

# Cadastral Procedures for Local Electricity Grids

A Case Study  
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Jämtland Sweden

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Lars Åstrand, 2011-05-20, Marrakech

## Local electricity grids, background

- Rural living in Sweden
- The storm Gudrun 2005
- Frequent power cuts
- Economic and social implications
- Amendments to the Electricity Act in force from 2011
- Grids are secured by agreements or cadastral procedures

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## The County of Jämtland

- 50 000 km<sup>2</sup>
- Population 126 000
- Tourism, forestry, agriculture, trade
- Östersund regional center
- Åre, northern Europe's major ski resort
- Winter season from November to April



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## The Grid Owner, Jämtkraft Elnät AB

- Jämtkraft AB
- Power, grid, heat, IT
- Owners Östersund, Krokom & Åre municipalities
- Jämtkraft Elnät AB
  - 8300 km grid
  - 17000 km<sup>2</sup>
  - 60000 customers



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## Legislative Background

- Property formation and registration are responsibilities of the Swedish State
- Lantmäteriet, a State Agency
  - Property Formation Act
  - Swedish Code of Judicial Procedure
  - Joint Facilities Act
  - Utility Easements Act
  - Expropriation Act (economic compensation)
  - Related legislation

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## Alternative methods, a comparison

- |   |   |
|---|---|
| <ul style="list-style-type: none"><li>• Air carried lines or underground cables<ul style="list-style-type: none"><li>• Construction costs</li><li>• Reliability</li><li>• Proximity to customers</li><li>• Costs for compensation</li><li>• Maintenance costs</li></ul></li></ul> | <ul style="list-style-type: none"><li>• Individual agreements or cadastral procedure<ul style="list-style-type: none"><li>• Legal costs</li><li>• Internal competence</li><li>• Time</li><li>• Legal maintenance</li><li>• Legal security</li></ul></li></ul> |
|---|---|

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## The Assignment, Destination 2011

- Legal access to land for 1300 km of 24 kV power cables from 2006-2011
- Broadband channelisation
- 70 cadastral procedures
- Utility Easements Act
- The time factor
- Decisions based on consent a priority



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## The cadastral procedure, work process

- Initiation phase
- Information meeting
- Preparation phase
- Decision meeting
- First registration
- Construction phase
- Final valuation
- Closure

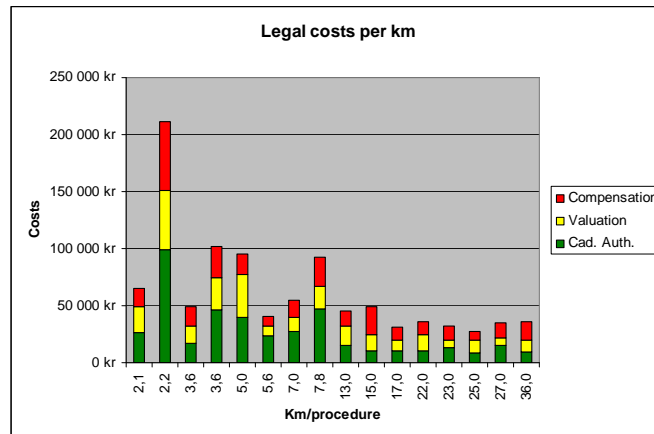


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## Analysis costs per km Easement

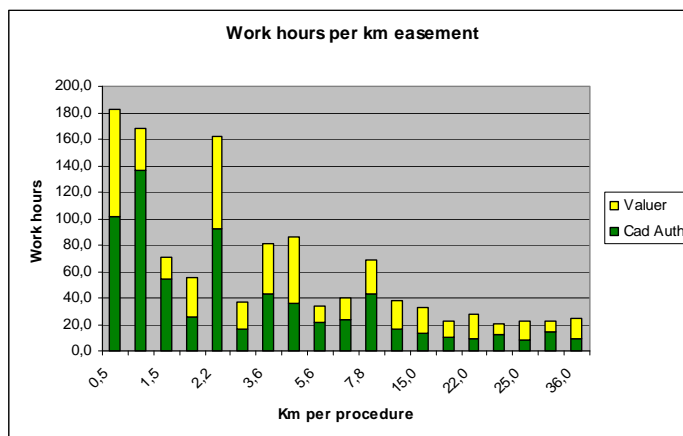


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## Analysis work hours per km

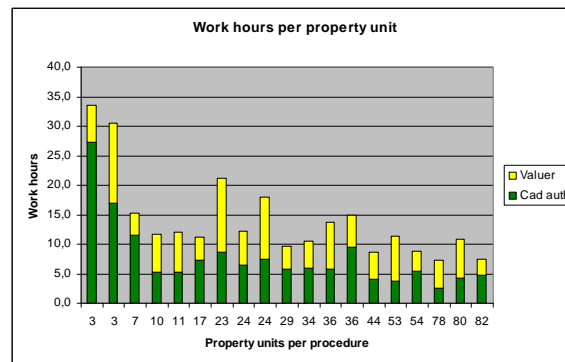


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## Analysis work hours/property unit



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## Legal Security, a Vital Prerequisite

- Sufficient and reliable cadastral and topographical information
- Opportunities for property owners to participate
- Decisions based on thorough consideration of legislation and specific conditions
- Conflicting claims negotiated or taken into account
- Decisions communicated, documented and shared
- The right to lodge appeals

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# Conclusion

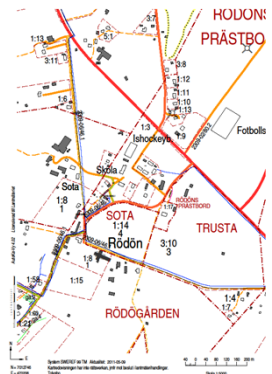
Access to land average 7 months after application  
Total time per procedure 2-3 years  
Total costs per km 67 000 Euro (100 000 \$)  
Legal costs per km 6900 Euro (10300 \$) = 10 %  
Few appeals  
  
All in all a successful implementation !

# Utility Easement in the Cadastre

FR Webb | Krokens Sota 1:8

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<b>Fastighet (n: 1)</b> Krokens Sota 1:8 NyMät: 2004-03-11	<b>Senaste ändringen  </b> aktiveringsdatum: 2008-03-11	<b>Senaste ändringen  </b> registreringsdatum: 2008-07-02	<b>Ansvarshavaren  </b> registreringsdatum: 2008-05-24
<b>Adress (n: 1)</b> Sota 1:8 Krokens Sota 1:8			
<b>Andel (n: 1)</b> Andel i fastigheten 1/1			
<b>Lägg, karta (n: 1)</b> Krokens Sota 1:8	N, E: 7053310 m, 4572115 m 7053310 m, 4572115 m	N, E: 7053310 m, 4572115 m 7053310 m, 4572115 m	Registrationsdatum: Krokens Sota 1:8
<b>Lagfart (n: 1)</b> Sota 1:8 Sota 1:8 Sota 1:8	Andel: 1/1	Inskrivningsdag: 2008-07-02	AK: 9153
<b>Anteckningar och Arvsförbehåll (n: 1)</b> Fastighetens beteckning är inte den fastslagna avdelningsbeskrivningen.			
<b>Inteckningar (n: 1)</b> Totalt antal teckningar: 5 Teckning nr: 1	Teckningsdatum: 2008-07-02	Teckningsart: Inskrivning	AK: 9153
<b>Rättigheter (n: 1)</b> Rättigheter som är inskrivna hos den offentliga myndigheten	Teckningsdatum: 2008-07-02	Teckningsart: Inskrivning	AK: 9153
<b>Förvärfvsuppgifter (n: 1)</b> Förvärfvsuppgifter för Sota 1:8	Teckningsdatum: 2008-07-02	Teckningsart: Inskrivning	AK: 9153
<b>Andel i gemensamhetsanläggningar och samfälligheter (n: 1)</b> Andel i gemensamhetsanläggningar och samfälligheter			
<b>Åtgärder (n: 1)</b> Åtgärdsbeskrivning: Åtgärdsbeskrivning: Åtgärdsbeskrivning: Åtgärdsbeskrivning:	Datum: 1878-04-27 1910-10-14 2002-11-17 2008-02-03	AK: 23 8024 AVS274 23 8024 AVS274 2008-02-03 2008-02-03	



## Construction on the ground



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## Construction on the ground



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## Construction on the water



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## Destination 2011 Map



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