Governing transitions towards Low-Carbon Energy and Transport Systems for 2050 (LETS)

1. Programme idea and objectives

The core mission of the proposed research programme is to identify, explore and suggest ways forward, i.e., *roads to implementation of low carbon energy and transport systems for 2050*, in order to reach ambitious climate policy objectives such as expressed by the 2 °C target. Hence, the overarching research question is:

> *What societal transitions are implied by low-carbon futures and how can these transitions be governed and implemented to meet challenging climate policy objectives?*

Based on a thorough understanding of technical mitigation options and the role of behaviour, our focus is on the ensuing key opportunities and challenges in terms of changes in the *modus operandi* of political, administrative and economic systems. Our understanding of this challenge goes beyond the scope of incremental and instrumental change and is rather informed by the need for stringent climate governance to induce necessary shifts and leaps in technology and behaviour, *if* ambitious climate policy objectives (such as the 2 C target) are ever to be met. The programme will combine scientific excellence with close user interaction to ensure relevance and efficient dissemination of knowledge and results among key stakeholders. The objective is to produce new knowledge, but also to synthesise and interpret existing knowledge for more informed choices by decision makers, planners, and other stakeholders.

Low-carbon futures necessitate shifts to carbon-free energy carriers produced in low-carbon conversion processes and changes in consumption behaviour. When accommodating such shifts, existing political and administrative regimes are challenged by the need for climate policy integration across policy domains, dynamic consistency, new planning tools and processes, ceding power to the appropriate level, etc. The outputs from this programme will range from high-level research based policy advice to tools and guidelines for the "street level" implementing agencies and other administrative bodies. The research team brings together key disciplines from social sciences, economics and engineering (i.e. energy and transport system studies), and is supported by professional project and information management. The types of outputs are determined by the critical issues and identified needs at hand in different research areas. For the purpose of meeting our goals we have identified, and organised the programme in, five research areas that are particularly crucial for making the transition to low-carbon energy and transport systems (LETS). The five research areas, work packages hereafter, include:

- **WP0: Future Policy Scenarios and Alternative Pathways for LETS** studies alternative technological and policy scenarios and asks: What kind of transformations, in terms of technological and behavioural change, are required for LETS to meet challenging climate policy objectives? What are the political, economic and social challenges associated with such transformations? What alternative pathways towards LETS are possible under various scenarios?
- **WP 1: Governance: Developing Institutions and Policy for LETS** considers implications for policy and institutional change and asks: What type of governance, in terms of institutions and policy, are needed to enable the transition towards LETS? and How can such institutions handle a set of governance dilemmas such as legitimacy,

accountability, dynamic consistency, effectiveness and efficiency related to climate policy?

- **WP 2: Urban and regional planning and infrastructure for LETS** studies urban and regional planning and changes in infrastructure as a means for reducing greenhouse gases and asks: What tools, instruments and recommendations are necessary to (re)organize the built environment and transport system in order to enable and support the transition towards LETS?
- **WP3: Markets, industry and policy for bioenergy** focuses on fossil fuel substitution using biomass and asks: What are the market and resource implications of high carbon prices? What are the sustainability challenges, commercial opportunities and policy options involved in governing the transition to increased use of bioenergy?
- **WP 4: Citizen-Consumers and Voluntary Instruments for LETS** looks at implications of 'soft' policy and voluntary instruments, as complements to regulation and market based instruments, and asks: What type of voluntary policy and planning instruments will contribute to behavioural change among citizen-consumers consistent with the transition towards LETS?

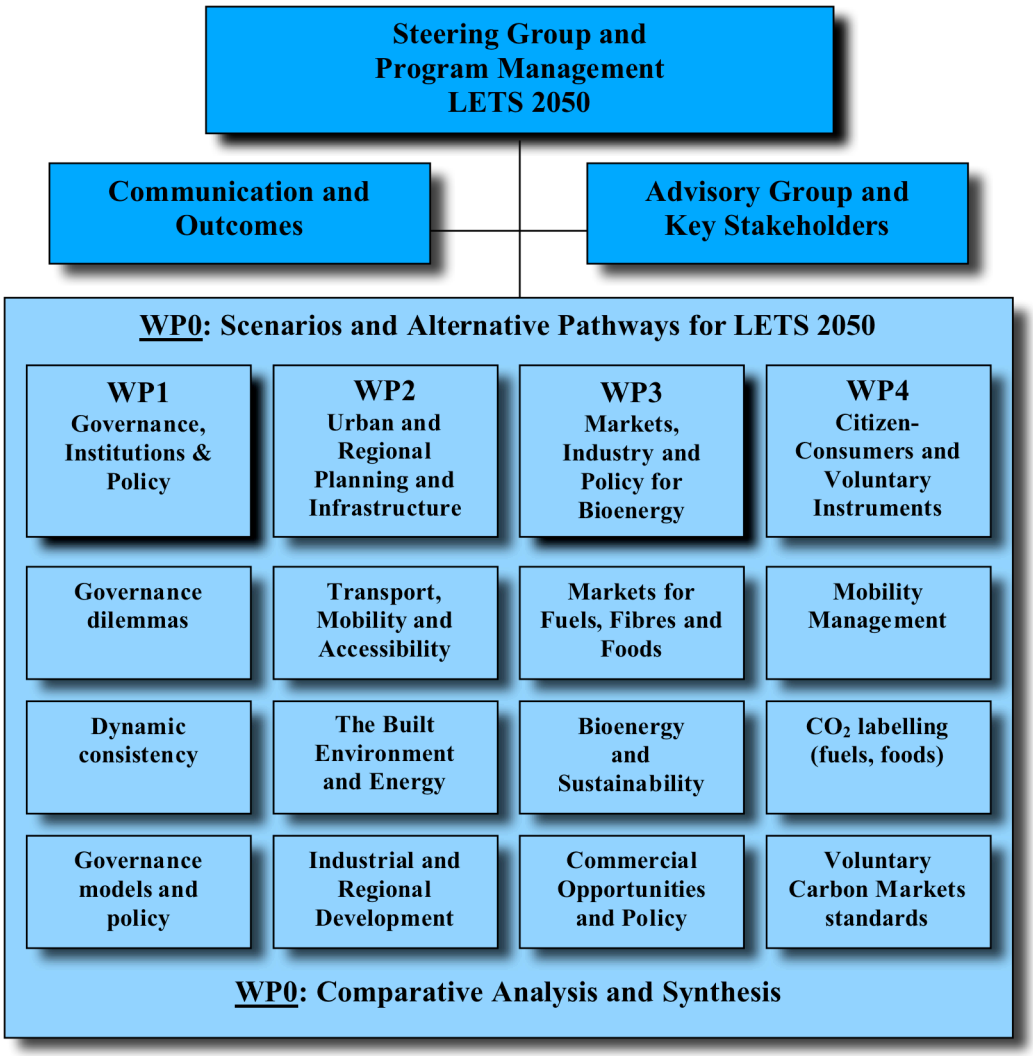

Fig. 1. Overall contents and structure of the LETS programme

2. Review of the research field

As necessitated by the scope of the challenge and indicated by the breadth of issues covered in the WP:s, the research programme will cover, integrate and synthesise research in several existing fields. The programme spans across several disciplines in social sciences and economics. It will be solidly based in state-of-the-art knowledge concerning transport and energy systems and technologies represented by Traffic Planning and Environmental and Energy Systems Studies. In several of the disciplines represented, as well as in the interdisciplinary groups, policy analysis and implementation research is already a strong trait. A comprehensive review of relevant research fields and theories covered by the consortium is, however, beyond the realms of this programme proposal. Relevant research in different fields will be referred to mainly in the WP descriptions. In this section we discuss approaches to integrative and interdisciplinary research for the purpose of putting this programme proposal into context (and not to deliver a literature review proper).

To stabilize the concentration of greenhouse gases in the atmosphere in order to mitigate climate change and "prevent dangerous anthropogenic interference with the climate system" (UNFCCC, Art. 2) is one of the most daunting and challenging tasks for sustainable development during this century. There is growing scientific consensus on this objective being associated with limiting global average temperature increases to around 2 °C above preindustrial levels (e.g. IPCC, 2007; cf. MVB, 2007). Recent studies indicate that reaching this global temperature target requires that the concentration of greenhouse gases stabilizes at levels well below 450 ppm $CO_{2\text{-eq}}$ during the 21st century (e.g. Meinshausen et al, 2006; van Vuuren et al, 2007). This necessitates radical reductions of GHG emissions over the coming decades and peaks in global emissions within the present generation. This requires that Swedish and European emissions are reduced by 70-90% in the next 40 years and approach zero, or even lower, beyond 2050 (very low stabilization may require negative emissions).

Fundamental trend breaks and technology shifts in the energy and transport systems are necessary to meet such targets. Scenario studies and modelling using bottom-up and top-down approaches suggest that this is technically and economically feasible.[1] Low-carbon future scenarios tend to focus on technical fixes including higher energy end-use efficiency, increased shares of renewable energy, carbon capture and storage, and sometimes nuclear energy. Changes in behaviour and consumption patterns are often implicit in such scenarios (e.g., assuming medium sized fuel cell electric vehicles rather than unconstrained SUV:s) but sometimes explicitly treated (e.g., assuming less travel or even changes in diet).

Future studies and scenarios are more or less influenced by current belief systems and norms, whether they work in the direction of large scale nuclear futures as envisioned in the 1950s, or the ecological collapse in "Limits to Growth" presented to the Club of Rome in the 1970s (Meadows et al, 1972). Simply put, the future is not what it used to be, and it never will be. Contexts change as shown by the past 10-20 years of political and economic development in China, or the recent surge in oil and food prices. A recent technology-driven surprise is the siting of wind turbines in forests, adding a new dimension to spatial planning. Such political, market, or technical developments create new and unanticipated situations and playing fields.

Models for projecting the development and future of energy and transport systems are constrained by the risk of bias in modelling assumptions and the inability to handle

[1] Ranging from those reported in IPCC AR4 WGIII (2007) to the Swedish EPA report on the 2 °C-target (Åkerman et al., 2007). Many such studies have been published over the years, recent examples include the ECN/NRG report *A sustainable energy system in 2050: Promise or possibility?* (Uyterlinde et al., 2007); *Climate 2050, The road to 60-80% reductions in the emissions of GHGs in the Nordic countries* (TemaNord 2007:535) and the *Energy Technology Perspectives 2008* report (IEA, 2008). See further the WP0 appendix.

unanticipated events or changes in a variety of factors ranging from technologies and costs to relative prices and public opinion. An early case in point was the 1981 IIASA study "Energy in a Finite World" (Häfele et al, 1981) that predicted a rapid global nuclear expansion. Contemporary research that follows this quantitative approach, i.e., Integrated Assessment Modelling, suffers from similar problems when trying to translate a complex reality into formalised mathematical models. The future cannot be optimised using a set of rules and equations. Uncertainty and complexity is too large, in particular for socio-economic systems.

The limits of projections and forecasts for the longer term future of energy and transport systems fuelled the development of scenario approaches in the 1970s and 1980s – aimed at analysing possible rather than likely futures. Backcasting was coined as a term by John B. Robinson in 1982 (Robinson, 1982) to denote one such alternative approach. In essence it entails formulating a possible future scenario and then back-track in order to devise how that future can be reached starting from the current situation. However, also backcasting studies generally give superficial treatment to the governance, policy and implementation challenges that are critical to changing direction. A richer treatment is found in the Transition Management approaches that evolved from evolutionary economics in the Netherlands in the 1990s (e.g Loorbach and Kemp, 2008).

Given that quantitative future scenarios abound and that the future is uncertain we will focus our efforts on evolving qualitative storylines rather than construct yet another set of quantitative scenarios. The storylines used in WP0 will be based on a comparative review of existing scenarios in order to identify salient features that are relevant for governance, policy and implementation. These features or polarities range from underlying technology and resource assumptions (e.g., peak oil vs. no peak) to international relations (e.g., high/low level of international climate collaboration).

For identifying the research areas and formulating WP1-4 we have used three key criteria:

(i) there should be a clear need for new or synthesised knowledge where this consortium can make a research based contribution;

(ii) it should be areas that are critical to reaching ambitious climate policy goals;

(iii) it should be areas relevant to the funding agencies and for which practitioners and users of results can be identified. This implies, not the least, that although the research efforts address general questions they focus on Swedish contexts and policies.

WP1-4 were identified and developed to score high on these three criteria, guided by our review of the literature and assessment of the various research fields encompassed by the programme. A few of the motivations for the WP:s and their focus can be highlighted:

- The study of governance, institutions and policy (WP1) will benefit from a richer understanding of LETS in terms of fundamental changes in resource use, as well as transport and energy systems.
- Policy analyses frequently neglect the importance of the local and regional level where much of the decisions are made and measures implemented (WP2). On the other hand, planning studies are rarely informed by the long term implications of LETS.
- Bioenergy is one of the most important (not least in Sweden), but also complex and contested, mitigation options. For example, studies of potentials and costs must be complemented by studies of markets and prices, and of how market interactions may induce conflicts over the use of resources (WP3).
- Consumer preferences and consumption patterns are repeatedly studied. Yet, the broader role and impact of voluntary and other consumer-oriented policy instruments is poorly understood (WP4).

It should also be stressed that research in all WP:s will benefit from our composed multi- and interdisciplinary research teams. Each of the projects involves researchers from several disciplines. The integration between work packages is further explained in the following sections.

3. Research Approach and Methodology

The programme covers a multitude of theoretical perspectives, methods and sources of empirical information under the overall approach of comparative scenario review and associated back-casting of implications for governance, policy and implementation. Under this umbrella approach, various theories and methods from different disciplines come into play on the same research issues. This means that problems and solutions are analysed with regard to relevant combinations of economic, political, legal, technical, and other aspects simultaneously. We refrain from going deeply into theoretical perspectives and scientific methods here since the information can be found in the WP descriptions. We focus instead on presenting the overall research approach and points of departure.

An important point of departure is that the technological and resource components of sustainable LETS for 2050 are relatively well known. Numerous studies have demonstrated the importance of energy efficiency, renewable sources of energy, as well as the potential for nuclear energy and CCS (carbon capture and storage). In addition, there are non-technical options, e.g., changes in consumption patterns, and a host of policy instruments have been proposed and evaluated over time (recent examples are e.g. Naturvårdsverket; 2007 and SOU 2008:24).

Against this background, the transition to LETS 2050 may be coined as a rather simple problem of removing various barriers to implementation by choosing the proper policy instruments, increase coordination and improve planning, etc. While these are part of possible solutions, we argue that it is far from what is required as indicated by the scenarios advanced. In the formulation, design, implementation and consequences of policies and instruments there are feedback loops and complex interaction between different policy domains. This creates opportunities but also barriers. The question at heart is whether conflicts over objectives and between interests resulting from distributional effects of climate policy measures will constitute insurmountable barriers in the implementation process. Thus, in an analysis of the design of efficient political governance systems and policies, the social and political dimension of the transition to LETS need to be taken into account. By studying issues such as dynamic consistency, legitimate policy and decision processes, etc. such barriers can be addressed and overcome.

WP0 makes a scientific contribution through the comparative review and the interpretation of scenarios in terms of implications for governance, policy and implementation. WP0 represents the umbrella work package and a mechanism for creating at the outset a common knowledge platform for the programme partners and provides the work packages with a *leitmotif* or point of reference. It also facilitates integration and synthesis through an iterative process within the programme. Synthesising results from WP1-4 in the context of the WP0 storylines may, for example, lead to the discovery of unexpected opportunities and barriers for LETS transitions.

Research in WP1-4 is strongly problem oriented. This means addressing the question of what (in the context of LETS 2050) changes in governance, policy and implementation that are possible here and now while also identifying the potential processes for getting there. The work packages also have elements of critical research, i.e., studies and assessments that are not aimed at delivering short-term solutions but that are nevertheless necessary for developing a deeper understanding of cause-effect relationships or certain phenomena. The critical

research, in turn, provides a sound scientific basis for problem oriented research. The strength of interdisciplinary research is the combination of these approaches and the use of a broad set of theories and methods.

Studies of sustainable energy and transport systems commonly take a sectoral approach when estimating the potentials through various measures in electricity production, industry, buildings, households, road transport, etc., and thereafter assessing different policy options. In our ambition to address the fundamental and emerging societal challenges of LETS we have opted to stray from this approach and instead formulated WP1-4 starting from issues that are particularly crucial for making the transition to LETS. As a result, various theories and methods are used and combined in the different work packages, depending on the issue at hand. Theoretical perspectives and methods are also contingent on the deliverables and target audiences.

In WP4, for example, a potential result is a recommendation, or an impact assessment, concerning voluntary carbon offsets as opposed to compliance mechanisms such as personal carbon emission allowances. Although not deemed effective as a policy instrument in a narrow sense it may be strong in terms of generating higher acceptance for, and legitimise (i) constraints on the use of fossil transport fuels, and (ii) ambitious climate policy at large. Addressing this issue requires that conventional theory and methods for policy analysis is expanded to include inputs from sociological and political science research. For other deliverables, the recommendation can be more straight-forward; for example, a guideline on the extraction of roots and stumps from clear fellings that balances conflicting energy and biodiversity goals (WP3).

4. Practical relevance of the LETS programme

The researchers involved in the LETS programme have long experience of working on issues that are relevant both for research and practical applications close to users and practitioners. This includes users at different levels (e.g., from municipalities to the European Commission), and of various types (both public, private and NGO). As noted, for example, in WP2 such research is ongoing already within the area of sustainable urban development and transport demand management. Other examples include major contributions to the recent government report on Energy Crops (SOU 2007:36), development of methods for monitoring and verification under the Energy Services Directive (www.evaluate-energy-savings.eu), writing validation manuals for Gold Standard CDM (www.cdmgoldstandard.org/materials.php). Commissioned by the Swedish EPA, the CAPRI model has previously been used to forecast the level of GHG-emissions from the Swedish agricultural sector until 2020 (Ekman and Tezic, 2007). There are many more examples.

In our view, good and relevant research in the context of LETS must consist of a mix of problem oriented and critical research. The benefit and relevance of the latter is not always obvious to non-researchers but nevertheless important for providing sound expert advice on issues facing decision and policy makers. It is important in LETS that the researchers assume the role of experts and are able to effectively communicate results to practitioners. However, we would also like to stress the importance of practitioners being able to communicate what are relevant research issues for them and take active part in the dialogue. Relevance is very much in the eyes of the beholder. Government agency representatives and others are the best judges of whether we reached our ambition in the WP:s to propose sound research with high practical relevance. Rather than arguing for the practical relevance of our proposal here, we will reflect on the role of research in policy and decision-making, present the associated types of deliverables and research outputs, and explain the link between this research programme and the Swedish Environmental Quality Objectives (EQOs).

Concerning the role of research it should be clear that we distinguish between analyses that can be made to inform decision-making (e.g., implications of trade-offs between objectives), and the actual political decision (e.g., doing the trade-off). Implementation research shows that there are various types of barriers to implementation that can arise at different points in the policy process. Conflicts between objectives and distributional effects are often singled out and taken for granted as the most important types of barriers. However, even polices and measures that are uncontroversial in this respect may be held back due to practical implementation problems, e.g., lack of information, coordination or jurisdictional issues. Our approach can determine what are the grounds for barriers in specific situations. In cases where practical problems create barriers for implementation, the programme will focus on providing the tools for practitioners to facilitate planning, decision making, assessments, etc. In cases where there are conflicting interests or competing objectives the programme can expose underlying conflicts and demonstrate how and why they supersede the goal of reducing greenhouse gas emissions, and suggest ways to circumvent them.

Against this background, the programme will produce various deliverables and outcomes that are relevant to different stakeholders and users in different situations. These include (in addition to scientific publications such as working paper series, conference presentations and peer reviewed journal articles):

- Practical and analytical tools, recommendations and guidelines
- Advice and recommendations for policy and policy processes
- Facilitating workshops and seminars as a means for stakeholder deliberations
- Impact analyses and assessments of governance, policy and implementation options.

Furthermore, the research programme is clearly relevant for the implementation of the Swedish Environmental Quality Objectives (EQOs). Swedish environmental policy has since 1998 been organized under the heading of 16 general EQOs that are thought of representing the challenges of sustainable development within the next generation in a Swedish context (i.e. the so-called generational objective). In a general sense, the transition towards LETS as well as the overall success of climate change mitigation will have bearing on the fulfilment of all EQOs. In particular, the LETS programme is relevant for the climate change objective *Reduced climate impact*, for which the Environmental Objectives Council has recently proposed to adopt the 2°C target as a new objective (EOC, 2008). Further, the transition towards LETS will contribute to and affect other objectives as well, in particular the following:

- Sustainable Forests (e.g. forestry and biomass energy)
- A Varied Agricultural Landscape (e.g. land-use issues)
- A Rich Diversity of Plant and Animal Life (i.e. biodiversity)
- A Good Built Environment (e.g. energy efficiency; traffic planning)
- Clean Air (ancillary benefits)
- Natural Acidification Only (ancillary benefits)
- Zero Eutrophication (ancillary benefits)

The EOC (2008; cf. 2007) judge that these objectives will be difficult or even impossible to reach in time by 2020, partly due to the international interdependence in greenhouse gas emissions, air pollution, acidification, eutrophication, etc. Other reasons are lacking powers, jurisdiction and resources for implementation (ibid). This points to the impossibility of "ecologism in one country" (Lundquist, 2004) in relation to the spatial dimension of

ecological governance and the need to address international contexts and developments in the development of domestic (Swedish) environmental and climate policy as well.

In the LETS programme we will approach issues about the EQOs in several ways. In WP0 an important element will be to assess impacts of LETS on the EQOs under various scenarios/pathways. WP1 will approach the EQOs as an interesting case of and distinct strategy ('management by objectives') for institutionalized policy reform (policy as institution and process) in contemporary Swedish environmental policy in order to analyze their role for the transition towards LETS. In particular, the so-called *EET strategy* (efficient energy use and transports) is central for implementing both the EQOs and future LETS. Research in the other work packages are of relevance for the EQOs as well; WP2 particularly on the "Good Built Environment" objective and the role of planning instruments and infrastructures for the EET strategy; WP3 on energy policy and potential conflicts between climate change and land use related objectives; and WP4 on the role of individual behaviour and 'soft' policy for implementing climate and environmental objectives. In this way, the research in the programme will offer valuable input to forthcoming reviews and assessments of the Swedish EQOs, of which the next full assessment is expected to be completed in 2012.

5. Programme management and organisation

The organisation of the LETS programme is illustrated in Fig. 2. The programme will be governed by a Steering Group comprising the Executive Management Group (4 people), the work package leaders (5 people), and representatives of the funding agencies (4 people). The role of the Steering Group is to advice the Executive Management Group on priorities and programme activities (for example, how to strategically use the reserved budget item for contingencies). The Steering Group will have formal meetings twice per year (one meeting coinciding with the Annual Programme Meeting). The Executive Management Group is responsible for overall programme management and scientific leadership, as well as the administrative and information management. The Program Director (Prof. Lars J Nilsson) and the Deputy Director (Ass. Prof. Annica Kronsell), representing engineering sciences and social sciences, respectively, are responsible for overall programme management as well as the scientific leadership in the programme. The Administrative Manager (MSc. Björn Wendle, Trivector and the Information Manager (Dr. Inger Linderholm, Trivector), with documented expertise in professional project and information management, are responsible for the overall administrative management (e.g., budgets, reporting, meetings) and communication (e.g., press releases, newsletter, website, internal communication coaching). We have excellent experiences from the IMPACT programme under TransportMistra and other research programmes with putting the responsibility of these latter functions into professional hands.

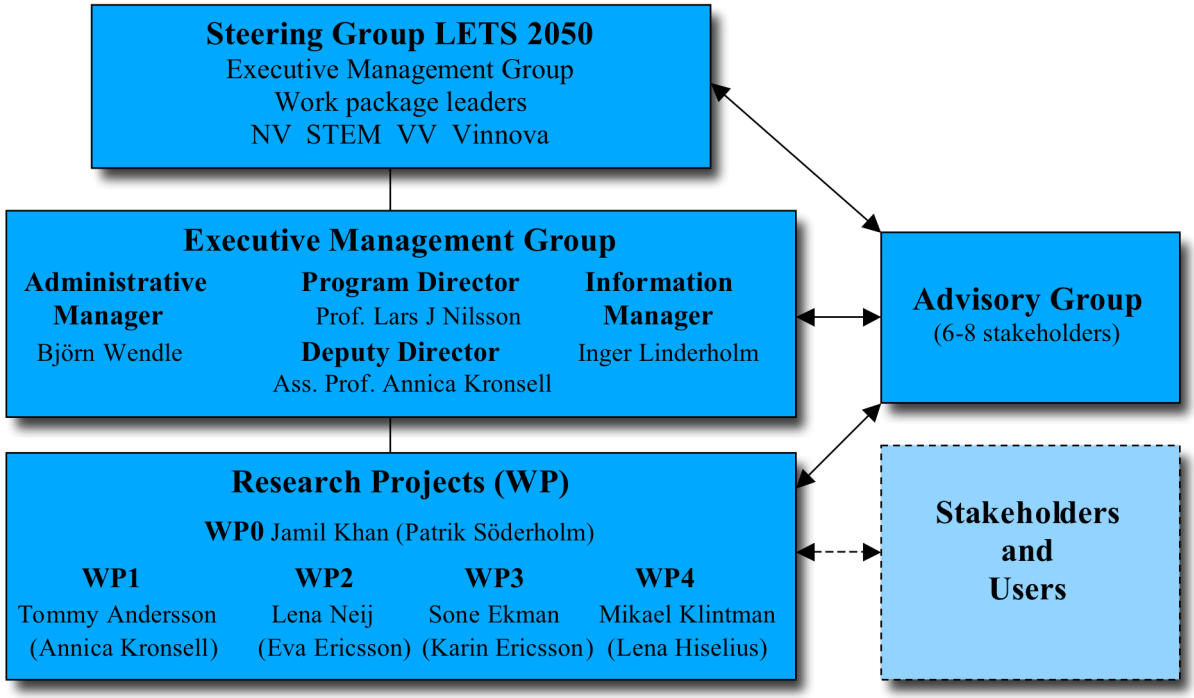

Fig. 2. Organisational chart for the LETS-programme

The Advisory Group will consist of about 6-8 key stakeholders and users that are contacted regularly for advice on policy relevance and updates throughout the whole programme period. There will be one formal Advisory Group meeting annually. We envision that the Advisory Group is an arena not only for programme advise but also for creative discussions of ideas between stakeholders from different levels (e.g., Members of the European Parliament as well as representatives from municipalities) and different organisations (e.g., industry, government agencies, and NGO:s). The success of this is contingent on finding suitable and dedicated individuals. It will be an initial task for the LETS programme, specifically the Steering Group, to identify and establish such an Advisory Group during the first three months of the programme (Jan 2009). New members will possibly be added to this core advisory group as the programme proceeds. As evidenced by the work package descriptions much of the interaction with users and practitioners will take place at the work package level through seminars, workshops and other communication activities (see further Section 7).

The research within the LETS programme is organized in five work packages around the overarching research theme on future policy scenarios and alternative pathways for LETS (WP0) and four more applied research areas; Governance, Institutions and Policy (WP1), Urban and Regional Planning and Infrastructure on energy and transports (WP2), Markets, Industry and Policy for Fuels from Forestry and Agriculture (WP3), and the role of Citizen-Consumers and Voluntary Instruments in climate policy (WP4). Each of these work packages involves researchers from different disciplines and has one project leader and one deputy project leader. The research in the work packages involves senior and junior level (post doc) researchers, as well as PhD students to some extent. Due to the complexity and synthesizing nature of the research questions many of them are however not suitable for PhD work. Senior researchers involved will primarily conduct own research within the work packages, but will also be responsible for supervising doctoral students. It should be noted that the (preliminary five) PhD students that will be involved will have a considerable part of their funding from other sources. This gives added value to the programme as a way to build competence and

assure continuity in the research field and to the PhD students who become part of a research programme team.

The LETS programme builds on the scientific competence from 10 different departments and institutes (see Figure 3). Although the specific constellation of researchers in LETS is new it builds on the experience from a number of interdisciplinary research projects involving many of the participants. Given that the technical and economic viability of mitigation options have been repeatedly shown, our focus of research in this programme is on the challenges of governance, policy and implementation involved in making the transitions to LETS. Political Science, Sociology, Law and Economics are the key social science disciplines needed in the study of the thorough societal transitions that are necessary. Furthermore, LETS involves several interdisciplinary and applied research groups that, in addition to scholars with social science backgrounds, also involves researchers with engineering backgrounds in the areas of transport system and energy system studies. This composition of researchers will facilitate research on the social science implications of making the transport and energy system transitions that are shown in future scenarios. In addition to the appropriate mix of disciplines we would also like to stress the strong research backgrounds in relevant areas, e.g., renewable energy policy, bioenergy systems, environmental policy, sustainable mobility implementation research, food policy, etc. All researchers are connected to Lund University, with the exception of Prof. Patrik Söderholm, Luleå University of Technology, who brings particular expertise on energy economics, climate and energy policy as well as documented experience of key Swedish industrial sectors. Furthermore, it should be noted that IIIEE (Prof. Neij) as well as SLI (Dr. Ekman; Dr. Johansson) are independent research institutes that are connected to and hosted by the Lund University. See Table 1 and attached CV:s for the full picture of the programme consortium.

One success factor is to ensure close and fruitful interaction and collaboration between the researchers involved (e.g. exploring pathways to LETS in 2050) and users (sometimes dealing with shorter term problems). Analytically, an important element for enhancing programme integration will be the inter-WP exchange on future scenarios and alternative pathways for LETS. WP0 is organized as such an overarching, or framing, element that in an interactive process will develop and offer an analytical framework, or *leitmotif*, for the subsequent research tasks within the programme. The storylines described in WP0 will develop successively and build on iterative exchange and learning between the involved researchers and institutions. Starting out with a set of iconic storylines (cf. the WP0 appendix), followed by a comparative review of existing scenarios with subject to the implications for governance, policy and implementation, WP0 will allow for conceptual and analytical input to the more applied research tasks and enable comparisons of results across the WPs. Tentative results from the other WPs as well as the detailed assessments of socio-economic and environmental impacts of the different pathways described, this process will contribute to the development of full storylines about the transition towards LETS. Different types of outcomes are produced along this research process and we will at the end arrive at a synthesis on alternative pathways and recommendations for future climate policy strategies.

Interaction with users and practitioners also has an organisational dimension. In addition to the conventional means of facilitating communication, interaction, and outreach activities on the part of the researchers, we would like to explore new approaches. One option is to place researchers for shorter periods of time at the agencies and administrations involved, and vice versa, place civil servants in research environments. Another option is PhD students that maintain their jobs in an agency but spends considerable time doing research towards a degree (“industridoktorander”). The responsibility for ensuring relevance and interaction is often put mainly on the researchers involved but in reality there is also a need for practitioners to

engage actively in the programme. The Steering Group and the Advisory Group has an important responsibility to contribute with ideas and solutions on these issues.

Table 1. Researchers actively involved in the LETS programme

Name	Affiliation	WP	CV
Prof. Lars J Nilsson	Environmental and Energy System Studies (IMES), LTH	Program Director; WP0; WP3	•
Ass. Prof. Annica Kronsell	Dept of Political Science	Deputy Director; deputy WP1	•
Dr. Inger Linderholm	Trivector	Information Manager	•
MSc. Björn Wendle	Trivector	Administrative Manager; WP4	•
Dr. Jamil Khan	Environmental and Energy System Studies (IMES), LTH	Project leader WP0; WP1	•
Prof. Patrik Söderholm	Economics Unit, LTU	Deputy WP0; WP3	•
Dr. Tommy Andersson	Dept of Economics	Project leader WP1	•
Prof. Lena Neij	International Institute for Industrial Environmental Economics (IIIEE)	Project leader WP2	•
Ass. Prof. Eva Ericsson	Traffic Planning, Dept of Technology and Society, LTH	Deputy WP2	•
Ass. Prof. Annika Nilsson	Faculty of Law	WP2	•
Ass. Prof. Karl-Johan Lundquist	Dept of Social and Economic Geography	WP2	•
Prof. Lars-Olof Olander	Dept of Social and Economic Geography	WP2	
Dr. Sone Ekman, SLI	Swedish Institute for Food and Agricultural Economics (SLI)	Project leader WP3; WP0	•
Dr. Helena Johansson	Swedish Institute for Food and Agricultural Economics (SLI)	WP3	•
Dr. Karin Ericsson	Environmental and Energy System Studies, LTH	Deputy WP3	•
Ass. Prof. Pål Börjesson	Environmental and Energy System Studies, LTH	WP3	
Ass. Prof. Mikael Klintman	Research Policy Institute	Project leader WP4	•
Dr. Lena Winslott Hiselius	Traffic Planning, Dept of Technology and Society, LTH	Deputy WP4	•
Dr. Johannes Stripple	Dept of Political Science	WP4	•
Fredrik NG Andersson	PhD candidate, Dept of Economics	WP1	
Evgenia Pavlovskaia	PhD candidate, Faculty of Law	WP3	
Roger Hildingsson	PhD candidate, Dept of Political Science	WP0; WP1	

In addition to these researchers, another three PhD candidates will be actively involved part-time in the programme (in WP2 and WP4). Other members of staff may also become involved.

Gender issues

In a gender perspective, the programme consortium represents a relatively even mix of male and female researchers (13 to 9). We have made no effort to include or exclude researchers on the basis of their gender. Gender will however be a consideration when forming the advisory group.

6. External networks and cooperation

The involved partners have through previous research, individually and in joint projects, established extensive external networks with other academic institutions, research institutes, government bodies, industry, etc. The context and external networks of LETS are illustrated in Figure 3. With 10 partners that are individually at the forefront in their various research areas, LETS obviously has enormous scientific networks including universities and research institutes in Sweden, Europe and around the world. Some of the prominent ones include MIT, IIASA, Princeton University, Utrecht University, IFPRI, Bartlett School of Planning at UCL, Tyndall Centre, IVM, CICERO, ETH, Ecole des Mines, University of Washington and PIK.

The partners are used to working on issues with high societal relevance, close to ongoing policy processes and in cooperation with institutes, consultants, government agencies and industry. A few examples were mentioned in section 4. In several cases such constellations appear in EU projects such as ADAM (www.adamproject.eu), RENEW (www.renew-fuel.com), OMEGA (www.omegacentre.bartlett.ucl.ac.uk), AID-EE (www.aid-ee.org), PROCEED (www.proceedproject.net), MAX (www.max-success.eu) and COST 356 (www.cost356.inrets.fr). External partners that are influential in the European energy and climate policy context include Oeko Institute, Wuppertal Institute, Ecofys, ECN, and others.

In Sweden, the partners have been involved in a range of official investigating committees and government reports on bioenergy (e.g. SOU 2007:36), energy efficiency (e.g. the EnEff Committee; SOU 2008:25), and transport policy (e.g. SOU 2003:67); and reports commissioned by government agencies (e.g., the Swedish EPA), as well as the Parliament (e.g. Åhman and Åkerman, 2008) and the Environmental Advisory Council (e.g. MVB 2006:2). Cooperation with regional and local administrations are concentrated mainly to Southern Sweden but has included also the City of Stockholm in connection to the trial on congestion charges. It should be noted that Trivector works nation-wide as a research based consultant, as well as participates in a range of EU-projects, e.g. on mobility management.

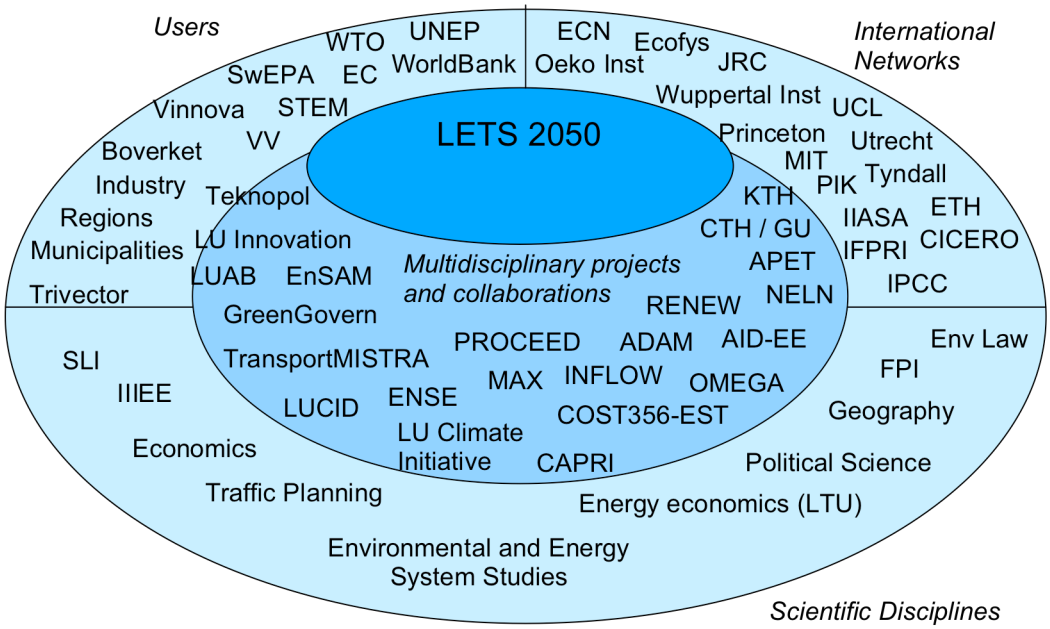

Fig. 3. Competences, cooperation and networks employed in the LETS programme

The LETS programme will also be an important part of the new Lund University Climate Initiative that will be launched in September 2008. One objective of this initiative is to improve the coordination and communication of climate science and policy research.

The programme will also benefit from previous experiences and existing relations with various practitioners and relevant industrial sectors in the field. For example, Trivector has long-standing experiences of commercializing and making research on sustainable transport accessible and available to practitioners. Further, Lund exhibits a well-developed infrastructure for supporting innovation and commercialization of research through various incubator environments such as LUAB, LU Innovation, Teknopool, Teknoseed as well as other initiatives in the region (e.g. MINC in Malmö). At present LUAB is starting a new incubator for start-ups in services and consulting.

7. Communication strategy

In this section we present the communication strategy for the LETS programme. The initial task will be to develop the strategy into a detailed communication plan (Dec 2008).

Objectives

In relation to the main research objective the communication objective of the LETS programme is *to combine scientific excellence with close user interaction to allow for valuable input from key stakeholders and to ensure the relevance and efficient dissemination of knowledge and results.* The general aim is that all prioritized target groups should be aware of the programme and its objectives. These objectives will be on two levels:

- *Cognitive Objectives* that are related to raising general awareness about the need for, and possible paths towards a low-carbon future. The inclusion of target groups will provide crucial knowledge about potential solutions within the transport and energy sector specifically. To evaluate cognitive objectives, we will assess the knowledge level of key target groups at the beginning and at the end of the programme.
- *Behavioural Objectives are* related to what we want users to be able to do. During the programme, target groups must be encouraged and allowed to interact with programme members. At the end of the programme, potential users should be able to make decisions based on relevant research results and tools adapted for the specific target groups. To measure these objectives, we will evaluate methods for interaction (see e.g. WP2) and to what extent key target groups view results as relevant and useful.

Specific and quantitative communication objectives will be elaborated in the communication plan that will be based on three values: *Openness*[2]; within the programme and between researchers and users; *Interaction*; within the programme and between researchers and users; *Innovation*; using innovative means of interaction and communication.

Prerequisites for communication

The research team has made a SWOT analysis which is an important input in developing the communication plan. It identified themes of relevance to the communication process such as:

- **The climate issue is a hot topic on the agenda**: The LETS programme will deal with salient issues of high priority in public debates and on political agendas and this facilitates communication. There is competition for attention and media space is limited. This may

[2] Emphasized by the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities, signed by the Swedish Royal Academy of Science: http://oa.mpg.de/openaccess-berlin/berlindeclaration.html

lead to information overload and a less attentive media, public and disinterested policy makers. *A conclusion* is that we need to carefully select target groups, channels and messages to avoid getting lost in this overabundance of information.

- **Managed communication matters**: To communicate and explain complexities in an easy to understand manner is important but it takes time and can be difficult to prioritize during busy times. *A conclusion* is that we need to keep focus on communication throughout the research process and support the WPs with coaching and communication tools.
- **Individual networks make a difference**: Many researchers in the programme have experience in multi-disciplinary teams and most have personal relations with other academics and with the surrounding society. Still, there are uncertainties on how to talk the 'right' language in order to communicate results in concrete and accessible terms. *Conclusion*s are that these networks should be utilized for setting up advisory groups. Participatory approaches should be used to allow researchers to interact with potential users at early stages, which will make it easier to identify expectations and to acquire a common language.

Target groups and Publics

Interested parties are primarily those actively involved within the programme, funding authorities, policymakers, NGOs, industry and scientific communities as well as media and the general public. Tentatively, primary and secondary target groups will be:

- *Primary target groups* are internal programme members and their close network. It includes policy makers at different levels and in the transport and energy sector, relevant business press and magazines as well as NGOs active in the field. National authorities (e.g. the funding agencies) are considered part of the programme's close network.
- *Secondary target groups* are other research groups and academics at universities, nationally and abroad, international research programmes, international organizations, committees within the EU, daily press, students and the general public.

The target groups will be further segmented in the communication plan based on Grunig's 'Situational Theory of Publics' (1997)[3] which illustrates the importance of focusing communication on aware publics who are more likely to change their attitude or behaviour. According to Grunig, publics either actively seek information, or passively process it. Whether this information leads to cognitive or behavioural change is determined by three key variables: problem recognition, constraint recognition and level of involvement. Communication and interaction will be managed to meet the needs and requirements of groups segmented according to Grunig's model and a recent EPA study (Naturvårdsverket, 2008), which emphasizes three types of groups as agents for change (the committed; the sober-minded; and the newly enlightened).

Activities and channels

An important element of the communication within the programme and with key target groups will be a series of *annual seminars* on selected themes (the storylines and pathways elaborated in WP0 and WP1 being recurrent ones). The official *launch* will be a key activity, setting the expectations and timetables for upcoming activities and results in the programme, as well as the *final presentation* in 2012 clearly marking the end of the programme. Besides these, we want to make use of existing forums and channels (e.g. 'Energitinget' and 'Transport forum'). *Advisory and Reference groups* (see Section 5) will be organized for personal dialogue with key stakeholders in order to gain well-informed opinion and policy

[3] James E. Grunig's theory has evolved in stages, see *The Role of Information in Economic Decision Making* (1966) , *Managing Public Relations* (1984) and *A situational theory of publics* (1997).

updates as well as to inform key agents about the research. Various methods for user interaction will also be exhibited as part of the research tasks (interviews, focus groups, workshops, etc). To keep programme members and target groups up to date with activities in the programme, a *newsletter* will be issued at regular intervals. The newsletter will summarize and popularize research results, report from workshops and seminars as well as announcing upcoming activities of the programme. *External media* and press coverage will be valuable to inform about the programme and to acknowledge the research of programme members. LETS will utilize the LU/LTH infrastructure for press and media relations. As part of the PR, we plan to liaise with a limited number of journalists who have shown special interest in issues brought up by the LETS programme. Moreover, at the *project website* information about the programme and activities as well as reports and publications (incl. debriefings) will be made available. It will further be developed to allow for interactivity with web visitors, for example, by the use of web-seminars (webinars) with public access, Q&A functions, etc. Naturally, we will also make use of related websites at Lund University (e.g. the LU Climate Initiative and partner websites), Trivector and of the funding agencies.

Resources
The overall responsibility for the communication strategy/plan and management lies with the Information Manager (Trivector). The responsibility for communication according to the strategy lies with *all* programme members, with emphasis on program and work package leaders. Subsequently, resources for communication activities will be a shared concern between the work packages and the programme management. The Information Manager will serve for information and communication activities at the programme level as well as coaching and supporting in preparations for presentations, press contacts and user interactions in the projects and for individual researchers. Cooperation with a partner (Damanco) specialized in interactive events on sustainability issues will be considered as well. A web editor, specialized in web usability, will be contracted for administration of the project website. (See further the budget for programme management and communication below in Section 9.)

8. Work plan

The work plan is presented in Table 2 below, which describes the timing of the research tasks in the work packages, communication and dissemination activities, programme management, and dates for deliverables. A detailed list of deliverables is shown in Table 3. Depending on the research issues addressed in the work packages, and how they relate to each other, some work is sequential and some work is done in parallel.

The work plan is tentative and may be subject to change. One important reason for this is that LETS should maximise the value from synergies with ongoing as well as future projects, for example, through organising joint workshops. Since LETS builds on getting the most from existing competencies and research there are important synergies with many other projects and programs. A relatively complete account of such projects where core participants are substantially involved is found in the CV:s attached. Adjacent research projects are funded by the Swedish Environmental Protection Agency, European Commission, Swedish Energy Agency, Vinnova, Formas, Crafoord Foundation, Riksbankens Jubileumsfond, Norwegian Research Council, Volvo Research Foundation, and others. In this context, LETS will add considerable value in bringing together all this in one consortium addressing one and the same overarching research question.

Table 2. Work plan *year*	2008	2009				2010				2011				2012				
quarter	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
WP0 Alternative pathways																		
Iconic storylines																		
Comparative review of long-term scenarios																		
Impact assessments (socio-economic; EQOs)																		
Full revision of storylines																		
Comparative analysis (WP1-4) & Synthesis on alternative pathways and policy strategies																		
WP1 Governance, Inst. & Policy																		
Theory: Key governance dilemmas (with																		
Governance models (democracy vs.																		
Policy and sector integration (e.g..EET																		
Dynamically consistent policies & institutions																		
Synthesis (WP2-4) on governance & policies																		
WP2 Urban and Regional Planning																		
Transport, Mobility & Accessibility																		
Planning tools for reducing energy demand																		
Industrial & Regional Development																		
Synthesis on planning instruments and tools																		
WP3 Markets																		
Markets (fuels, fibres, foods)																		
Sustainability & Bioenergy																		
Commercialisation & Diffusion																		
Policy Recommendations																		
WP4 Citizen-Consumers & Voluntary																		
Theories on voluntary measures for LETS																		
Mobility Management																		
CO_2 labelling																		
Voluntary carbon standards																		
Synthesis on 'soft' policy instruments																		
Communication & Dissemination																		
Annual programme conferences		X			X				X				X				X	
WP0 Seminars on storylines for LETS		D0.2				D0.4					D0.6						D0.9	
WP1 Seminars on governance dilemmas &			D1.2									X				D1.9		
WP2 Researcher-practitioner dialogue		D2.1	D2.2			D2.4	D2.6			D2.8				D2.10		D2.13		
WP3 Seminars on energy markets and policy				D3.1												D3.9		
WP4 Stakeholder deliberations on 'soft'			D4.1					X			X					D4.5		
Newsletters		X		X		X		X		X		X		X		X		
Programme management																		
Start-up (Phase I; Phase II)																		
Steering Group meetings	X		X		X		X		X		X		X		X		X	
Advisory Group meetings		X				X				X				X				
Programme Reports (annual, AR; final FR)						AR1				AR2				AR3				FR
Mid-term review (MTR) / Decision Phase II (x)									MTR	X								
Deliverables (publications, reports, etc)		D0.1 D1.1		D2.3	D0.3 D3.2	D1.3 D4.2	D1.4 D2.5 D3.3	D2.7	D0.5x D1.5 D3.4	D0.6 D4.3	D2.9	D3.5	D0.7 D1.6 D3.6	D4.4	D1.7 D2.11 D3.7		D0.8 D1.8 D2.12 D3.8 D4.6	

Table 3. Deliverables of the LETS programme		
WP0		
D0.1	Dec 2008	Iconic storylines for transition towards LETS
D0.2	Jan 2009	First seminar on (iconic) storylines with other WPs and key stakeholders
D0.3	Dec 2009	Report on comparative review of scenarios ('state-of-the-art' model comparisons), technological and policy implications, and revised storylines
D0.4	Jan 2010	Second seminar on revised storylines based on the comparative review of scenarios and on implications for policy and implementation
D0.5x	Dec 2010	Publications: Impact assessments of meeting the 2 °C target on key socio-economic factors as well as the EQOs (1-2 reports)
D0.6	April 2011	Third seminar on impacts of alternative storylines
D0.7	Dec 2011	Report on full storylines for transition towards LETS
D0.8	Autumn 2012	Synthesis: Alternative pathways for the transition towards LETS and possible Climate Policy Strategies (final report)
D0.9	Autumn 2012	Final LETS seminar (conference) for key stakeholders and the scientific community to present and appraise synthesis
WP1		
D1.1	March 2009	Theories for sustainable and dynamically consistent governance
D1.2	April 2009	Workshop on key governance dilemmas associated with LETS
D1.3	Jan 2010	Publication: Dynamically consistent policy review
D1.4	June 2010	Publication on alternative governance models and policy pathways
D1.5	Dec 2010	Study on policy and sector integration, e.g. the EQOs
D1.6	Dec 2011	Study on new institutional designs in climate policy
D1.7	June 2011	Report on policies and measures for implementation of pathways for LETS
D1.8	Autumn 2012	Synthesis report on governance and dynamic consistency (based on WP1-4)
D1.9	Autumn 2012	Final seminar/workshop on political and economical consequences and possibilities of LETS
WP2		
D2.1	Jan 2009	Stakeholder workshop on the role of planning for LETS
D 2.2	June 2009	Workshop on Transport, Mobility and Accessibility
D. 2.3	Aug 2009	Publication: Regional analysis of mobility and accessibility in Skåne
D2.4	Jan 2010	First workshop on the Built Environment and Energy demand
D 2.5	Mar 2010	Publication: Planning tools and initiatives for improved energy performance
D 2.6	June 2010	Workshop on Industrial and regional development
D 2.7	Aug 2010	Publication: Regional policy and a future low-carbon economy
D 2.8	Jan 2011	Second workshop on the Built Environment and Energy demand
D 2.9	March 2011	Publication: Planning tools and regulations for improved energy performance
D 2.10	Jan 2012	Evaluation of the researcher-practitioner dialogue (workshop)
D 2.11	June 2012	Report on methods for a researcher-practitioner dialogue
D 2.12	June 2012	Final report: Tools, instruments and recommendations for urban and regional planning and changes in infrastructure as a mean for reducing CO_2 emissions.
D2.13	Sep 2012	Final Seminar on planning tools and instruments for LETS
WP3		
D3.1	Sept 2009	Workshop on environmental, resource and market impacts of increased bioenergy use
D3.2	Dec 2009	Publication: Overview of developments in Swedish and international bioenergy markets
D3.3	June 2010	Publication: Food and bioenergy – goal conflicts and impacts of high carbon prices and increased bioenergy production on food markets
D3.4	Nov 2010	Publication: Climate policy and the development of the pulp and paper industry in Sweden
D3.5	Oct 2011	Publication: Governing fuel production – sustainability criteria for biofuels
D3.6	Dec 2011	Publication: Model results for the forest sector
D3.7	June 2012	Publication: Commercialisation of Swedish know-how in the bioenergy sector
D3.8	Dec 2012	Publication: Appropriate policies for bioenergy production and use
D3.9	Oct 2012	Final LETS workshop for key stakeholders and the scientific community

WP4		
D4.1	May 2009	Stakeholder workshop: Changing individual behaviour through soft instruments: Learning from experience.
D4.2	Jan 2010	Publication: Voluntary Measures for Low Carbon Energy and Transport Systems
D4.3	Jan 2011	Publication: Changing Citizen-Consumers through Mobility Management
D4.4	Jan 2012	Publication: Changing Citizen-Consumers through Voluntary Carbon Standards
D4.5	Oct 2012	Stakeholder workshop: Citizen-Consumers and Voluntary Instruments; The way forward.
D4.6	Dec 2012	Publication: Citizen-Consumers and Voluntary Instruments: A synthesis

LETS will also be in sync with important developments and events in various policy and negotiation processes. In some cases these are known already but in many cases LETS will have to adapt to new initiatives and developments at the international, EU and Swedish level. The negotiations on a future international climate regime beyond 2012 are of crucial importance, but the outcome is still highly uncertain. Current efforts are directed, based on the Bali mandate, towards an agreement, at least on principles, at COP-15 in Copenhagen (Dec 2009). COP-14 in Poznan (Dec 2008) offers a milestone in this process and happens to coincide with the launch of the LETS programme. Irrespective of the outcome of the post-2012 process, the salience of international climate governance can be expected to prevail. Even if a post-Kyoto treaty should turn out unfeasible, in the longer term the international community is still committed to comply with the UNFCCC objectives, which will require the participation of the US and other large emitters.

By the time of COP-15 Sweden will hold the Presidency in the EU and as such have a key role to play in both the international and the internal EU negotiations. At the EU level central issues in the run-up for Copenhagen relates to the adoption of elements in the proposed '20 20 (20)[4] by 2020' legislative package such as the third phase of EU-ETS, amendments of the RES and biofuels targets, the agreement of a new effort sharing mechanism between the member states as well as the associated amendments of the Environmental State Aid guidelines. Other relevant EU policy developments possibly include, for example, the Energy Services Directive, the Energy Performance of Buildings Directive, the amended CO_2 & Cars Strategy, the modal shift strategy, the third internal energy market liberalization package, as well as the upcoming CAP review (in 2013/14).

In Sweden, two major government bills of relevance for LETS are expected to soon be announced; on Swedish climate policy (2008) and on the Environmental Quality Objectives (2009). One expectation is that the adoption of the EU 2 °C target as an objective also for Swedish climate policy will be proposed. Further, it might be expected that recurrent policy reviews will continue similar to the climate policy 'Checkpoints' in 2004 and 2008. The environmental quality objectives are monitored and reported annually (in the de Facto reports) and a full assessment is conducted every fourth year. The latest assessment was presented only recently (EOC, 2008) and the objectives are up for review again in 2012. The LETS programme will contribute to this assessment, which is likely to start already in 2010. Furthermore, two recurrent events of importance to Swedish energy and transport policy debates are the annual conferences 'Energitinget' and TransportForum, which offer opportunities for dissemination and practitioner dialogue.

[4] This refers to the currently ignored 20% energy efficiency target addressed by the European Council in its original decision on the integrated energy and climate change package (March 2007).

9. Budget

The budget and costs for the LETS programme is presented below as follows:

- Total programme budget
- Programme management and communication
- Distribution per partner/institution

Specific WP budgets are presented separately attached to the WP descriptions.

Budget items are shown as average annual costs although the research will proceed at varying intensity within the budget frame. Some expenditure will occur during the ramp-up phase (October-December 2008) although 2008 is not budgeted below. This includes work in WP0, programme management, and preparations for the launch in January 2009.

Based on experience from previous programmes we allow a substantial amount, 1.5 MSEK/yr, for programme management, administration and communication. We have also set aside 400 kSEK/yr for contingencies (i.e., unanticipated expenditures for commissioned studies, workshops, field work, etc., the need for which is likely to emerge during the programme).

As noted earlier, the LETS programme has complementarities with other ongoing and likely future projects. PhD students involved will have a considerable part of their funding from other sources. In addition, other researchers and PhD students not indicated here will add value through being associated with the programme.

Total Programme Budget

(kSEK)	**2009**	**2010**	**2011**	**2012**	**Total**
Programme management, Administration and Communication (see specification below)	1 500	1 500	1 500	1 500	**6 000**
WP common disposal[1]	400	400	400	400	**1 600**
WP0 (Alternative Pathways)	900	900	900	900	**3 600**
WP1 (Governance, Institutions and Policy)	1 100	1 100	1 100	1 100	**4 400**
WP2 (Urban and Regional Planning)	1 500	1 500	1 500	1 500	**6 000**
WP3 (Industry, Technology and Markets)	1 100	1 100	1 100	1 100	**4 400**
WP4 (Citizen-Consumers and Voluntary instruments)	1 000	1 000	1 000	1 000	**4 000**
Total costs (kSEK), incl. indirect costs (OH)	**7 500**	**7 500**	**7 500**	**7 500**	**30 000**

Programme management and Communication

(kSEK)	**2009**	**2010**	**2011**	**2012**	**Total**
Steering Group (meetings, etc)	50	50	50	50	**200**
Programme management (Program Dir; Deputy Dir)	400	400	400	400	**1 600**
Administration and Communication (Trivector; incl. work on programme website, newsletters, etc)	800	800	800	800	**3 200**
Communication activities (incl. annual programme conferences; common seminars, workshops, etc)	200	200	200	200	**800**
Advisory Group (meetings, travels)	50	50	50	50	**200**
WP common disposal[1]	400	400	400	400	**1 600**
Total costs (kSEK), incl. indirect costs (OH)	**1 900**	**1 900**	**1 900**	**1 900**	**7 600**

Note 1: These are flexible resources reserved for tasks and contingencies not foreseen during the planning phase of the programme in the form of seminars, workshops, commissioned studies, etc.

Distribution per partner/institution

(kSEK)	**2009**	**2010**	**2011**	**2012**	**Total**	***p.a.***
Programme Management, Administration and Communication	*1 150*	*1 150*	*1 150*	*1 150*	***4 600***	*1 150*
WP common disposals	*400*	*400*	*400*	*400*	***1 600***	*400*
IMES (WP0, WP1, WP3)	810	810	810	810	**3 240**	*810*
Political Science (WP0, WP1, WP4)	750	750	750	750	**3 000**	*750*
Economics (WP1)	540	540	540	540	**2 160**	*540*
TrptTeknik (WP2, WP4)	500	500	500	500	**2 000**	*500*
IIIEE (WP2)	350	400	400	550	**1 700**	*425*
Faculty of Law (WP2)	350	350	350	550	**1 600**	*400*
KEG (WP2)	475	425	425	75	**1 400**	*350*
SLI (WP0, WP3)	500	500	500	500	**2 000**	*500*
LTU (WP0, WP3)	400	400	400	400	**1 600**	*400*
RPI (WP4)	450	450	450	450	**1 800**	*450*
Trivector (WP4)	55	55	55	55	**220**	*55*
Total labour costs, incl. OH	**6 730**	**6 730**	**6 730**	**6 730**	**26 920**	*6 730*
Other costs (incl travels) in WPs	**420**	**420**	**420**	**420**	**1 680**	*420*
Other costs (incl. travels), Programme management and Communication activities	**350**	**350**	**350**	**350**	**1 400**	*350*
TOTAL COSTS (kSEK), incl. OH	**7 500**	**7 500**	**7 500**	**7 500**	**30 000**	*7 500*

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