of European integration**

Although it is required to choose one from the three independent tracks, the wide range of infrastructure examples used will have broad appeal and will lend itself to several integrated activities designed for all course participants.



Location

The idyllic retreat of Duin & Kruidberg Country Estate, located in the South Kennemer National Park, close to Amsterdam in the Netherlands, will be the setting for our intensive course week. The manor itself is right out of a fairytale, constructed classically in the old Dutch style and is set amidst the characteristic dunes. The location, thirty minutes away from Schiphol International Airport, is ideal for both regional participants and for those travelling from further afield. Modern and well lit meeting spaces, single study bedrooms and the delights of the province of North Holland will provide the perfect atmosphere for the demanding course load of the NGInfra Academy.

"The knowledge of all the other participants really added to the programme"

Hans Nikkels
 Policy Advisor,
 Energy Markets Department,
 Ministry of Economic Affairs,
 the Netherlands

"It's been really perfect: The classes were small 10-15 students, allowing for a lot of interaction"

Benjamin Hobbs
 Schad Chair of Environmental
 Management, the Johns Hopkins
 University, USA. Senior Research
 Associate, Electricity Policy Research
 Group, University of Cambridge, UK



TRACK 1

Energy Markets: Market design and actual performance

Led by Dr. Laurens de Vries and Emile Chappin, MSc

In the Energy Markets Track, you will delve into the design and performance of European electricity and CO₂ markets. You will learn to analyze market design choices and their relations to physical, economic and institutional factors. Examples of issues that will be addressed are investment in the electricity market and government options for influencing the choice of generation technology, the pros and cons of the European CO₂ market and competition policy in electricity markets.

In this track, we will look at energy markets as 'socio-economic systems'. The starting point of our approach is the fact that physical energy infrastructures are governed by a number of actors whose actions collectively determine the performance. The actors are driven by their goals and act in response to each other, to changing external conditions (e.g. fuel prices), and in response to the rules and incentives that are set by government(s). In order to understand this complex socio-technical system, a good understanding of the physical infrastructure, of the market and of governance structures and the policy arena are necessary.

A variety of activities will be used to explore the different facets of energy markets. You will be requested to read a number of scientific articles before the course.

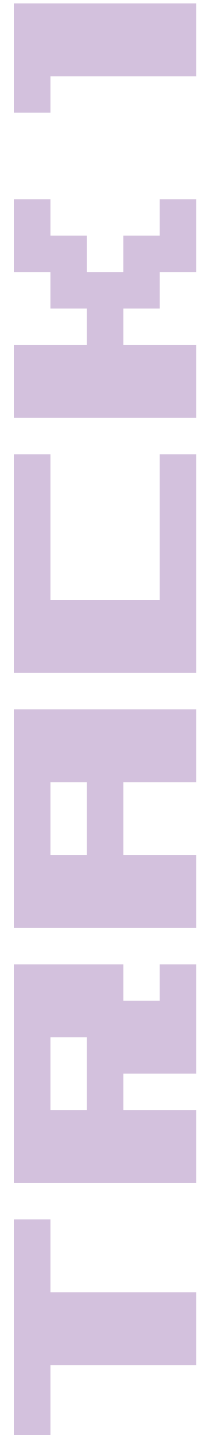
Theoretical lectures will be balanced with guest lectures by practitioners or government officials. Group exercises will challenge you to apply your knowledge and offer an opportunity for discussion. Because the ultimate focus is on policy making, towards the end of the week there will be a structured debate on energy policy, in which you will practice arguing current energy policy.

During the entire week, an interactive online electricity market simulation game will be played in which participants compete in a wholesale market. You will experience the pressure of competition and how difficult it is to make investment decisions in an uncertain environment. One of the lessons of the game is how different the dynamic development of a real market is from the static analyses that are often the focus of theory. The week will also include a tour of an organization in the energy sector.

On completion of this course, you will have a thorough understanding of:

- European electricity and CO₂ markets - at both the physical and institutional levels
- The advantages and pitfalls of different energy market policies and strategies

A basic appreciation of micro-economics is a prerequisite.





TRACK 2

Strategic Asset Management: An integrated life cycle approach

Led by Ype Wijnia, MSc and Prof. Paulien Herder

This track is designed for professionals, like asset managers and policy makers, who in their work environment make decisions regarding large physical assets.

Strategic asset management is more than the mere maintenance of assets, or investment decision-making for a particular asset. It is the optimal utilization of infrastructural assets over their entire life span. Professionals tend to focus on a specific phase of the asset lifecycle, running the risk of being penny wise and pound foolish. This track broadens your life cycle view of infrastructures and enhances your skills to aim at long-term added value of your infrastructural assets.

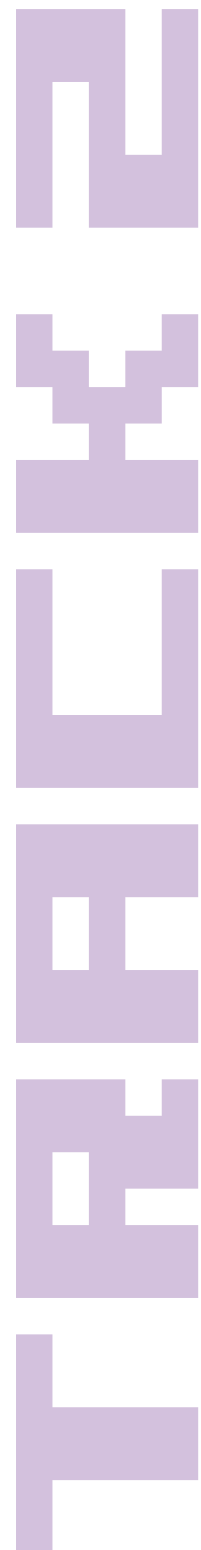
Each day of this 5-day track covers a specific phase of the asset lifecycle, from concept to decommissioning. Every day starts with a lecture on relevant tools, techniques or theories. Next you will work in subgroups on assignments related to a challenging case study and discuss the results having specific asset management skills in mind. This highly interactive but structured approach will help you experience that each asset lifecycle phase has its own characteristics, challenges and potential solutions. Plenary presentations by external experts will illustrate real world asset management challenges.

The week-long case-study, The Life Span of a Mega-Scale Concentrated Solar Power Infrastructure in Africa and Europe, will provide depth and focus. The asset management skills you acquire from the case study will be grounded in scientific theory and complemented by interaction with guest lecturers, experts in practice who function at the very top of their field, and with other knowledgeable course participants. The lessons learned from this power-sector related case study will be applicable to other physical infrastructure systems such as the transport, ICT and water sectors.

On completion of this course you will be able to:

- Apply different asset management tools and techniques appropriately
- Recognize the interdependence between the individual phases of the asset lifecycle and gain insight into other perceptions and practices used in decision-making in each phase
- Use the life cycle perspective to propose new asset management practices for your company
- Employ broader perspectives in your current day-to-day asset management practice and create a valuable contribution to the strategic goals of your organization

Experience in asset management is a prerequisite for this interactive course.





TRACK 3

Governance to Go? Regulating cross-border infrastructures in the age of European integration

Led by Dr. Frank Schipper

European integration crucially depends on infrastructures. The four freedoms at the core of the European project (free movement of persons, goods, capital and services) all rely on infrastructure connections. Yet the national borders separating member states have time and again challenged the connective promise that infrastructures embody. The Governance to Go track spotlights both obstacles and opportunities connected to infrastructures in the context of a (dis)integrating Europe. Effective European governance is essential to allow infrastructures to live up to their potential. Governance to Go portrays the ever-changing coalitions of European institutions, state agents and non-governmental organizations (from the business lobby to the environmental movement) that together shape the policies for infrastructure networks and infrastructure-based services. You will become fully acquainted with how the EU endeavours to provide both continental linkages and regulatory frameworks for their use today and in the near future.

Employing frameworks from political science and public administration, you will appreciate the deep roots of European infrastructure policies and the impact of cross-border flows on the rules for international traffic. You will discover how an emerging transnational society has shaped the policies that regulate cross-border movements.

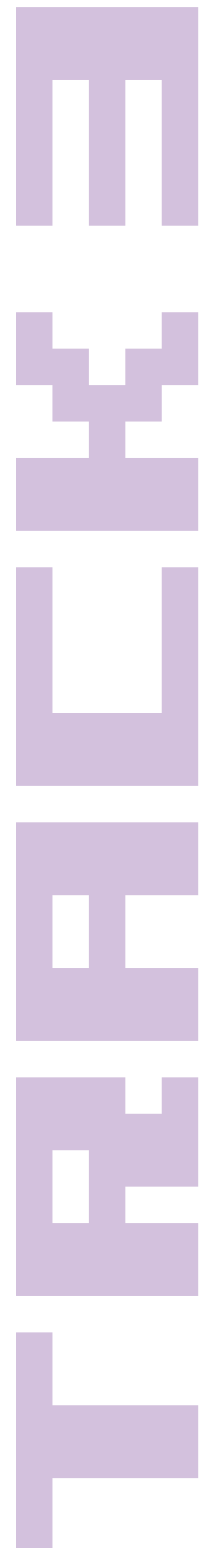
Governance to Go is an interactive track that includes role-playing games, policy analysis and ample room for debate. Infrastructures have a long life-span. Just as the European policies of the past still influence infrastructure outcomes today, European policy-making today will co-shape what can be done in a decade. The track discusses precisely how present-day infrastructures and related policies are path-dependent outcomes of longer developments, and how current European policy-making feeds into future scenarios.

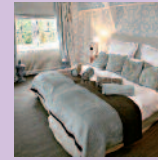
The track focuses on the transport sector and draws on studies of continent-wide communications and energy networks. It discusses the EU's Trans-European Networks initiative as well as related policies.

On completion of this course you will:

- Understand the intricacies of the European policy-making process for infrastructures
- Recognize the mechanics of European lobbies in the infrastructure sector
- Be able to sketch plausible scenarios for the future development of European infrastructures

An interest in the process of European integration, and/or in the cross-border challenges of transnational infrastructures is required.





Applications

The course is designed to expand the knowledge base of and provide concrete analysis tools to young professionals in business and government, as well researchers in the field of infrastructure systems design and management. Participants will have an opportunity to present their current work and tailor assignments to fit their specific research niches. We encourage a diverse set of participants and a rich exchange of knowledge and experiences.

To apply, please send (i) a current two-page curriculum vitae and (ii) a one-page motivation letter explaining why you are interested in a particular track and how the lessons learned in the NGINfra Academy will assist you with your research and/or professional goals.

Applications close June 15, 2010.

Participation will be of 15 people per track, so please apply early.

Scholarships

A limited number of need-based scholarships is available for exceptional candidates from and studying in developing countries. These scholarships, made possible in part by our preferred industrial partners, valued at € 3500, will cover the course and accommodation fees and contribute to the travel costs from the student's home country to attend the course.

Candidates who wish to be considered for a scholarship should also include with their registration, in addition to their curriculum vitae and motivation letter, (i) two letters of recommendation from distinguished scholars (professors, deans of college, heads of department/faculty) or practitioners familiar with their work, (ii) a copy of a recent publication that they have (co-)authored (researchers) or a description of their role in an outstanding project (young professional) and (iii) proof of citizenship (such as copy of a valid passport or residence permit).

Costs

The all-inclusive course fee for the NGINfra Academy is € 2500. This covers the cost of training materials as well as five overnight stays in a single room (arriving 19.09.10, departing 24.09.10) and all meals during the course (breakfast, lunch and dinner).

The intensive courses offered by the NGINfra Academy will be most effective with participation in all scheduled activities which include early lectures and after-dinner debates and discussion. Therefore, staying off-site will be strongly discouraged. The course fee does not account for travel to- and from the course location.

Location

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