

Clean, clever, close

Insights on sustainable transition in a rapidly growing region



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and Näringslivets samverkansråd

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FOREWORD

A new economic geography, requiring a coordinated transition

An amazing development and potential has been revealed in Sweden. Extensive investment in innovative, green industry, has quickly reversed maps of both Sweden and the world in a way that makes northern Sweden **a global nexus for green innovation** and advanced industrial development. A new economic geography is being built, with enormous potential for both communities and businesses. Major investment and growth also comes with expanded needs, affecting the entire community at all stages. Among other things, this requires a large influx of labour, which translates to new residents, who not only need somewhere to live, but also opportunities to build a life, feel at home and flourish. They will need services, welfare services, infrastructure and social sustainability. Because of this, extensive growth is not just an industrial issue, it affects and impacts all industries and the wider community.

With a looming paradigm shift and a situation that comes with challenges, new opportunities, and requires commitment, action is required not just

from industrial business sectors, but from the community at large. Supporting services, cooperation and rapidly coordinated planning are absolute musts as we face the future. Without shared, if limited, insight into what the future may look like, it will be difficult to focus efforts and initiate the necessary processes, and success may therefore be limited. Thus, the purpose of our initiative to gain insights, is to establish a platform for action, and to start doing. The insights gained may be different in terms of priority and time required, and there may be additional situations and assumptions to take into account. Nonetheless, this is a starting point for the joint transition of business and the surrounding community. The situations and assumptions highlighted in this document do not constitute an absolute truth, but the risks, challenges and opportunities are to be seen as probable. The wide range of stakeholders represented in the development of this documentation creates a unique relevance in the scenarios presented.

Carl Wangel

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Luleå Business Region works for business development that is sustainable in the long term. We process markets, finance development, establish business and shape future conditions for competitive and attractive business in Luleå and the region. Our work is conducted in line with Luleå Council's Vision 2050, clearly connected to the UN Agenda 2030, the global goals and implementation of these. Partnering with business, we strengthen Luleå's labour market, and the city as a location for new establishments, and a destination for visitors. Read more at luleabusinessregion.se

INTRODUCTION

A growth boom in northern Sweden

With extensive investment in new and existing industry, the eyes of the world are turning towards northern Sweden. Based on strong industrial know-how, new, green technologies and capital, businesses in the region are on the cusp of major transition. Aiming for fossil-free value chains, new markets and participation in the global green race, northern Sweden has become the scene of an industrial and societal paradigm shift.

With new requirements for skills, services, logistics, energy, land, housing and infrastructure, investing businesses are not the only ones put to the test – the entire community needs to keep pace with industrial development. There are great oppor-

tunities, as growth generates not only growth, but also challenges. More people need to be able to live in northern Sweden, build good lives, and contribute both to growth and to the fossil-free future that we seek. Social sustainability is more important than ever. There is major potential for development and prosperity, not just for our region but for Sweden in a global arena, where growth through green transition is the new deal. Northern Sweden has favorable conditions for becoming an internationally leading region in the field of green transition and sustainable industry. The overarching challenge is for all parts of the community to match the tempo and requirements of the industry.



Business insights

**What will define the development, what obstacles and opportunities do we need to be aware of?
How do we keep up with the upcoming industrial expansion?**

The extensive and rapid growth of industry has been discussed in a series of workshops with local and regional business representatives, and public sector stakeholders. The overarching question was to ascertain what growth will mean for the community in general, and for businesses in particular. This is necessary to gain a shared understanding of ongoing events, transforming the community both in the short and long term. In order to better understand this development, and to be able to deal with the situations that follow from it, the following issues have been discussed:

- ▶ Which new **opportunities** are linked to industrial development?
- ▶ Which **challenges** can we identify?
- ▶ What **risks** exist and need to be dealt with?
- ▶ How do we ensure shared **success** in the development?

Workshop model



STARTING POINTS

Development 2030

TIME, TEMPO AND MAGNITUDE

The ongoing development presents us with a variety of challenges. Existing systems are put under pressure as the size of investments, high production targets and tight time frame require rapid delivery by both private and public stakeholders. While normal operations continue, they are often expected to deliver quick decisions, new plans and increased investments. Additional resources and prioritisation will be necessary to prevent the situation from becoming overwhelming.

The industrial expansion and transformation requires an extensive and system-disrupting transition of the community, which affects all industries and fields of business. As the entire community needs to keep up with the development, to provide services, housing, infrastructure, welfare services etc. This will require initiatives and investments with indirect implications for industrial expansion. This creates a situation with a strong growth pressure, and a societal stress driving development, which may limit its tempo in the short term.

AN INDUSTRIAL PARADIGM SHIFT

With a strong industrial tradition, always characterised by a high level of innovation, procedural maturity and high quality, northern Sweden has become an epicentre of industrial development and an ongoing, industrial paradigm shift. With strong industrial matching where raw materials, infrastructure, affordable energy, land capacity and know-how meet the requirements of industry, the region offers an attractive geography for industrial establishment.

A global, fossil-free, circular and sustainable agenda opens for new business opportunities, which require rapid adaptation of processes and products. Combined with new technology, ambitions have developed into intentions, which has subsequently led to major capital allocation to this new industry. Sweden in general and northern Sweden in particular are not the only regions meeting market expectations and potential. A positioning race is underway in the growing, global market, which not only leads to raised expectations, but also pushes and speeds up industries moving from concept-stage pilots to full scale delivery.

OPPORTUNITIES

Greater breadth, vitality & visibility

Extensive media exposure coupled with a strong climate for innovation and investment creates conditions for new residents, visitors and business. At the same time, regional infrastructure needs are prioritised, to support industrial growth.

Assumptions

GLOBAL GREEN EYES LOOKING NORTH

Interest in the region will grow, due to extensive media exposure linked to the rapid, expansive growth of business. Growing interest in the Arctic as a political geography also contributes to the attention. The common driver and denominator of investments – climate responsibility, fossil-freedom and circularity – will at the same time change the perception of primary industry, from something heavy and traditional, to something innovative and value-generating from a broader community perspective. Altogether, this provides strong opportunities for **positive identity and brand development** which consequently generates additional visibility and interest with a broad spectrum of new investors, in fields such as property development, industry, research and education. The region will become a **natural, global geography for green innovation**, with an attractive investment climate. Growing interest in the region contributes to an increase in both business and private travel, and more reasons to visit are added to the regional tourism industry.

DIVERSITY, SKILLS, INDUSTRIAL BREADTH

Unemployment rates will remain low in the region, with an increasing demand for labour. The need for skills will impact the entire community, attracting a broad group of people, meaning that many more are expected to move here, in line with the development. Luleå University of Technology continues to be important as a pull factor for the region, as well as for the innovation climate and for strong matching in the labour market. The growing population yields a **positive increase in diversity**, which in turn generates conditions for broad and innovative business development, often through start-ups and service companies linked to the expansive industry. Industrial breadth is strengthened with more companies in the fields of services, experiences and retail. Increased diversity creates a positive spiral, attracting additional diversity as the community grows.

REPROGRAMMING, REGROUPING AND RESTRUCTURING

The positive stress generated by the investments, combined with a broadly anchored **willingness to contribute** to the

development, creates incentives to deliver for and in line with the investments. The result will be a more efficient and service oriented community where both private and public sector organizations support the positive development. The willingness to live up to global ambitions also contributes to **new value-based processes**. The global sustainability agenda, and the sense of pride inherent in contributing to green investments, such as the development of one's own region, becomes a natural driving force, not only creating cross-sectorial links but also **new ways to work** alongside traditional processes. The development provides opportunities to get things right from the beginning.

The flow of external capital into the region will promote more **innovative collaborations, new approaches and additional business opportunities**. Strong demand for land and high land prices will also generate incentives to find new ways of building and developing the cities in the region, both when it comes to functionality and needs, and in terms of design. The result will be spectacular, innovative and **sustainable city and community planning** as well as strong urban development. This will in turn give positive spillover effects outside and between urban centres.

A RAPIDLY GROWING, MORE FUNCTIONAL GEOGRAPHY

Due to industrial expansion and a need to build larger communities, new platforms for **inter-municipal collaboration** will arise. With the goal of geographically matching the production flows of industry to and between the localities where the development occurs directly, municipal and administrative boundaries will gradually be erased and displaced by shared intentions and initiatives. It is primarily a matter of physical planning according to **regional labour market** boundaries, to manage a growing need for things such as public transport, land development, infrastructure and housing construction. Inter-municipal collaboration creates **coordination, growth and economies of scale**, benefiting other necessary municipal-level investments. Collaboration will also increase the region's ability to affect those conditions for growth that lie outside - municipal control, such as electricity supply, infrastructure and strategic funding. New **development zones** and densification areas will develop in the region. Villages between production localities/urban centres will grow, as they offer attractive environments for business and accommoda-



OPPORTUNITIES

tion. They will become strategic development nodes and form natural links between various expanding areas. The urban-rural relationship will thus be strengthened and the population growth will create a **stronger base for service functions**, which will incentivize the establishment of additional business stakeholders between production localities.

NEW PRIORITIES FROM THE BACK BURNER TO THE FOREFRONT

In addition to the need for and expectations of both public and private stakeholders in local communities to deliver, political decisions at a national level are necessary to expedite and ensure development. Extensive pressure on public authorities creates incentives to **reevaluate and bring forward** long term investments and plans designed prior to this stage of industrial expansion. Investments such as the Iron Ore Port (Malmporten), the North Bothnia Line (Norrbotniabanan), dual tracks on the Ore Line (Malmbanan) and between Boden-Luleå, will be renegotiated and prioritised. The situation thus creates a **new negotiating position** for the collective regional interests working to support or create growth in various ways.

NEW BUSINESS

New technologies and more people combined with a long, regional industrial tradition and knowledge, create good

conditions for development of new and existing business models. Even though an initial inertia and matching issues between tradition and innovation can be expected, the **need for industry and community supporting functions** will increase as a consequence of the extensive population growth. A strong academic platform through LTU promotes a climate of innovation and yields a **greater degree of specialisation**, which in turn forms the basis for **start-up** and spin off businesses. Incubator environments also play an important role in what the region has to offer in terms of business and growth. Academic contribution to business has resulted in **numerous testing environments** and demonstration facilities, making the region a natural geography for innovation and investment. There is great potential here. Business development collaboration and clusters are continuously developing, with a focus on industrial AI, digitalisation and automation. The larger and **more diversified market** that will be available in the future, also offers a larger customer base for products and services at the local and regional scales. Green ideas and sustainability will be important driving forces in leading both businesses and the community at large to match the industrial side as well as public deals. The initial mobilising of business to support major industrial establishments will also allow smaller stakeholders to grow strong.

CHALLENGES

Modernisation, matching & mobility

The rapid development comes with a number of challenges linked to issues such as capacity, costs, competencies and conflicts of interest.

Assumptions

ROBUST PHYSICAL PLANNING

The capacity to ensure suitable physical planning rests not only on municipal, budgetary constraints, but also often on forecasted levels of development and long-term perspectives from a general planning point of view. **Extensive and sudden changes in growth**, deviating from such forecasts, can thus have a negative impact on the capacity of process-related stakeholders such as the County Administrative Board. Efficient permit processes, planning work and the provision of housing and services result in a **need for the allocation of more resources** to departments designing such plans. Without the necessary increase in resources and capacity, public, physical planning will not keep pace with the growth of population and community. **Conflicts** linked to costs and priorities, time and permits, will arise, adding additional inertia to public planning work. Conflicts can also occur at the national level, where state and regulatory **interests collide** with local plan-related and political ambitions, for example in terms of permit issues, funding and balancing against issues of national interest. **Limited state capacity** in terms of infrastructure, accessibility and power supply risks limiting the ability of municipalities/regions to offer suitable solutions for businesses.

CHALLENGING PUBLIC FUNDING

Necessary and capacity-supporting planning of land use, infrastructure, energy, water and sewerage results in extensive costs, limited by forecast budgetary limitations, where extensive community growth has not been taken into account. Long term investments and prioritisation by public sector organisations with limited budgets are surrounded by **major uncertainty**. Investments may in some cases seem unmotivated or speculative, as prospective returns lie far into the future. Investment in both welfare services and business development must be done for both the **short and long term simultaneously**, which makes the issue of funding a central one. The demand for public-private partnerships and funding will increase in order to generate capacity to keep up with the community development. This will in turn require

many subcontractors to **ensure services** both for important establishment projects and for other parts of the community. An insufficient supply of service, contracting and consulting services is to be expected, which leads to **increased costs** for customers. Salaries among subcontractors will also increase, which impacts buyers. Customer-contractor relationships will change, consequently putting initial pressure for example on municipal purchasing and procurement departments.

TRUST, LEADERSHIP AND POLITICAL CONSENSUS

In extensive, rapid and necessary community development, political targets, overarching consensus and control play central roles. Separate working procedures and differing time frames risk slowing development. Major investment decisions require a broadening of the political role with an **increased negotiation responsibility** at regional, national and European levels. The need for proximity to policy and politics at national and EU levels will therefore increase. **Regional political collaboration** is necessary for resource-related management of issues over which municipalities have no control. In both the short and the long term, there will be strong **expectations** to “deliver” in development processes, by expediting new and scheduled investments, for instance in infrastructure. Extensive and ongoing media coverage will also put pressure on political stakeholders. Clear and directive policies are wanted, to make priorities visible and create predictable conditions for business. **Political conflicts** at various levels will arise as a consequence of the necessary prioritisations which must be made to keep pace with the development. This can lead to political division and **uncertainty, negative opinion and resistance** against community development.

ORGANISATIONAL AND SKILLS-RELATED MISMATCHING

Industrial development will require a greater addition of regional human capital, as a consequence of an already high level of employment. The need for labour, combined with a weak labour growth, creates considerable mobility in the intra-regional labour market, as well as increased intra- and inter-regional commuting. It will be harder to **retain, develop and recruit** skilled workers, as a result of increased competition.





CHALLENGES

Major rotation of people in key roles is positive in the long run, but becomes limiting to processes in the short term. Skills matching will be an important part of the solution, to create balance in the labour market. Organisations structured for relatively low levels of growth must add resources and optimise, which is costly both in terms of finances and time. A growing population, low unemployment and increasing needs for community and business supporting functions will require **adaptability and industrial breadth**, in order to not just meet existing and new needs, but also make use of the opportunities created by the investments. It is a matter of **diversity** in business and the public sector, to be able to support the rapid, powerful community growth resulting from industrial expansion. In this context, public and private matching becomes important, for example in ensuring access to maintenance, education, public transport, care and health-care services. Public stakeholders being forced to move from operation, management and maintenance to development will require extensive organisational and skills-related initiatives.

ACCESSIBILITY AND TRANSPORT

The development and extent of forecast investments will not be limited by municipalities' administrative boundaries. Industries with large geographical areas of influence, cross-municipal value chains and regional business models require a consensus between the municipalities involved, for efficient and coordinated development. With relatively **long distances** from production to market, **efficient and high-capacity infrastructure** will play a key role. With an increase in logistics, capacity decreases, which will necessitate redundancy to ensure transportation for both people and goods. **Intra- and interregional accessibility** is another key factor in commuting, labour market expansion and other business related travel. Mobility and infrastructure are important conditions for development, as time and distances are cost items which affect decisions such as the choice of location. Intermodal, high-capacity solutions will therefore be an important issue for the evolution of both business and community development.



RISKS

Capacity, competency & knowledge

High demands and complexity may lead to inaction. At the same time, skills shortage, matching issues and limited transition capacity may hamper growth.

Assumptions

ORGANISATIONAL STRESS

If public services are unable to keep pace with industrial development, a steadily increasing tempo and tougher delivery requirements risk leading to **misprioritisation, indecision and passivity**. The risk of losing key individuals in management/service grows, which creates stressed organisations, with **reduced operative and strategic capacity**. Decision making is also made more difficult by the lack of current data and reliable forecasts. The transition necessary to match the speed of development is further complicated by inherited **administrative, procedural limitations** that are not in line with development, and new, arising needs. Unmanaged organisational stress may also result in a stronger **unwillingness/inability** to change working procedures, attitudes and perspectives.

DEMOGRAPHICS AND SKILLS SUPPLY

More residents and the right people in the right place are needed to meet the growing skills demands and the extensive community transition. This will in turn require extensive relocation into the region. Outside urban centres, and in areas lacking expansive businesses and industries however, negative population trends may continue and worsen. Is there an ability to turn trends around and increase the number of people moving into the region? Needs-based matching is necessary, both in the short and long term, in public and private sectors, to **retain, develop and attract the skills** that can contribute to sustainable growth in the entire region, throughout the entire community.

Growth is threatened by intra- and interregional **brain drain** and by existing organisations losing key employees to new employers. Simultaneously, many people in a number of sectors are expected to **retire**. Also, the ongoing industrial **technological shift** with a high degree of innovation and new views on processes will likely mean that the skills of today are not as relevant in the industry of the future. Better opportunities for **retraining** are necessary in order to have labour and skills available in time. Skills supply is also hampered by a limited understanding of industrial and societal drivers of change, and the opportunities generated by them.

LAND AND HOUSING SUPPLY

The need for zoned land will increase as community development increases, for housing as well as for industrial and mechanical facilities. **Available** land will become an even scarcer resource and prices of land, property and housing will rise as demand outstrips supply. This can in turn generate **lock-in effects** for existing operations, when new construction or relocation is deemed too expensive. The population growth necessitated by the major investments requires an expansive, costly, regional housing supply. It is a matter of new construction, but also of freeing capacity in the existing housing stock. We will see **displacement effects** where smaller industries are pressured or choose to move out of the way of housing and offices requiring more central locations. At the same time, the need for temporary business and commuter housing will increase, thus limiting the options available to permanent residents.

SUCCESS

Vision, will & work

Diversity, collaboration, consensus and community ambition, combined with coordinated planning and renewal, will unlock major development potential.

Conclusions

A SHARED VISION AND CLEAR IDENTITY

When the eyes of the world's green industries look to northern Sweden, it is important to create a **clear, local identity** linked to the ongoing development. Storytelling, PR and ambassadorship are effective tools to **communicate the opportunities** of the region. In order to **change the image** of northern Sweden, identity carriers such as primary industry must change and renew too. It is a matter of having the courage to stand out and invest – northern Sweden has good conditions for becoming a **green, Arctic World Fair** contributing to the climate transformation, in Europe and worldwide.

COORDINATION AND COLLABORATION

Process trust is a key element in the realisation of a major, societal transition. Information initiatives regarding plans, decisions and priorities are therefore needed both internally and externally, to support the development. Public stakeholders must work in close proximity to the expanding businesses, to be aware of their needs and progress. This requires efficient processes for land development, planning and construction permits, among other things. We must ensure parallel transition at the municipal level and **coordinated planning** to find workable ways of public-private partnership and funding. **Accessibility** within the region needs to be developed so that people may work in one place and live in another, with reasonable and sustainable commuting options.

Due to the growth pressure, policy and permit controlling institutions and agencies will renew their processes and prioritisations to keep pace with development. It will therefore be more important to challenge legislative processes, both at the national and EU levels. It will also mean that earlier procedures, role descriptions and administrative procedures will be revised. Current hierarchical and referral-based procedures will change and be more characterised by coordinated planning and dialogue in the early stages, to ensure consensus and development. Effective decision making and specification of requirements will require ongoing monitoring of the surrounding environment, a high level of readiness and dependable forecasting.

INCREASED DIVERSITY AND A BROAD BUSINESS OFFER

Increased diversity will be an important success factor in solving skills supply and matching issues in the labour market. This will contribute to a broad business offer, ensuring a continued, positive balance of industries. We must become better at integrating the capacity of recent immigrants, through smart and strategic recruiting. We must have the courage to invite stakeholders who can support the green transition of our society, and highlight the added value of being, living and working in the region. Social sustainability will be more important than ever. The entire community must be a cohesive whole, where people find it natural to live their lives.



RELOCATION

Clean, clever, close

With a broadly anchored, and equally broadly developed foundation for insights – insights for sustainable growth – with representatives from business, academia and the public sector, a shared, initial, necessary knowledge of the future has been created. Furthermore, this knowledge is meant to serve as a description of the playing field on which all stakeholders will, to a greater or lesser degree, have to participate in order to share in all the opportunities offered by the new, economic geography of northern Sweden. Thus, the content in its entirety or just parts of it can be used as a set of guiding principles, for prioritising at a time when development timelines are not only short but also demanding. Threats and risks need to be highlighted and handled in order for the opportunities to be realised, creating broad, sustainable growth throughout all sectors of society.

We know what needs to happen, we need to work to achieve coordination, collaboration, diversity and a broad business offer. We also need a shared vision and a clear identity, telling the story of our place and the work we are doing to ensure growth. It is also a matter of having a vision

to match the ambitions and driving forces upon which the extensive investments are based, and in line with which our community is expected to deliver on all scales – from local to global. We need to challenge ourselves based on the expectations of the world around us, with the unique conditions and opportunities afforded by our geography. Sustainability, smartness and closeness. In a global market, in a community steadily becoming more internationalised, where we have now become a hot spot, we are moving in the direction of **a CLEAN, CLEVER and CLOSE region.**

In other words, this is a story, a pursuit, an offer and a direction for ourselves, about ourselves, to ourselves and to the world. A guide for the direction of relocation, to develop in step with the times, and to become better at what we are already good at, and that which others are looking for.

CLEAN CLEVER CLOSE is the logic of the business model that allows us to move forward together, in collaboration and growth, to meet the expectation expressed by the whole world: **Transition.**

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